Regulation and Enforcement of Competition Law in Tanzania's Telecommunications Sector

Law, Institutional Design and Practice

Dissertation

zur Erlangung des Grades eines Doktors der Rechte der Rechts- und Wirtschaftswissenschaftlichen Fakultät der Universität Bayreuth

Vorgelegt

von

Goodluck Temu

aus

Moshi & Arusha, Tansania

Dekan: **Prof. Dr. Jörg Schlüchtermann**

Erstberichterstatter: **Prof. Dr. Rupprecht Podszun**

Zweitberichterstatter: **Prof. Dr. Markus Möstl**

Tag der mündlichen Prüfung: **29.11.2021**

Abstract

This study focuses on the regulation of Tanzania's telecommunications sector and enforcement of competition law. The central question under investigation is whether the national telecommunications regulator, the Tanzania Communications Regulatory Authority (TCRA), is well-equipped to enforce competition law in the sector. This question emanates from the TCRA's design as the sole enforcer of competition law. Except for mergers and acquisitions, which fall under the Fair Competition Commission's jurisdiction, the TCRA has jurisdiction in all other competition matters. Thus, being both the regulator and competition enforcement authority, one is justified to expect that its design would provide *ex-ante* pro-competition regulation and proactive and effective *ex-post* regulation and competition law enforcement. That is not the case.

While the TCRA stands as a promising regulator, its design and capacities are only limited to the sector's *ex-ante* technical regulation. It has fallen short on competition enforcement on *an ex-post* basis. Although there is a framework that empowers the Authority to enforce competition, there is no actual enforcement because of the existing legal and institutional weaknesses. Thus, as it stands now, in the absence of significant legal and institutional overhaul, the TCRA cannot effectively enforce competition in the sector.

This study is primarily qualitative. It has taken an analytical approach in answering research questions, which probes into the regulator's efficacy in addressing competition matters in the sector. In a pyramidal fashion, it builds a base by generally introducing telecommunications. It then proceeded to introduce regulation and competition as applicable in the telecommunications sector. In so doing, the study analyzes relevant policies, laws, regulations, and practices, among others, to ascertain the extent to which they promote effective competition. Based on evaluation criteria inspired by literature from Tanzania and other jurisdictions, the study examines the efficacy of the TCRA as an exclusive competition enforcement authority. The examined aspects include the sufficiency of the legal mandate, the sufficiency of the

procedural framework, the regulator's institutional design, the regulatory independence, and the sufficiency of resources.

Acknowledgements

This journey has taken a little over four years. Though adventurous and eye-opening, it was, at times, uncomfortable, and with challenging experiences. In all honesty, I could not have completed it alone. So many people, in one way or another, supported me in realizing this dream. I intend in this section, challenging as it might be, to acknowledge their generous support.

I thank God, who gave me health, courage, strength, and the ability to pursue my doctoral studies. They seemed like a massive mountain that I could not easily fathom how to climb. When I now look back on how it all began, I conclude that God, indeed, has helped me. To Him I shall always remain grateful.

To Florencia, who proved not only a suitable and lovely companion but also an excellent studying partner, I say, 'thank you.' You have been the best. The same goes for my wonderful boy Hansel, and my beautiful daughter Gianna-Elise, a bundle of joy brought to us towards the end of this journey.

Throughout my doctoral project, I received excellent supervision from Prof. Dr. Rupprecht Podszun, holding the Chair for Civil Law, German and European Competition Law (*Lehrstuhl für Bürgerliches Recht, deutsches und europäisches Wettbewerbsrecht*) at Heinrich Heine Universität Düsseldorf (University of Düsseldorf). I must admit that I have learned a lot from Prof. Podszun. His exciting style that breaks down challenging concepts into simple, chewable, and digestible bits makes his writings highly enjoyable and inspiring. Prof. Podszun, a friendly and supportive supervisor, was always available for help and advice. Knowing that I have been supervised by someone who has significantly contributed to the development of Germany's competition law, makes me incredibly proud. Prof. Podszun has my wholehearted appreciation.

I extend my appreciation to Frau Sabine Schumacher, the Secretary to Prof. Podszun's Chair. Frau Schumacher offered me excellent and friendly service. She made my life easier. I am grateful to her.

My profound gratitude goes to Prof. Dr. Markus Möstl, Chair of Public Law II (*Lehrstuhl für Öffentliches Recht II*) at the University of Bayreuth, for accepting to be my second supervisor. Furthermore, I appreciate the help of his Chair's Secretary, Frau Ingrid Krodel-Kießling. Frau Krodel-Kießling provided very competent and friendly assistance as an official contact person at the University of Bayreuth. It would have been impossible to navigate university corridors without her help.

Words are not enough to thank Prof Ulrike Wanitzek, who was very instrumental in the starting of my doctoral journey. With her husband Bernhard, who was always available to help (and did a lot for sure), my studying experience in Germany was made more manageable. I shall forever cherish them.

I extend my thanks to the University of Dar es Salaam School of Law administration under Prof. Dr. Hamudi Ismail Majamba. Prof. Majamba, together with the then Associate Dean, Dr. Juliana Masabo (now a High Court Judge), provided all the support I needed to start my doctoral studies. Similarly, I extend my thanks to the heads of the Department of Private Law (currently under Dr. Cleophace Morris) and other colleagues for their continued support.

Doing doctoral studies requires a lot of financial resources. I partly self-sponsored my studies in my first year. A generous friend contributed almost 70 percent of those costs. May God bless and repay him according to His grace. I also extend my appreciation to my employer, the University of Dar es Salaam, for granting me study leave and research funds. The same goes for the German Academic Exchange Services (*Der Deutsche Akademische Austauschdienst-DAAD*) for its generous scholarship for the remainder of my studies.

The East African community that brought Africa to Bayreuth also proved exceptionally beneficial during my entire stay. I acknowledge and appreciate a meaningful friendship from Dr. Goodluck Kiwory, Dr. Abel Mwiburi, Dr.Veronica Buchumi, Cecilia Ngaiza, Kimata Kimatta, Imani Shayo, Leiyo Singo, Dr. Gilbert Hagabimana, Jebby Gonza, Baraka Mbise, Amani, and Noel.

I appreciate the support I received from the TGCL where I also once worked as an assistant. I am grateful to Dr. Johaness Döveling (who turned out to be a friend and a

legal advisor), Dr. Carolin Herzog, Ms. Sabine Engel, Marx, Isabel, and Prof. Dr. Thokozani Kaime (who now heads the Chair of African Legal Studies). All these people gave me professional and social advice that in many ways helped me to conclude this study.

I am grateful to my parents, friends, and relatives, who also prayed for and encouraged me. Words are not enough to express the sincere friendship that Danny and Tariro Reim extended to my family. To Jadey and Ellie, the Reims' children who gave my son Hansel close friendship and excellent company, 'I say, thank you'.

Dr. Johannes Döveling and Dr. Daniel Shayo gave me critical academic input. My work benefited a lot from their well-thought-out opinions. I thank them very much.

It is impossible to mention all who supported me in this journey. I am indebted to all those who made endless phone calls full of encouraging words;those who volunteered to help at some critical time of need; those Ph.D candidates whom we shared a good time chatting and encouraging one another. To them all, even those I inadvertently failed to acknowledge, I say, thank you, *Asanteni sana*, *Herzlichen Dank*!

Dedication

To all those whose joy is to help others achieve their goals.

Contents

Chapter 1: Introduction to the Study

> *"The economic theory underlying competition laws is based on the belief that the market's invisible hand is, potentially at least, a far more powerful guardian of the social welfare than any other form of regulation. Competition draws competitors into the market to remove excess profit. It stimulates incumbents to greater productive and dynamic efficiency. It weeds out the inefficient by the objective test of market survival, and it assures the optimal allocation of resources into production activities. Competition is also trusted because there is little basis for faith that regulators possess the knowledge and the motivation required to fine-tune business behavior on behalf of consumers."* [1]

1.1 Introduction

Until about four decades ago, the telecommunications sector was considered a natural monopoly.[2] By definition, natural monopoly means an economic situation where only a single firm can be the "most cost-efficient means of supplying market demands."[3] It is an industry in which only one firm can break even.[4] Under the natural monopoly theory, technical and financial efficiency demand that only one firm should operate in the market. Because of this understanding, many governments responded accordingly by establishing or encouraging telecommunication monopolies. This policy approach set the beginning of the proliferation of monopolies and suppression of competition.[5]

Monopoly policy had one distinct feature. It gave monopoly firms almost absolute powers over the sector. In due regard, they had a say on the type and quality of

---

[1] Michal S. Gal, *Competition Policy for Small Market Economies* (Cambridge, Mass: Harvard University Press, 2003), p. 13.
[2] See Jarleth Burke, *A Critical Account of Article 106(2) TFEU: Government Failure in Public Service Provision* (Oxford, UK: Bloomsbury Publishing, 2018), p. 104; Christopher Decker, *Modern Economic Regulation: An Introduction to Theory and Practice* (Cambridge: Cambridge University Press, 2015), p. 348; Frank H. Columbus, *Asian Economic and Political Issues* (New York: Nova Publishers, 2003), p. 65.
[3] Mark A. Jamison, *Industry Structure and Pricing: The New Rivalry in Infrastructure* (New York: Springer Science & Business Media, 2013), p. 84.
[4] Johan Willner, 'Privatization: A Skeptical Analysis', in *International Handbook on Privatization*, ed. by David Parker and David S. Saal (Cheltenham, UK; Northampton, Mass: Edward Elgar, Pub, 2003), pp. 60–86 (p. 76).
[5] Burke, p. 104.

services and pricing arrangements.[6] With support from respective governments, they could dictate who should receive services.[7] They could also dictate the terms and conditions.[8] Thus, the quality and availability of services depended not on powers of demands but service providers' wishes and plans.

Service provision also depended on government policies, which, as already hinted, supported monopolies. Such a setting alone was already problematic because it disregarded market forces. Instead, supply depended on governments' monopolistic policies. Unfortunately, such policies were not always pro-consumers. It was not unusual for such policies to be irrational or focus on other matters far from consumers' demands.[9]

However, the bigger problem with monopolies was the lack of competition. The absence of competition meant limited investments resulting in inadequate services of low quality, unsatisfactory customer services, inferior technology, and limited availability of services.[10] There was no allocative efficiency because even those who would have afforded the services could not get them timely and for acceptable quality. Besides, there was no productive efficiency because, generally, monopolies had no incentive to improve production.[11] Explaining the inherent failure of monopolies, Keneth Grover has this to say:

> "For almost one hundred years, telecommunications users have had very restricted freedom to choose how their needs should be met. Apart from entirely internal systems, they have had to rent or buy terminals from the telecommunications companies owning the common user network, whether owned by the State, or by a public or private corporation. Even internal wiring normally had to be provided by the same telecommunications company. The user had to take whatever services, whatever standards, and whatever charges the telecommunications companies decided were appropriate. Such monopolistic power, albeit regulated directly or

---

[6] Kenneth C. Grover, *Foundations of Business Telecommunications Management*, Approaches to Information Technology (New York: Plenum Press, 1986), p. 159.
[7] Grover, p. 159.
[8] Grover, p. 159.
[9] Grover, p. 159.
[10] OECD, *OECD Review of Telecommunication Policy and Regulation in Mexico* (Paris: OECD, 2012), p. 13.
[11] OECD, *OECD Review of Telecommunication Policy and Regulation in Mexico*, p. 13.

> indirectly by the State, allowed users negligible freedom of choice. Manufacture of telecommunications equipment and systems were similarly constricted. Manufacturers were obviously reluctant to allocate resources to research and development and the production of equipment and systems until they were certain the telecommunications companies were prepared to go into contract with them for manufacturing these supplies for their "captive" users."[12]

As the quote depicts, monopolistic policies were never a better way of organizing the telecommunications sector. They lowered consumers to a very inferior position. Grover notes in the quote above that consumers had to "take whatever services, whatever standards, and whatever charges the telecommunications companies decided were appropriate."[13] Monopolies also led to limited investment, research, and innovation. The effect was inefficiency in the sector.

Due to monopolies' inherent inefficiency, firms could not deliver services at the required and expected standards. As a result, a new policy approach was necessary. Thus, from the 1980s, a wave of change swept across the continents. Boosted by the growth of wireless services that challenged the natural monopoly theory, many governments decided to break telecom monopolies by opening doors to private firms.[14] It was the birth of liberalization in the telecommunications sector, a movement to open markets to private entities, among others. Liberalization had at least three distinctive features: the privatization of national monopolies, relaxing of regulatory rules (deregulation), and promotion of competition in the sector.[15]

The liberalization of the industry meant there was a complete change of telecommunications policies. The change demanded new structural arrangements. Thus, new frameworks to manage such a transition process became necessary. It was

---

[12] Grover, p. 159.
[13] Grover, p. 159.
[14] John Braithwaite and Peter Drahos, *Global Business Regulation* (Cambridge: Cambridge University Press, 2000), pp. 322–26; E. Kawabata, *Contemporary Government Reform in Japan: The Dual State in Flux* (New York: Palgrave Macmillan, 2006), pp. 28–31.
[15] See for example George Philip and Shao Hing Tsoi, 'Regulation and Deregulation of Telecommunications: The Economic and Political Realities. Part I: The United States', *Journal of Information Science*, 14.5 (1988), 257–64 (pp. 261–62) <https://doi.org/10.1177/016555158801400502>; Marcellus S. Snow, 'Regulation to Deregulation: The Telecommunications Sector and Industrialization', *Telecommunications Policy*, 9.4 (1985), 281–90 (pp. 281–86) <https://doi.org/10.1016/0308-5961(85)90021-7>; Kenneth H. Militzer and Martin H. Wolf, 'Deregulation in Telecommunications', *Business Economics*, 20.3 (1985), 27–33 (pp. 27–31).

at that point that many jurisdictions introduced sector regulation.[16] The main argument was that because of natural monopolies and network effects, markets are "extremely fragile and apt to operate very efficiently if left alone"[17] and, therefore, "governments are benign and capable of correcting these market failures through regulation."[18]

At first, governments regulated the sector directly. Such regulation involved price determination on the rate of return basis.[19] Later on, many jurisdictions introduced price cap regulations.[20] Specifically for telecommunications, many governments designated telephone companies as common carriers to provide services to any willing customer at an affordable rate without discrimination.[21] Furthermore, governments regulated prices and availability of spectrum for communication purposes.[22] Such type of regulation was aimed not only at protecting consumers or ensuring the availability of services.[23] It was necessary for national, social, and economic interests.[24] Later on, governments introduced sector-specific regulators that continue to regulate the sector even after introducing competition.

Among others, sector regulators exist to address the identified failures and their effects on the market.[25] Thus, they address dominant firms' unwelcome behaviors,

---

[16] Kirsten Rodine-Hardy, *Global Markets and Government Regulation in Telecommunications* (Cambridge: Cambridge University Press, 2013), pp. 10–13; John Buckley, *Telecommunications Regulation*, IEE Telecommunications Series, 50 (London, United Kingdom: Institution of Electrical Engineers, 2003), pp. 1–2.

[17] Richard A. Posner, 'Theories of Economic Regulation', *The Bell Journal of Economics and Management Science*, 5.2 (1974), 335–58 (p. 336) <https://doi.org/10.2307/3003113>.

[18] Andrei Shleifer, 'Understanding Regulation', *European Financial Management*, 11.4 (2005), 439–51 (p. 440) <https://doi.org/10.1111/j.1354-7798.2005.00291.x>.

[19] Patrick Xavier, 'Price Cap Regulation for Telecommunications: How Has It Performed in Practice?', *Telecommunications Policy*, 19.8 (1995), 599–617 (pp. 599–605) <https://doi.org/10.1016/0308-5961(95)00040-D>.

[20] Catherine Liston, 'Price-Cap versus Rate-of-Return Regulation', *Journal of Regulatory Economics*, 5.1 (1993), 25–48 (pp. 26–30) <https://doi.org/10.1007/BF01066312>.

[21] Peter K. Pitsch and Arthur W. Bresnahan, 'Common Carrier Regulation of Telecommunications Contracts and the Private Carrier Alternative', *Federal Communications Law Journal*, 48.3 (1996), 447–86 (p. 448).

[22] Ronald R. Braeutigam and John C. Panzar, 'Effects of the Change from Rate-of-Return to Price-Cap Regulation', *The American Economic Review*, 83.2 (1993), 191–98 (pp. 193–94).

[23] Merlin Stone, 'The Evolution of the Telecommunications Industry — What Can We Learn from It?', *Journal of Direct, Data and Digital Marketing Practice*, 16.3 (2015), 157–65 (p. 159) <https://doi.org/10.1057/dddmp.2014.80>.

[24] Stone, p. 159.

[25] Market failure has been argued as the main justification for telecommunications regulation. See 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 (Berlin Heidelberg: Springer-Verlag, 2018), p. 18; Niamh Dunne,

create “as if” market conditions, address anti-competitive practices, and promote competition. For example, aspects like interconnection or access to the incumbents’ systems and infrastructure became paramount because of the sector’s monopolistic features. Former monopolies had to forego their glory and compete with newcomers. Sector regulators had to play their part to facilitate the mentioned new developments, i.e., the provision of telecom services in a liberalized environment.

To a large extent, sector-specific regulation focused on the markets’ supply side to set entry rules, licensing, tariff regulation, and access.[26] The regulators’ roles have been to create a level playing field for all interested players in the market. One of the best ways to do so, among others, is to protect and promote competition.

Much as there is no dispute that regulation has proved pivotal in transforming monopolized telecommunications into competitive sectors, debates abound as to what extent sector regulation is necessary after introducing competition.[27] For instance, should the regulator assume the role of competition agencies? Should it vacate after establishing competition? Or can competition authorities and regulators co-exist? The main concern here is how best can competition be enforced in a sector where there is also regulation. Some jurisdictions have separated competition enforcement (for competition agencies) from technical regulation (for sector regulators). Others have allowed concurrent enforcement of competition.[28]

Tanzania is not an exception in the regulation of its telecommunications sector. Like other countries, it preferred sector-specific regulation to liberalize its sector and introduce competition. However, unlike many other jurisdictions, Tanzania’s framework excludes the national competition authority, the Fair Competition

---

Competition Law and Economic Regulation: Making and Managing Markets (Cambridge: Cambridge University Press, 2015), p. 43; Roger King, *Regulatory State in an Age of Governance: Soft Words and Big Sticks*. (New York: Palgrave Macmillan, 2014), pp. 26 & 36.

[26] Patrick Xavier and Dimitri Ypsilanti, ‘Behavioral Economics and Telecommunications Policy’, in *Regulation and the Evolution of the Global Telecommunications Industry*, ed. by Anastassios Gentzoglanis and Anders Henten (Cheltenham, Glos, UK; Northampton, MA: Edward Elgar, 2010), pp. 83–108 (p. 83).

[27] See for example Martin Hellwig, ‘Competition Policy and Sector-Specific Regulation for Network Industries’, in *Competition Policy in the EU: Fifty Years on from the Treaty of Rome*, ed. by Xavier Vives (Oxford; New York: Oxford University Press, 2009), pp. 203–35 (pp. 207–9); Milena Stoyanova, *Competition Problems in Liberalized Telecommunications: Regulatory Solutions to Promote Effective Competition* (The Netherlands: Kluwer Law International B.V., 2008), pp. 87–88.

[28] Maher M. Dabbah, ‘The Relationship Between Competition Authorities and Sector Regulators’, *The Cambridge Law Journal*, 70.1 (2011), 113–43 (p. 116).

Commission (FCC), from regulating the telecommunication sector. Instead, the regulator has the duty of both regulating and enforcing competition.

While Tanzania's enforcement approach may not inherently be problematic, a review of its efficacy raises some concerns. For example, while there is much jurisprudence on the sector's technical regulation, a gap exists in competition enforcement. There is no legal or practical jurisprudence on competition enforcement. Further, there is no clear legal framework to guide how the enforcement process takes place. The Tanzania Communication Regulatory Authority (TCRA), the only mandated authority to enforce competition in the sector, had only blanket powers to enforce competition since its inception. For a long time, there were no rules to indicate what is prohibited and the corresponding remedies. It was only in 2010 that the Electronic and Postal Communications Act introduced competition rules in the sector. Even after introducing competition rules in 2010, the Authority has not demonstrated its resolve to address anti-competitive issues in the sector on an *ex-post* basis. The evidence can be seen in the lack of jurisprudence on competition enforcement, while the same exists in other technical and regulatory matters.

Because of the observations described above, this study seeks to investigate the efficacy of the TCRA in enforcing competition. The main argument is that it is not sufficient to have in place rules prohibiting anti-competitive practices. There must also be exhaustive and sufficient enforcement structures to translate regulatory rules into tangible results. To this end, the main research question, which this study attempts to answer, is whether the current legal, policy, institutional, and regulatory frameworks enable effective enforcement of competition in the sector.

1.2 The Structure

This study has seven chapters. Chapter one introduces the study by presenting the research problem, objectives, and research questions. Also, it provides reviews of existing relevant literature. In chapter two, there is a discussion of fundamental telecommunications concepts. This discussion is critical because most of the concepts in this work have economic or science (telecommunications) backgrounds. Thus, discussing those terms is mandatory to gain a contextual understanding of the rest of

the work. Furthermore, the chapter explains the rise of sector regulation and its justifications, even after introducing competition. The chapter also examines the sector's general features and trends and how they affect competition and regulation.

Chapter three narrows down to discuss the evolution of the telecommunications sector in Tanzania. The chapter reviews crucial developments, traces how regulation came into play, and describes current trends and players. This chapter is relevant in providing the sector's detailed background. It is a base upon which the subsequent discussion of regulation, competition, and its enforcement stand.

An assessment of regulatory and legal frameworks is in chapter four. Specifically, the chapter looks at how *ex-ante* regulation happens and how it promotes or, where applicable, discourages competition. The *ex-post* regulation of competition is presented in chapter five. The chapter defines the existing competition rules and proceeds to describe existing enforcement structures. The difference between chapter five and chapter four is that while the former focuses on *ex-ante* rules, the latter focuses on *ex-post* rules, which would have been enforced by competition authorities (as is the case in many other jurisdictions).

Chapter six narrows down to focus on the TCRA's efficacy in enforcing competition. Its critical approach vigorously tests the sufficiency of the existing legal mandate, design of the TCRA, and adequacy of institutional capacities, including financial resources. The analysis in chapter six stands on five factors inspired by relevant literature. Finally, based on findings presented in chapter six and the rest of the chapters, chapter seven advances conclusions, recommendations for better regulation and enforcement of competition in the telecommunications sector.

1.3 Study Area

This study covers the United Republic of Tanzania (Tanzania), a developing country in the eastern part of the African continent. Tanzania shares its borders with eight countries: Kenya, Uganda, Rwanda, Burundi, the Democratic Republic of Congo, Malawi, Zambia, and Mozambique. To the east, Tanzania borders the Indian Ocean

with over 800 kilometers of coastline. A country of diverse culture, natural riches, and rich history, Tanzania is home to more than fifty million people.[29] It is also home to some of the world's natural wonders, including the spectacular Mount Kilimanjaro, the mighty Serengeti National Park, the breath-taking Ngorongoro Conservation Area, and the beautiful Zanzibar isles.

Compared to other nations in the world, Tanzania is a relatively young country. At first, it was under German rule for 33 years, from 1884/5 to 1918. It then fell under British rule for over 40 years until it obtained its independence on the 9th day of December 1961.[30] Two years after its independence, in December 1963, the Zanzibar isles lying some 50 kilometers east of Dar es Salaam also got their independence, followed by the Revolution on the 12th day of April 1964.[31] Later in the same year, on the 26th day of April, Tanganyika (now mainland Tanzania) and Zanzibar united to form a new country, the United Republic of Tanzania.[32]

Therefore, Tanzania is a unitary country with a unique structure. It is a united country with two governments.[33] The first one is the union government (other jurisdictions may consider this structure a federal government) that governs all union matters listed in the First Schedule of the Tanzanian Constitution. The Union Government is also a *de facto* government for mainland Tanzania (former Tanganyika) for all non-union matters. The second one is the Revolutionary Government of Zanzibar. It is responsible for all non-union matters in Zanzibar.[34]

This study covers the entire United Republic of Tanzania since post and telecommunications are union matters, as the constitution's first schedule provides. Thus, unless otherwise provided, the discussion on legal rules, institutional

---

[29] National Bureau of Statistics, *2016 Tanzania in Figures, National Bureau of Statistics* (Dar es Salaam: NBS, 2017), p. 11; The National Bureau of Statistics estimates that there are about 57 million Tanzanians as of June 2020. See NBS, 'National Bureau of Statistics - Home', 2020 <https://www.nbs.go.tz/index.php/en/> [accessed 30 July 2020].

[30] Bank of Tanzania, *Tanzania Mainland's 50 Years of Independence: A Review of the Role and Functions of the Bank of Tanzania 1961-2011* (Dar es Salaam: Bank of Tanzania, 2011), p. 1.

[31] See Helen-Louise Hunter, *Zanzibar: The Hundred Days Revolution: The Hundred Days Revolution* (California: ABC-CLIO, 2009), p. 1.

[32] For further details on the union see Godfrey Mwakikagile, *The Union of Tanganyika and Zanzibar: Formation of Tanzania and Its Challenges* (Dar es Salaam: New Africa Press, 2016); Issa G. Shivji, *Tanzania: The Legal Foundations of the Union* (Dar es Salaam: Dar es Salaam University Press, 2009).

[33] See Article 4 *The Constitution of the United Republic of Tanzania*, 1977, CAP 2 [R.E 2002].

[34] Constitution of Zanzibar of 1984 as revised in 2010.

frameworks, and practical examples apply to the whole of Tanzania. However, competition is not a union matter under Sections 6(1) of the Fair Competition Act. Thus, discussions regarding competition policy and regulation apply only to mainland Tanzania unless indicated otherwise.

1.4 Research Problem, Research Questions, and Objectives of the Study

1.4.1 Background

Literature suggests that two observations regarding policy formulation are necessary to enjoy the fruits of regulation in a liberalized telecommunications sector. Firstly, regulatory rules must support competition and not otherwise.[35] One such way is for regulation to act as a tool of opening markets to competition.[36] This approach is necessary because empirical studies suggest that markets work well when there is unfettered competition, i.e., the absence of policies, laws, and practices that discourage market operations.[37] Secondly, there must be efficient enforcement structures that translate rules into tangible results.[38]

As already explained, the practice of enforcing regulatory rules has been to establish sector regulators. Typically, such regulators deal with several issues, but more frequently, they focus on *ex-ante* regulation, that is, setting up operational standards

---

[35] See details for example in In`es Ben Dkhil, 'Regulation and Investment in Telecom Network Infrastructure Facilities: The Recent Developments and Debates' (Laboratory of Management of Innovation and Durable development (LAMIDED) Faculty of Management and Economic Sciences of Sousse, University of Sousse, Tunisia, 2014), pp. 2–3 <https://mpra.ub.uni-muenchen.de/72910/1/MPRA_paper_72910.pdf> [accessed 18 September 2019]; OECD, *Promoting Trade in Services Experience of the Baltic States: Experience of the Baltic States* (Paris: OECD Publishing, 2004), p. 87; Peter L Smith and Björn Wellenius, 'Strategies for Successful Telecommunications Regulation in Weak Governance Environments', 1999, pp. 2–3.

[36] See Jerry A. Hausman and William E. Taylor, 'Telecommunication in the US: From Regulation to Competition (Almost)', *Review of Industrial Organization*, 42.2 (2013), 203–30 <https://doi.org/10.1007/s11151-012-9366-4>; Jerry A Hausman and William E Taylor, 'Telecommunications Deregulation', *American Economic Review*, 102.3 (2012), 386–90 <https://doi.org/10.1257/aer.102.3.386>.

[37] Joseph E. Stiglitz, *Whither Socialism?* (Cambridge, Massachusetts; London, England: MIT Press, 1996), p. 134; Kapunda Stephen, *Industrial and Development Economics: An African Perspective* (Dakar, Senegal: CODESRIA, 2017), pp. 156–57.

[38] Peter Rott, 'The EU Legal Framework for the Enforcement of Consumer Law', in *Enforcement and Effectiveness of Consumer Law*, ed. by Hans-W. Micklitz and Geneviève Saumier, Ius Comparatum - Global Studies in Comparative Law (Cham: Springer International Publishing, 2018), pp. 249–85 (p. 272) <https://doi.org/10.1007/978-3-319-78431-1_10>; ERGA, *ERGA Report on the Independence of NRAs* (ERGA, 2015), p. 31 <http://erga-online.eu/wp-content/uploads/2016/10/report_indep_nra_2015.pdf> [accessed 16 October 2019].

beforehand.[39] Nevertheless, it is also not exceptional for regulators to have jurisdiction to enforce competition. A study of different enforcement models around the world reveals four models. In the first model, sector regulators deal only with technical matters, while competition authorities deal with competition matters. In the second model, there is concurrent enforcement between the sector regulators and competition authorities. In the third model, exclusive enforcement of competition lies with the sector regulator, whereas in the last one, competition authorities also have economic and technical powers of regulation in the sector.[40]

The first two are very common, while the last one is almost non-existent. The third exists in a few countries, including Tanzania, and it is not without some difficulties.[41] For example, there are some concerns on whether or not sector regulators are better placed to exclusively enforce competition law. This argument comes out because studies have shown that regulatory rules, as applied by regulators, have, at times, contradicted with rules of competition.[42] It has further been argued that placing competition enforcement under sector regulators may lead to perpetual regulation against what is desired in the market.[43]

It has also been argued that sector regulators are more apt to capture than competition authorities.[44] Furthermore, there is a material difference between competition rules, which are enforced *ex-post* and regulatory rules that are enforced *ex-ante*. More importantly, while they stand out concerning regulation of technical issues such as interconnection or spectrum management, regulators are said to lack

---

[39] Christian Jaag and Urs Trinker, 'A General Framework for Regulation and Liberalization in Network Industries', in *International Handbook of Network Industries: The Liberalization of Infrastructure*, ed. by Matthias Finger and Rolf Kunneke (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2011), pp. 26–53 (p. 40).
[40] Dabbah, p. 116.
[41] Some of those countries include India and Tanzania.
[42] OECD, *OECD Reviews of Regulatory Reform: Regulatory Reform in Ireland 2001* (Paris: OECD Publishing, 2001), p. 180.
[43] See Jerry A Hausman and Taylor, pp. 86–90; Marcel Boyer, 'The Measure and Regulation of Competition in Telecommunications Markets', in *Regulation and the Evolution of the Global Telecommunications Industry*, ed. by Anastassios Gentzoglanis and Anders Henten (Cheltenham, Glos, UK; Northampton, MA: Edward Elgar, 2010), pp. 109–27 (p. 109).
[44] See Toddy J Zywicki and James C Cooper, 'The US Federal Trade Commission & Competition Advocacy: Lessons for Latina America Competition Policy', in *Competition Law and Policy in Latin America*, ed. by Eleanor Fox and Daniel Sokol (Portland, Oregon: Bloomsbury Publishing, 2009), pp. 351–76 (p. 364).

expertise in legal and economic analyses of market operations.[45] Further, it has been argued that sector regulators may end up treating telecommunications firms as their clients.[46] In effect, these differences make it difficult, at least in theory, for sector regulators to effectively deal with competition enforcement.

With these concerns in mind, it is crucial to ascertain that when a regulator has powers to enforce competition law, there are legal stipulations to ensure that it can effectively do so. The law must stipulate what anti-competitive practices are prohibited. As a step further, it must also elucidate clearly how the regulator can effectively enforce those rules. Where necessary, the law must stipulate the relationship between the regulator and competition authorities. Thus, aspects such as sufficiency and clarity of regulatory rules, jurisdiction, and independence of the regulator and the resources' sufficiency become paramount.[47]

1.4.2 The Problem

The Tanzanian telecommunications laws have established the Tanzania Communications Regulatory Authority as an exclusive enforcer of competition law in the telecommunications sector. According to Section 96 of the Fair Competition Act and Sections 5, 19, and 20 of the TCRA Act, the Fair Competition Commission, which is the national competition authority, has no jurisdiction in the sector.[48] Instead, the law empowers only the TCRA to promote and enforce competition.[49] As a result, the TCRA exclusively acts as a regulator and an enforcer of competition in the sector.

Because Tanzania preferred this approach, it was expected that the law would be apparent on at least three points. Firstly, the law must have exhaustively defined all necessary substantive rules of competition. Secondly, it must have laid down rules to govern the enforcement process and structures. Thirdly, it must have designed the regulator such that it can efficiently enforce competition. The presence of these three

---

[45] OECD, 'Independent Sector Regulators – Background Note' (OECD Publishing, 2019), p. 7.
[46] See Zywicki and Cooper, p. 364; OECD, 'Independent Sector Regulators – Background Note', p. 7.
[47] Rott, p. 272; OECD, *Policy Framework for Investment A Review of Good Practices: A Review of Good Practices* (Paris: OECD Publishing, 2006), pp. 91–92; ERGA, p. 31; United States Department of the Treasury, *Report of the Secretary of the Treasury on Government Sponsored Enterprises* (Washington, D.C: Department of the Treasury, 1991), p. 14.
[48] *Fair Competition Act*, ACT NO 8 OF 2003.
[49] *The Tanzania Communications Regulatory Authority Act*, 2003, ACT NO 12 OF 2003.

factors would indicate a sector regulator capable of effectively addressing competition concerns in the sector, both on an ex-ante and ex-post basis.

However, the TCRA regulatory structure paints a different picture. An initial survey indicated that even though the TCRA was established in 2003 with a mandate to enforce competition, it was only until 2010 that the law establishing substantive rules of competition was enacted. Even after the enacting of competition rules, *ex-post* enforcement of competition law has not been evidenced. For example, while there is a significant jurisprudence on *ex-ante* regulation on various technical matters such as interconnection, spectrum management, access, and consumer protection, there is no similar jurisprudence on *ex-post* enforcement of competition, even though some elements of anti-competitive practices have been witnessed.[50] This enforcement gap raises the question of the TCRA's efficacy in enforcing competition law in the sector. It is unclear whether the TCRA has the requisite capacities for effective enforcement of competition. Thus, it is against these observations that this research seeks to investigate the efficacy of the TCRA in enforcing competition law.

1.4.3 Questions

Based on the preceding observations, the primary question arises on whether the current legal, policy, institutional, and regulatory frameworks enable effective enforcement of competition in the sector. This question proposes looking into the TCRA's legal mandate, institutional design, and institutional capacities and resources. Thus, to exhaustively address this question, it is further subdivided into three;

1. Whether the current policy, legal, institutional, and regulatory frameworks enable the TCRA to enforce competition rules in the sector effectively,
2. Whether the Authority possesses requisite resources and capacities to enforce competition law, and
3. What should be the best way to enforce competition law in the telecommunications sector.

[50] See chapter five for further detail.

1.4.4 Objectives

This study's main objective is to critically examine, analyze, and evaluate the legal, policy, institutional, and practical framework for the enforcement of competition in the telecommunications sector. Specifically, it evaluates whether or not the TCRA is best-placed legally and institutionally to enforce competition in the sector. The study further had the following specific objectives:

1. To analyze the legal, policy, and regulatory framework governing telecommunications regulation and competition in the telecommunications sector;
2. To critically assess the efficacy of TCRA's institutional design, practice, and procedures in promoting and enforcing competition law;
3. To critically assess the sufficiency of TCRA's resources and capacities in the promotion and enforcement of competition law; and
4. To recommend the best ways to enforce competition law in the telecommunications sector.

1.5 Methodological Framework and Approach

1.5.1 Methodological Approach

This research employs qualitative research methods. It takes an analytical approach to answer the research questions. At first, it starts by setting a base through a descriptive analysis of the telecommunications sector. It then examines relevant policies, laws, regulations, and practices adopted to regulate telecommunications and promote and enforce competition in the sector. In the process, the study reviews relevant legal instruments and institutional frameworks central to comprehending the sector and its regulatory environment. Such descriptive analysis is presented from chapter two to chapter five of this work.

Chapter six is narrowed down to focus only on TCRA's enforcement of competition. It employs a critical approach to analyzing the efficacy of the TCRA in promoting and enforcing competition law. It vigorously tests the sufficiency of the existing legal mandate, design of the TCRA, and adequacy of institutional capacities and resources.

Having examined the enforcement of competition in the sector critically, chapter seven prescribes necessary reforms for better regulation and effective enforcement of competition. It is hoped that regulation can deliver maximum benefits of a vibrant and competitive sector if these recommendations are considered.

In another perspective, this study also considered the country's historical, socio-political, and economic contexts. The approach was necessary because legal rules and related practices do not develop or operate in a vacuum. Thus, instead of looking at the existing legal framework and practices in isolation from other actors, the study incorporated necessary backgrounds to better understand the current frameworks and practices. For example, a historical context helps to trace the development of regulation and competition law.

The socio-political context considers how various social and political policies affected regulation and related practices. For example, one will find an apparent link between adopting socialism and monopolies' growth in the country. In the economic context, the research refers to how various economic considerations have affected the telecommunications sector's regulation.[51] Explicitly, the sector's economic characteristics are considered in evaluating existing regulatory frameworks' efficacy and recommending reforms for better regulation.

1.5.2 Data Collection Methods

1.5.2.1 Field Study

First-hand information was necessary to understand the TCRA's design, practices, and procedures in regulating the sector and promoting and enforcing competition. To this end, it was necessary to visit the TCRA and other institutions and organizations that deal with competition matters. Therefore, apart from the TCRA, research visits were

[51] For proper understanding of Tanzania economic policies see David Potts, *Policy Reform and the Economic Development of Tanzania* (Bradford, United Kingdom: Bradford Centre for International Development, 2008); Robert J. Utz, *Sustaining and Sharing Economic Growth in Tanzania* (Washington, D.C: World Bank Publications, 2008); Anna Muganda, 'Tanzania's Economic Reforms— and Lessons Learned', in *Scaling Up Poverty Reduction: A Global Learning Process and Conference* (presented at the Reducing Poverty, Sustaining Growth—What Works, What Doesn't, and Why A Global Exchange for Scaling Up Success, Shanghai: The International Bank for Reconstruction and Development / THE WORLD BANK, 2004); The World Bank, *Tanzania at the Turn of the Century: From Reforms to Sustained Growth and Poverty Reduction* (Washington, D.C: World Bank Publications, 2001).

made to the Ministry of Communications, the Fair Competition Commission, and the Fair Competition Tribunal. Also, the researcher paid a visit to six public and private telecommunications companies in Tanzania. They included Tanzania Telecommunications Company [TTCL (a public corporation)], Vodacom Tanzania, Tigo (and Zantel, which is now owned by Tigo), Halotel, and Smart Tanzania. Data collected from these firms were detailed enough to provide a clear picture of regulation and competition enforcement in their perspectives. Additionally, secondary information regarding these firms, such as their annual and special reports, provided useful data to complement information already collected from the field.[52]

Apart from the stated visits, the researcher carried out in-depth interviews with over thirty academicians, legal practitioners, and other persons working in the telecom sector.[53] These, as far as the researcher could tell, were at the time of concluding this study very conversant with the subject matter of the study. Their contributions provided a highly balanced and (most of the time) objective perspective. In due regard, the researcher learned how regulated firms perceive regulation. Their contribution was enormously critical because they even formulated possible theoretical approaches for effective regulation and competition enforcement.

Two data collection methods were employed to gather information from the mentioned respondents; questionnaires and guided interviews. In practice, both methods were used concurrently. Questionnaires were first sent to respondents at their request, presumably to familiarize themselves with the nature and type of questions. They were followed by interview sessions, which were informative and provided the researcher with an opportunity to seek clarifications and ask follow-up questions. More importantly, interview sessions were instrumental in establishing a rapport that became very useful in the follow-up sessions.

1.5.3 Documentary Review

This work relied much on the existing literary works. The objective was to set conceptual foundations by understanding the telecommunication sector and how

[52] For logistical reasons, it was impossible to visit Smile and Airtel.
[53] For a breakdown of these respondents, see the annexed list.

regulation and competition became critical in its development. The study dedicated considerable efforts to review various legal, economic, technical, and related texts. The researcher reviewed books, book chapters, and journal articles from many authors across many jurisdictions. Also, the review dwelt on relevant technical texts, particularly those dealing with telecommunications engineering and Information and Communication Technology (ICT).

The researcher extended the literature review to conference papers and other unpublished works. Also, special acknowledgment goes to reports, studies, and related works on competition law and telecommunication regulations from renowned institutions that deal with telecommunications sectors. Among others, such institutions include the United Nations Conference on Trade and Development (UNCTAD), the World Bank (WB), the United Nations (UN), the International Telecommunication Union (ITU), the International Competition Network (ICN), and the Organization for Economic Co-operation and Development (OECD). Most of the referred texts from these organizations are technical, addressing critical and relevant issues to this study. Thus, they helped understand the telecommunications sector, especially by referring to several jurisdictions' laws and practices. Besides, they proved helpful in formulating recommendations for legal and policy reforms.

1.6 State of the Existing Literature

Literature originating from Tanzania on regulation or promotion and enforcement of competition law in the sector is scarce. Most of the available sources, which are few, focus on general competition law. There are limited references to sector regulation. For instance, Eliamani Laltaika,[54] Halima Noor,[55] the UNCTAD,[56] and Goodluck Temu[57] have analyzed the importance of clear legal mandate and institutional design in enforcing competition law. Their works focused much on the FCC. Most of their

[54] Eliamani Laltaika, 'Legal and Institutional Aspects of Fair Competition in Tanzania', *Open University Law Journal,* 5.1 (2014), 58-68.
[55] Halima Noor, *The State of Play of Competition Policy and Law Reform: The Case of Tanzania* (Nairobi.: CUTS International, 2015).
[56] UNCTAD, *Voluntary Peer Review of Competition Law and Policy: United Republic of Tanzania* (New York & Geneva: The United Nations, 2012).
[57] Goodluck Temu, 'Reflections on the Enforcement of Competition Rules in Tanzania', *The East Africa Law Review*, 41.2 (2015), 86–110.

references to the TCRA are haphazard. They do not systematically address TCRA's efficacy in regulating telecommunications and enforcing competition law. For example, Laltaika briefly provides an explanatory account of the TCRA setup without further analysis.[58]

The UNCTAD work briefly looks at the TCRA's setup. It has pointed out the absence of the FCC's jurisdiction on the sector as the main weakness and recommended some policy reforms. Increased FCC's advocacy in the sector is one of the recommendations.[59] For Halima Noor, her significant observation is that absence of the FCC's jurisdiction in the sector is a considerable enforcement weakness.[60] She opines that the relationship between the FCC and the TCRA is unhealthy as the practice has evidenced turf wars between them.[61] Halima also doubts the regulator's independence, especially when the responsible minister has broad powers compared to the accepted international practice.[62] Even though they do not present a complete understanding of the sector, all these observations offer an essential base on which this study undertakes to build. They further point out that competition matters in the telecommunications sector have not received appropriate attention from researchers and academics in the country.

Apart from the mentioned studies, two studies are relevant to understanding the country's general state of competition. The first study was by Francis Sabby in 2018.[63] Sabby looks at how the East African Community (EAC) countries progress in approximating competition laws.[64] In so doing, he takes a multinational approach by involving all the EAC countries. He brought critical conclusions that reflect on how the EAC countries perceive competition. He observes a laxity in EAC countries in dealing with competition matters.[65] For example, he notes, while Tanzania, Kenya,

---

[58] See Laltaika, pp. 65–66.
[59] UNCTAD, *Voluntary Peer Review of Competition Law and Policy: United Republic of Tanzania*, p. 17.
[60] Noor, p. 44.
[61] Noor, p. 44.
[62] Noor, p. 48.
[63] Francis Sabby, 'Approximation of Competition Rules within the EAC Partner States: A Case Study of Tanzania, Kenya and Uganda' (unpublished A Thesis Submitted in Fulfilment of the Requirements for the Degree of Doctor of Philosophy (Ph.D) in Law of the University of Dar es Salaam, University of Dar es Salaam, Dar es Salaam), p. 1.
[64] Sabby, p. 1.
[65] Sabby, p. 269.

and Rwanda, have competition laws, others, namely Burundi, Uganda, and South Sudan, do not have such laws.[66] As a result, there is very little progress made in the approximation of competition rules.[67]

Sabby's work reflects how the EAC countries, Tanzania included, perceive and prioritize competition matters. Such laxity observed by the author indicates that EAC countries are yet to perceive the importance of competition. As a result, there is insufficient investment in establishing workable frameworks to yield optimal results in the markets, a fact apparent in Tanzania's telecommunications sector.

The second study is by Elias Mwashiuya of 2019.[68] Mwashiuya assessed the implementation of competition law in the real estate sector. He found out that a lack of adequate regulations created an opportunity for unfair competition practices.[69] In his opinion, the inadequacy resulted from a lack of awareness of all actors.[70] Such lack of awareness cut across many other sectors.[71] The effect is to have an industry characterized by uncompetitive practices.[72] Mwashiuya's study is also relevant as it shows the overall policy deficit in addressing competition matters.

An account of past developments in the sector is also scanty and haphazard. In many cases, telecommunications regulation comes up just as a tiny part of a broader narrative, predominantly when authors revisit Tanzania's economic history. Such accounts are found in several authors' works, including Sebastian Edwards,[73] Rodger Noll and Marry Shirley,[74] Andrew Temu and Jean Due,[75] Mohamad Mustafa *et al.*,[76]

---

[66] Sabby, p. 269.
[67] Sabby, p. 270.
[68] Elias Mwashiuya, 'Examining Application of Competition Rules in the Tanzania Real Estate Market' (unpublished A Thesis Submitted in Fulfilment of the Requirements for the Degree of Doctor of Philosophy (Law) of the University of Dar es Salaam, University of Dar es Salaam, 2019).
[69] Mwashiuya, p. 284.
[70] Mwashiuya, p. 287.
[71] Mwashiuya, p. 287.
[72] Mwashiuya, p. 288.
[73] Sebastian Edwards, *Toxic Aid: Economic Collapse and Recovery in Tanzania*, First edition (Oxford, United Kingdom: Oxford University Press, 2014), pp. 29, 137, 198.
[74] Roger G. Noll and Mary M. Shirley, 'Telecommunications Reform in Sub-Saharan Africa: Politics, Institutions and Performance', pp. 52–55 <https://projects.iq.harvard.edu/files/wcfia/files/656_nollshirley.pdf> [accessed 10 December 2019].
[75] Andrew E. Temu and Jean M. Due, 'The Business Environment in Tanzania after Socialism: Challenges of Reforming Banks, Parastatals, Taxation and the Civil Service', *The Journal of Modern African Studies*, 38.4 (2000), 683–712 (p. 697).

Jean-Jacques Laffont,[77] and Lawrence Mbogoni.[78] In all these works, the telecommunications sector's reference is hasty as authors' focuses were on other matters.

Nevertheless, when patching together bits of information collected from the mentioned works, one can have a rough picture of the sector's early developments. From such accounts, it is learned that the telecommunications sector has always been critical to Tanzania's economy. As a result, its development has been affected by changing policy developments. Thus, based on these works' observations, it can be realized that the sector cannot be understood in the exclusion of other national policies.

There is, however, one comprehensive account of early regulatory steps taken in Tanzania in the 1990s. The account is in an edited work by Mwandosya, Mbowe, and Young.[79] The importance of this work is that it pictures how regulation facilitated competition in the sector. It also shows how the first regulator perceived and promoted competition.[80] Further, this work helps explain why the government preferred utility regulation to transit from monopolies to market economy.

Furthermore, the work demonstrates why reforms were necessary for the sector.[81] It shows the early experiences, including challenges in regulating the sector.[82] It also details the procedures and processes that the government adopted to introduce

---

[76] Mohammad A. Mustafa, Bruce Laidlaw, and Mark Brand, *Telecommunications Policies for Sub-Saharan Africa* (World Bank Publications, 1997), pp. 5 & 65.
[77] Jean-Jacques Laffont, *Regulation and Development* (Cambridge: Cambridge University Press, 2005), pp. 99–100.
[78] Lawrence Ezekiel Yona Mbogoni, *Aspects of Colonial Tanzania History* (Dar es Salaam: Mkuki na Nyota, 2013), pp. 121–22.
[79] *Competition Policy and Utility Regulation*, ed. by J. M. Mwandosya, George F. Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997).
[80] George Mbowe, 'An Overview of Divestiture Process and Progress in Tanzania', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George F Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 3–12.
[81] Mathew Luhanga and Adollar Mapunda, 'Telecommunications: Current Status and Rationale for Reforms in Tanzania', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 95–110.
[82] Awadhi Mawenya, 'Regulating the Communications Sector in Tanzania: Experiences and Lessons', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 111–24.

competition in the sector.[83] The book, short as it is, provides a classical account of what transpired in the early times of telecommunications liberalization. It is critical because only through a proper understanding of the past can the present be understood. Further, it is through past practical experiences that policymakers can correctly project the future when necessary.

Apart from the mentioned works, nothing else significant of Tanzanian origin could be found. For that reason, the study employed literature from outside Tanzania. In due regard, two major types of literature are relevant. The first body of literature focuses on competition agencies, which also have jurisdiction to enforce competition in the telecommunications sector. Since such agencies have enforcement powers in the telecommunications sector, their designs and enforcement structures help understand and assess the efficacy of sector regulators that have powers to enforce competition. Some of the first group's works are William E Kovacic,[84] William E Kovacic and Marianela Lopez-Galdos,[85] UNCTAD,[86] Timothy J Muris,[87] and Annetje Ottow.[88] They all agree that an authority can efficiently enforce competition if it has a clear legal mandate, clear statements of objectives, and exhaustive enforcement

[83] Catherin Waddams, 'Competition Policy and Utility Regulation: A Conceptual Framework', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George F Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 55–74.

[84] William E. Kovacic, 'Distinguished Essay: Good Agency Practice and the Implementation of Competition Law', in *European Yearbook of International Economic Law 2013*, ed. by Christoph Herrmann, Markus Krajewski, and Jörg Philipp Terhechte, European Yearbook of International Economic Law (Berlin, Heidelberg: Springer, 2013), pp. 3–22 <https://doi.org/10.1007/978-3-642-33917-2_1>; William E. Kovacic, *Rating the Competition Agencies: What Constitutes Good Performance?* (Rochester, NY: Social Science Research Network, 8 March 2012) <https://papers.ssrn.com/abstract=2018710> [accessed 11 December 2019]; William E. Kovacic, *The Digital Broadband Migration and the Federal Trade Commission: Building the Competition and Consumer Protection Agency of the Future* (Rochester, NY: Social Science Research Network, 8 March 2012) <https://papers.ssrn.com/abstract=2018734> [accessed 11 December 2019]; William E. Kovacic, 'Competition Agencies, Independence, and the Political Process', in *Competition Policy and the Economic Approach Foundations and Limitations*, ed. by Josef Drexl, Wolfgang Kerber, and Rupprecht Podszun (Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing, 2011), pp. 291–311.

[85] William E. Kovacic and Marianela Lopez-Galdos, 'Lifecycles of Competition Systems: Explaining Variation in the Implementation of New Regimes | Law & Contemporary Problems', *Law and Contemporary Problems*, 79 (2016), 85–122.

[86] UNCTAD Secretariat, 'Foundations of an Effective Competition Agency', in *Trade and Development Commission Intergovernmental Group of Experts on Competition Law and Policy* (presented at the United Nations Conference on Trade and Development, Geneva: UNCTAD, 2011) <https://unctad.org/en/Docs/ciclpd8_en.pdf> [accessed 11 January 2019].

[87] Timothy J. Muris, 'Principles for a Successful Competition Agency', *The University of Chicago Law Review*, 72.1 (2006), 165–87.

[88] Annetje Ottow, *Market and Competition Authorities: Good Agency Principles* (Oxford: Oxford University Press, 2015), pp. 8–144.

procedures. Further, the authority must be independent, accountable, and with well-developed internal procedures. Among others, these qualities ensure the authority's ability to act professionally, autonomously, and with integrity.

The second body of literature deals directly with sector regulators as enforcers of competition law. The leading work in this group is that by Robert Baldwin, Martin Cave, and Martin Lodge.[89] They argue that a regulator must have a clear legislative mandate, be accountable, observe due process, maintain expertise, be independent, and act efficiently.[90] To them, regulators play a significant role in the economy. If they act ineffectively, they harm not only the economy but also consumers.

Therefore, it is crucial to ensure that law, institutional design, and practice allow authorities to deliver to their optimal requirements. Several other works agree with the referred views above. Such works include those by the OECD,[91] William Kovacic,[92] Francesc Trillas,[93] Davesh Kapur and Madhav Khosla,[94] Daniel Müller-Jentsch,[95] Chris Hanretty, Pierre Larouche and Andreas Reindl,[96] the World Bank,[97] OECD,[98] and Shelley Metzenbaum and Gaurav Vasisht.[99]

Despite the absence of detailed Tanzania's literature on the telecommunications sector, a resort to other jurisdictions and international publications paints a clear

---

[89] Robert Baldwin, Martin Cave, and Martin Lodge, *Understanding Regulation: Theory, Strategy, and Practice*, 2nd ed (New York: Oxford University Press, 2012), pp. 25–31.
[90] Baldwin, Cave, and Lodge, *Understanding Regulation*, p. 28.
[91] OECD, *The Governance of Regulators: OECD Best Practice Principles for Regulatory Policy* (Paris: OECD Publishing, 2014), pp. 79–103.
[92] Kovacic, 'Competition Agencies, Independence, and the Political Process', pp. 291–311.
[93] Francesc Trillas, 'Independent Regulators: Theory, Evidence and Reform Proposals' (IESE Business School – University of Navarra, 2010) <https://media.iese.edu/research/pdfs/DI-0860-E.pdf> [accessed 12 October 2019].
[94] Devesh Kapur and Madhav Khosla, 'The Reality of Indian Regulation', in *Regulation in India: Design, Capacity, Performance*, ed. by Devesh Kapur and Madhav Khosla (Oxford: Bloomsbury Publishing, 2019), pp. 3–32 (pp. 15–16).
[95] Daniel Müller-Jentsch, *The Development of Electricity Markets in the Euro-Mediterranean Area: Trends and Prospects for Liberalization and Regional Integration* (Washington, D.C: World Bank Publications, 2001), p. 23.
[96] Chris Hanretty, Pierre Larouche, and Andreas Reindl, *Independence, Accountability and Perceived Quality of Regulators*, A CERRE Study (Brussels: Center on Regulation in Europe, 6 March 2012).
[97] The World Bank, *World Development Report 1994: Infrastructure for Development* (Washington, D.C: Oxford University Press for the World Bank, 1994), p. 67.
[98] OECD, *The Governance of Regulators*, p. 1.
[99] Shelley H. Metzenbaum and Gaurav Vasisht, 'What Makes a Regulator Excellent?' (unpublished Discussion Paper for the Penn Program on Regulation's International Expert Dialogue on "Defining and Measuring Regulatory Excellence", University of Pennsylvania Law School, 2015) <https://www.law.upenn.edu/live/files/4387-metzenbaumvasishtdiscussion-draftmarch-2015pdf1pdf> [accessed 16 October 2019].

picture of an efficient regulator. The reviewed literature shows that having such a regulator is a calculated decision resulting from deliberate investments in systems and structures. Such decisions must be reflected in legislative frameworks and institutional designs. It is only with these prerequisites carefully crafted and sorted in the respective legal maps, together with a supportive government with an unquestionable political will, that the regulator may graduate to an effective level.

1.7 Significance and Policy Relevance

This research adds useful literature in regulation and promotion and enforcement of competition law in telecommunications. The literature review section already reveals limited Tanzanian literature on the subject matter of this work. For this reason, this research dedicated sufficient background on the sector and its regulation, as chapters three to five reveal. With these chapters, one gets a complete picture of the nature and dynamics of the sector, not only in Tanzania but also with global experiences and perspectives. Also, the chapters provide a clear framework of how the regulator regulates the sector.

Chapter six is very significant, for it seeks to answer the main research question. At this point, the research has already demonstrated that competition is a prerequisite for a vibrant, effective, and competitive telecommunications sector. It is through competition that consumers can receive maximum benefits from the markets. The remaining point of examination, which chapter six looks at, is whether the regulator can translate competition rules into practice to harness their potential in the sector's growth and development. Therefore, chapter six delves into the practical aspects of TCRA's enforcement of competition law in the sector. And, it shall be seen, significant concerns exist that put the competition enforcement in limbo.

Therefore, the overall significance lies in demonstrating the implication of competition and regulation in the sector. The research findings have shown the state of regulation and competition. They have further shown how the regulator discharges its enforcement mandate. Furthermore, the research has studied the entire regulatory architecture, for example, by pointing at its strengths and weaknesses. It has taken a pragmatic approach by examining how competition regulation and enforcement

should occur. With the overall findings presented in chapter seven, the research set a benchmark for necessary institutional evaluations and further legal and policy reforms for efficient regulation and competition enforcement.

Chapter 2: Telecommunication, Regulation, and Competition: Conceptual and Theoretical Foundations

> *"…regulation which respects competition principles is the most efficient type of regulation. When that regulation succeeds in enabling a competitive market, there is less to worry about both for the consumers and for the enforcers of competition rules.*[100]

2.1 Introduction

Before the nineteenth century, communication was a prolonged process. It was not unusual to communicate by shouting from hill to hill, horse riders, pigeons, beacons, and ships' posts.[101] What is seen today in the communication world is a relatively new concept. Let us think of these facts. From 1812 to 1815, there was a war between the United States of America (US) and the United Kingdom (UK).[102] In that war, the US won the Battle of New Orleans in 1814.[103] However, celebrations had to wait for another three weeks because of the terrible state of communications.[104] It is assumed that the American General Andrew Jackson did not enjoy better communication between New York and New Orleans than Julius Caesar did between Rome and Gaul.[105] Information was passing on horsebacks or slow sailing ships. It is argued,

[100] Neelie Kroes, 'The Interface between Regulation and Competition Law', in *Bundeskartellamt Conference on 'Dominant Companies – The Thin Line between Regulation and Competition Law* (presented at the Bundeskartellamt Conference on 'Dominant Companies – The Thin Line between Regulation and Competition Law, Hamburg, 2009), p. 6.
[101] See Patrick D. Van der Puije, *Telecommunication Circuit Design* (New York: J. Wiley, 2002), p. 1; Eli M. Noam, *Telecommunications in Europe*, Communication and Society (New York: Oxford University Press, 1992), p. 7.
[102] Jeanne T. Heidler and David S. Heidler, 'War of 1812: History, Causes, Effects, Timeline, Facts, & Significance', *Encyclopedia Britannica* (Encyclopædia Britannica, inc., 2019) <https://www.britannica.com/event/War-of-1812> [accessed 25 September 2019].
[103] Heidler and Heidler.
[104] Joseph J Carr, Steve Winder, and Stephen J Bigelow, *Understanding Telephone Electronics (Fourth Edition)*, 4th edn (Woburn, MA: Butterworth-Heinemann, 2001), p. ix.
[105] Carr, Winder, and Bigelow, p. ix.

perhaps, that Caesar had better communications channels because of the well-built roads of Rome.[106]

The poor state of communication, however, did not last long after that war. It was the discovery of the telephone that changed the game. However, how did that happen? At around the 1830s, there were already efforts to shorten long-distance communication.[107] For example, scientists like Charles Wheatstone and Sir William Fothergill Cooke in the UK and Samuel Morse in the US invented the electronic telegraph.[108] By then, such an invention was undeniably revolutionary. As of 1855, one could send fifty words in a minute.[109]

However, the telegraph was still not fast. Alexander Graham Bell,[110] a Scottish scientist, was not content.[111] He thus dedicated his mind to improving it. In 1876 while in his laboratory, he spilled acid on his trousers.[112] He had to call the attendance of his assistant. His assistant could hear him properly, but at that time, not through the usual transmission of the human voice through the air as sound waves facilitated by our hearing system. On the contrary, the transmission was through a receiver which was still in the experiment. Thus, the assistant could hear Bell's call directly as a result of electronic transmission.[113] The working of the receiver meant a new development in the world of communication. An electronic device that would later be

---

[106] Carr, Winder, and Bigelow, p. ix.

[107] Tarmo Anttalainen, *Introduction to Telecommunications Network Engineering*, Artech House Telecommunications Library, 2nd ed (Boston: Artech House, 2003), p. 4.

[108] Andy Valdar, *Understanding Telecommunications Networks*, IET Telecommunications Series, 71, 2nd edition (London, United Kingdom: The Institution of Engineering and Technology, 2017), p. 2; For interesting details on telegraph read David Hochfelder, *The Telegraph in America, 1832–1920* (Baltimore, Maryland: JHU Press, 2012); Lewis Coe, *The Telegraph: A History of Morse's Invention and Its Predecessors in the United States* (McFarland: Jefferson, N.C, 2003).

[109] Carr, Winder, and Bigelow, p. 1.

[110] For more about Bell see *Great Lives from History. Inventors & Inventions*, ed. by Alvin K. Benson, Great Lives from History (Pasadena, Calif: Salem Press, 2010), pp. 75–77; Samuel Willard Crompton, *Alexander Graham Bell and the Telephone: The Invention That Changed Communication*, Milestones in American History (New York: Chelsea House Publishers, 2009).

[111] Even though Alexander Abraham Bell is credited as an inventor of the telephone, he was not the first person to carry that attempt. In 1861, a German teacher named Philipp Reis had already demonstrated principles of voice transmission. His device, however, never worked in practice. See Eli M. Noam, *Telecommunications in Europe*, p. 69; Eleven years before Bell, one Amos Emerson Dolbear had already invented a permanent-magnetic telephone receiver in 1865. His delays in patent applications would see Bell, together with an Italian inventor of radio, Guglielmo Marconi being recognized for their contribution in wireless telegraphy. See Charles Lynn Joseph and Santiago Bernal, *Modern Devices: The Simple Physics of Sophisticated Technology* (Hoboken, New Jersey: Wiley, 2016), p. 378.

[112] Carr, Winder, and Bigelow, p. 1.

[113] Carr, Winder, and Bigelow, p. 1.

regarded as the "most complicated equipment in the world" was invented; the telephone.[114]

The invention of the telephone changed the concept of communication altogether. Distant communication that was seen as impossible a few years before became a reality. More importantly, unprecedented technological developments have happened such that today, the telecommunications sector forms part and parcel of our daily lives. The developments reflect what one author, David Loomis, once noted that,

> "The [telecommunication] industry, in fact, is hard to define because technological advances cause the industry to continually redefine itself. Indeed, the only constant in the telecommunications industry is that it is always changing."[115]

From Loomis' perspective, the sector's most distinguishing feature is its constant changing charged by technological developments happening at an unprecedented pace. These changes, among others, result from the impact of the sector's regulation. They depict what regulation can and has done in the sector. They reflect a bigger picture of policy developments translated into legal rules that regulate communication services and competition among service providers. Thus, the state of communication services as seen today- whether excellent or worse-is a recipe of several ingredients, most notably three: rapid technological developments, regulation, and competition.[116]

Therefore, this chapter presents the conceptual foundations upon which one will better understand the study. Specifically, it examines three concepts, namely, telecommunication, regulation, and competition. In so doing, the chapter does not only define these terms. It also looks at how they came into play in the sector and how they relate to each other. Furthermore, it looks at how telecommunications' inherent features made it necessary to have rules for regulation and competition.

---

[114] See Anttalainen, p. 3.
[115] David Loomis, 'The Telecommunications Industry', in *Handbook of Computer Networks: Key Concepts, Data Transmission, and Digital and Optical Networks*, ed. by Hossein Bidgoli (Hoboken, N.J: John Wiley & Sons, Inc, 2008), pp. 1–18 (p. 3).
[116] Harald Gruber, *The Economics of Mobile Telecommunications* (Cambridge, UK: Cambridge University Press, 2005), pp. 2–3.

2.2 Telecommunications and Related Concepts

Before proceeding further, we must define telecommunications and related terms, especially those connected with regulation and competition. The definitions are important because they appear repetitively in the rest of this work. Apart from telecommunications, other concepts defined in this section include the Public Switched Telephone Network (PSTN), Local loop, Mobile Networks, the internet, the Broadband internet, internet telephony, and the convergence of communications services.

2.2.1 Telecommunications

Telecommunication has to do with distant communications.[117] It is an "electrical means of communicating over a long distance."[118] Through telecommunication, information transmits over a distance, especially using "electromagnetic or photonic signals."[119] The extent of the distance is not material. It may be between points located in a few meters, for example, in the same building or different regions of the same country. It may also be between two parties located in the most extreme points of the earth, say, the north and south poles, or even between the earth and space, for example, Mars.

The use of telephones, mobile phones, data networks, radios, televisions, cable television, and even highly sophisticated communication with space devices such as mars exploration rovers are just a few examples of telecommunications.[120] This work, however, is limited only to telecommunications services offered through the use of telephone networks. Thus, a reference to the telecommunications sector, unless otherwise stated, does not extend to other communication aspects such as broadcasting.

---

[117] Anttalainen, p. 1.
[118] Valdar, p. 1.
[119] Joseph and Bernal, p. 377.
[120] See further Jim Taylor, *Deep Space Communications* (Hoboken, New Jersey: John Wiley & Sons, 2016).

2.2.2 Public Switched Telephone Network (PSTN)

The first telephone required at least two points physically connected by copper wires.[121] With an increase in demand, exchange points were introduced to establish a connection between the two points.[122] At first, a connection at the exchange points was by the manual switching system.[123] A new profession dominated mainly by women developed,[124] connecting two customers to establish a call.[125] Further increase in demand made automatic switching systems necessary.[126] Thus, connections between different points would be established using public switching, later known as Public Switched Telephone Network (PSTN).[127]

The PSTN has three key attributes: "it is public (meaning that anyone can use it), it is switched (meaning that anyone can call anyone else who is on it, based on a common addressing system, known to experts as E.164 numbering), and finally, it is accessed via telephones (whether fixed or mobile)."[128] Today, PSTN has gone digital, and it embraces an aggregate of the circuit-switched global system of telephone communications, including both fixed and mobile connections.[129] In its original form, the PSTN architecture was a pure network like a tree and its branches. Such structure was responsible for what is known as network effects, a crucial concept in the development of regulation and competition in the sector.[130]

---

[121] William A Flanagan, *VoIP and Unified Communications: Internet Telephony and the Future Voice Network* (Hoboken, N.J.: Wiley, 2012), p. 2.
[122] David Mercer, *The Telephone: The Life Story of a Technology* (Westport, CN: Greenwood Press, 2006), pp. 49–52.
[123] Mercer, p. 50.
[124] As to why women were preferred to men, see 'Goodbye to the Hello Girls: Automating the Telephone Exchange', *Science Museum*, 2018 <https://www.sciencemuseum.org.uk/objects-and-stories/goodbye-hello-girls-automating-telephone-exchange> [accessed 12 February 2020]; Mercer, p. 50.
[125] Mercer, p. 50.
[126] For details on the development of automatic switching see John Liffen, 'Epsom, Britain's First Public Automatic Telephone Exchange', *The International Journal for the History of Engineering & Technology*, 82.2 (2012), 210–32 <https://doi.org/10.1179/175812111X13188557854080>.
[127] See Sharon Gillett, 'The End of The Phone System', *Journal of Information Policy*, 2 (2012), 242–47 (p. 242) <https://doi.org/10.5325/jinfopoli.2.2012.0242>.
[128] See Sharon Gillett, p. 242.
[129] For further understanding of circuit-switched networks as opposed to packet-switched networks see Robert K. Morrow, 'Telecommunications Network', *Encyclopedia Britannica* (Encyclopædia Britannica, inc., 2016) <https://www.britannica.com/technology/telecommunications-network> [accessed 12 February 2020]; For further technical details see Debra Littlejohn Shinder, *Computer Networking Essentials* (Indianapolis, USA: Cisco Press, 2001), pp. 170–76.
[130] For detailed discussion on network effects see Genna Robb, Isaac Tausha, and Thando Vilakazi, 'Competition and Regulation in Zimbabwe's Emerging Mobile Payments Markets', in *Competition Law and*

2.2.3 Local Loop

In PSTN, a subscriber needs a physical connection from his or her premise to the nearest point of connection of the communication service provider.[131] The connection is known as a local loop, subscriber line, or last mile.[132] With a local loop, a subscriber has a dedicated line for real-time connections.[133] The local loop had some competitive effects because the first service provider to establish it would have an absolute monopoly. Since it was the only way to physically access consumers' premises, the question has always been whether it should be available to other service providers.[134] The practice has been to have regulatory interventions for mandatory unbundling of the local loop.[135] Unbundling provides access to new entrants. It is useful to promote competition.[136] Today, large parts of the PSTN, as known in the traditional telephone, have gone digital. Advanced versions of the local loop include digital loop career, Broadband microwave/millimeter-wave, and fiber optics.[137]

2.2.4 Mobile Networks

The key difference between mobile wireless and wireline networks is that physical connectivity (copper wires) is unnecessary for mobile communications. Mobile networks operate in a wireless mode where the transmission of information is by use of radio frequencies.[138] Mobile network is linked to the Global System for Mobile

---

Economic Regulation in Southern Africa Addressing Market Power in Southern Africa, ed. by Imraan Valodia, Simon Roberts, and Jonathan Klaaren (Baltimore, Maryland: Project Muse, 2019), pp. 215–33 (pp. 220–23).

[131] Lillian Goleniewski, *Telecommunications Essentials: The Complete Global Source for Communications Fundamentals, Data Networking and the Internet, and Next-Generation Networks* (Boston: Pearson Education, 2002), p. 111.

[132] John Cowley, *Communications and Networking: An Introduction*, Undergraduate Topics in Computer Science, Second Edition (London: Springer, 2012), p. 66.

[133] Annabel Z. Dodd, *The Essential Guide to Telecommunications* (USA: Prentice Hall Professional, 2002), pp. 175–77.

[134] See Marc Bourreau and Pinar Doğan, '"Build-or-Buy" Strategies in the Local Loop', *The American Economic Review*, 96.2 (2006), 72–76.

[135] Baranes Edmond and Bourreau, Marc, 'An Economist's Guide to Local Loop Unbundling' (Munich Personal RePEc Archive, 2005), pp. 17–18 <https://mpra.ub.uni-muenchen.de/2440/1/MPRA_paper_2440.pdf>; OECD, *Developments in Local Loop Unbundling* (Paris: OECD Publishing, 2003), pp. 7–9; Paul de Bijl and Martin Peitz, *Regulation and Entry into Telecommunications Markets* (New York: Cambridge University Press, 2003), p. 116.

[136] Edmond and Bourreau, Marc, pp. 17–18; OECD, *Developments in Local Loop Unbundling*, pp. 7–9; Bijl and Peitz, p. 116.

[137] Roger Freeman, *Telecommunication System Engineering* (Hoboken, New Jersey: John Wiley & Sons, Inc, 2004), p. 804.

[138] Valdar, p. 21.

Communication (GSM) in the early 1990s.[139] The GSM project started in 1982, intending to achieve a European digital mobile network capable of handling international roaming.[140] It was a very successful project. For example, by 1997, 98 percent of the European population could be reachable.[141] GSM was later known as the second-generation network (2G) and was adopted as a standard system for world mobile communications.[142] Development of other network generations, which is from 3G to 5G, stands on the GSM system.[143]

The unique feature of a mobile network is that each mobile device connected to the network can identify another connected device. The architecture of the mobile network, in a simple form, consists of a Mobile Station (M.S.), Base Station (B.S.), and Core Network (C.N.).[144] The Mobile Station (M.S.), also known as User Equipment (U.E.), is a user device that contains terminal equipment and the Subscriber Identity Module (SIM).[145] The most common M.S. is a mobile phone. The BS is a piece of equipment (generally hosted in a tower) that facilitates a connection between the U.E. and the C.N. The C.N. provides, among others, connectivity between different user equipment.[146] Each geographical area served by a single B.S. is known as a cell and provides connectivity to all M.S. in the area.[147]

2.2.5 The Internet

The internet is a constellation of many networks in the world. It is a network of networks.[148] With the internet, "millions of computers connected via cables and radio waves."[149] Each network has a unique form of switching designed to handle data using a standard way of packing and addressing data known as the internet Protocol

---

[139] Yasir Zaki, *Future Mobile Communications: LTE Optimization and Mobile Network Virtualization*, Advanced Studies, Mobile Research Center Bremen (Wiesbaden: Springer Vieweg, 2013), p. 5.
[140] Zaki, p. 5.
[141] Zaki, p. 5.
[142] Zaki, p. 6.
[143] Zaki, p. 6.
[144] OECD, *Alternative Local Loop Technologies: A Review* (Paris: OECD, 1 October 1996), p. 12.
[145] OECD, *Alternative Local Loop Technologies*, p. 12.
[146] OECD, *Alternative Local Loop Technologies*, p. 12.
[147] Puije, p. 22.
[148] Valdar, p. 28.
[149] Peter Buckley, Duncan Clark, and Angus Kennedy, *The Rough Guide to the Internet:* (London; New York: Rough Guides, 2007), p. 9.

(I.P.).[150] Started in 1969 as a project (ARPANET-Advanced Research Projects Agency Network) of the Department of Defense of the United States of America, the internet has become a network of networks where each connected device can communicate with another connected device in the world.[151]

At the center of the internet is an enhanced global flow of information.[152] The internet has not only revolutionized the communication field but also has affected human lives in so many ways, including, for example, new approaches to doing business.[153] The OECD could not put the role of the internet in better terms when it held that,

> "From a practical standpoint, internet openness enables people to do more things online: starting a business, creating new services or revolutionizing the provision of existing ones, expressing opinions, raising capital, sharing knowledge and ideas, conducting research, interacting with government, or improving skills." [154]

2.2.6 Broadband Internet

One needs to understand the broadband internet in terms of speed and functionality of internet service. The primary factor is the speed at which data can transfer from one device to another.[155] To some low-end countries, an internet qualifies as broadband if the download speed is not below 256Kbps.[156] In high-end countries, Canada, for example, broadband internet should have at least a download speed of 1.5Mbits/s.[157] From a rather technical perspective, broadband can be defined as a

---

[150] Valdar, p. 27.
[151] David Walden, 'ARPANET', in *The Sage Encyclopaedia of the Internet*, ed. by Barney Warf (London, United Kingdom: Sage Publications Ltd, 2018), pp. 27–34.
[152] OECD, *OECD Principles for Internet Making Policy* (Paris: OECD, 2014), pp. 4–5.
[153] For insights of internet economy see *Digital Economy: Emerging Technologies and Business Innovation : Third International Conference, ICDEc 2018, Brest, France, May 3-5, 2018, Proceedings*, ed. by Mohamed Anis Bach Tobji and others (Cham: Springer Nature Switzerland AG, 2018) <https://doi.org/10.1007/978-3-319-97749-2> [accessed 27 September 2019]; OECD, *OECD Digital Economy Outlook 2017* (Paris: OECD Publishing, 2017); Shareef Akhter Mahmud, *Proliferation of the Internet Economy: E-Commerce for Global Adoption, Resistance, and Cultural Evolution* (Chocolate Avenue, USA: IGI Global, 2009).
[154] OECD, 'Economic and Social Benefits of Internet Openness', in *2016 Ministerial Meeting* (presented at the Digital Economy: Innovation, Growth and Social Prosperity, Cancun-Mexico: OECD Publishing, 2016), p. 2 <https://www.oecd.org/internet/ministerial/meeting/Economic-and-Social-Benefits-of-Internet-Openness-discussion-paper.pdf> [accessed 25 September 2019].
[155] John H Higgins and Bryan L Smith, *10 Steps to a Digital Practice in the Cloud* (New York: John Wiley & Sons, Inc, 2015), p. 30.
[156] *Broadband Strategies Handbook*, ed. by Tim Kelly and Carlo Maria Rossotto (Washington, D.C: World Bank, 2012), p. 3.
[157] Kelly and Rossotto, p. 3.

> "type of telecommunication that supplies multiple channels of data in a single communications platform using some form of wave or frequency division multiplexing. In other words, broadband refers to telecommunication in which a wide band of frequencies is available to transmit data."[158]

Broadband internet can either be fixed or wireless. Broadband access is possible through several channels. It can be through the use of Digital Subscriber Line (DSL) in which data are transmitted over traditional telephone copper wires, by use of Coaxial Cables, by Community Access Cable Television (Cable T.V.), by use of Fiber Optics Cables or by use of Wireless Radio Frequencies.[159] Because of the convergence of communication services, broadband internet is now an integral part of telephone communication, as the following sub-sections show. Indeed, one author even argues that the future of telecommunication rests on this technology.[160]

2.2.7 Internet Telephony

Initially, the internet was dedicated to data services like it was telephoning to voice services. Technological improvements on the internet, however, saw a diminishing of differences between the two. In 1995, Jim Clark, the then President of Netscape Communications Corporation, stated that

> "in my mind, the internet is nothing but a data communications equivalent to the telephone system. In other words, the Internet system is for data what the telephone is for voice. Now, obviously, when you digitize voice, it becomes data, so ultimately, the internet subsumes voice, and I think over the longer-term voice communication will be just about as commonplace on the internet as it is over the real-time telephone system."[161]

---

[158] Cajetan M. Akujuobi and Matthew N. O. Sadiku, *Introduction to Broadband Communication Systems* (Boca Raton: Chapman & Hall/CRC, 2008), p. 2.
[159] Steve Gorshe and others, *Broadband Access: Wireline and Wireless--Alternatives for Internet Services* (Chichester, West Sussex, United Kingdom: Wiley, 2014), pp. 1–12.
[160] Brigitte Preissl, Justus Haucap, and Peter Curwen, 'Introduction', in *Telecommunication Markets: Drivers and Impediments*, ed. by Brigitte Preissl, Justus Haucap, and Peter Curwen (Heidelberg: Physica-Verlag, 2009), pp. 1–16 (p. 5).
[161] Jim Clark, "Keynote Address given at Internet@Telecom 95", Geneva, 7 October 1995 quoted in OECD, *Internet Convergence, Pricing and Communication Regulation* (Paris: OECD), p. 9 <https://www.oecd.org/sti/broadband/2758623.pdf> [accessed 29 September 2019].

Today, it is possible to call over the internet, a concept known as internet telephony or Voice over Internet Protocol (VoIP).[162] The VoIP is the "routing of voice communications through the internet or any other internet protocol (I.P.)-based networks."[163] With VoIP,

> "the user's voice is converted from an analogue form into a digital signal, compressed (or uncompressed), and is then broken down into a series of packets (packetization). These packets are routed through public or private IP networks—from one user to another—and are reassembled and decoded (if compressed) at the receiving end."[164]

The VoIP allows calling without necessarily using a conventional telephone. Examples of popular VoIP services include WhatsApp, Skype, Facebook Messenger, and Viber, to mention but a few.

2.3 The Birth of the Modern Telecommunication Sector

We have seen in the introduction section how the invention of the telephone happened. Developments that followed after that invention are unparalleled. They established a foundation for the modern telecommunication sector as understood in the 21st century. For example, Bell incorporated Bell Telephone Company (1877) and later on, the American Telephone and Telegraph Company [(AT&T) 1885].[165] AT&T later monopolized the US telephony market for almost a century.[166] Developments in the US spread to other parts of the world. For example, in Germany, Werner Siemens and Emil Rathenau, in improving the telegraph through Bell's devices, saw the establishment of the *Reichspost*. The *Reichpost* was the national postal authority of the

---

[162] Peter Kroon, 'Speech and Audio Compression', in *The Internet Encyclopedia*, ed. by Hossein Bidgoli (Hoboken, N.J.: John Wiley & Sons, 2004), pp. 307–19 (p. 317) <http://qut.eblib.com.au/patron/FullRecord.aspx?p=183810> [accessed 27 September 2019].

[163] Tamal Chakraborty, Iti Saha Misra, and Ramjee Prasad, *VoIP Technology: Applications and Challenges* (Cham: Springer, 2019), p. 3.

[164] Sherali Zeadally and Farhan Siddiqui, 'Voice Over Internet Protocol', in *Handbook of Computer Networks: Key Concepts, Data Transmission, and Digital and Optical Networks*, ed. by Hossein Bidgoli (Hoboken, N.J: John Wiley & Sons, Inc, 2008), pp. 468–86 (p. 468).

[165] The Editors of Encyclopaedia Britannica, 'AT&T Corporation: American Company', *Encyclopedia Britannica* (Encyclopædia Britannica, inc., 2018) <https://www.britannica.com/topic/ATandT-Corporation> [accessed 25 February 2020].

[166] Tim J Watts, 'Baby Bells', in *Post-War America: An Encyclopedia of Social, Political, Cultural, and Economic History*, ed. by James Ciment (New York: Routledge Taylor & Francis Group, 2015), I–IV, 107–8 (p. 107).

then Imperial German.[167] It later became the *Deutsche Bundespost* and, finally, *Deutsche Telekom*, one of the biggest telecommunications companies in present-day Europe.[168] Elsewhere, other more prominent firms developed, including, for example, the UK's Vodafone, Telefoníca of Spain, and Orange of France.[169]

In summary, the telecommunications sector went through the following stages:

1. Firstly, after discovering the telephone and forming new companies (primarily government-owned), many governments restricted competition to protect such companies.[170] The theory of natural monopoly developed as a justification for such protective measures.[171] Monopoly dominated the sector's liberalization, starting with the US in the first half of the 20th century and Europe in the 1980s.[172]
2. Secondly, due to restricted competition, national monopolies gained almost absolute powers in their respective markets.[173] Consumers had no choice of goods or services. The national monopolies became price makers. Thus, governments had to intervene to protect broader interests, including those of consumers. The intervention is known as regulation.[174]

---

[167] Eli M. Noam, *Telecommunications in Europe*, p. 70.
[168] Eli M. Noam, *Telecommunications in Europe*, p. 70.
[169] Stone, p. 60.
[170] Paul Nihoul and Peter Rodford, *EU Electronic Communications Law: Competition & Regulation in the European Telecommunications Market*, Second Edition (Oxford, New York: Oxford University Press, 2011), pp. 3–5; Grace Nacimiento, 'The European Regulatory Framework for the Administration of Scarce and Finite Resources: The Case of Spectrum Management', in *EC Competition and Telecommunications Law*, ed. by Christian Koenig, International Competition Law Series, v. 6, 2nd ed (Austin: Alphen aan den Rijn, The Netherlands : Frederick, MD: Wolters Kluwer Law & Business, 2009), pp. 569–616 (p. 53); Erika M. Szyszczak, *The Regulation of the State in Competitive Markets in the EU*, Modern Studies in European Law, no. 11 (Oxford ; Portland, Or: Hart, 2007), pp. 141–45.
[171] See Section 2.5.3 and page 1 for the definition of the natural monopoly.
[172] Nacimiento, p. 56; Michael Crew and Paul Kleindorfer, 'Regulatory Governance and Competitive Entry', in *Regulation Under Increasing Competition*, ed. by Michael A. Crew (Norwell, USA: Springer Science & Business Media, 1999), pp. 1–16 (p. 1); David J Teece, 'Telecommunications in Transition: Unbundling, Reintegration, and Competition', 1, 33; OECD, *Regulatory Reforms in the United States* (Paris: OECD Publishing, 1999); Cornelius Graack, 'Deregulation, Privatization and Internationalization of European Telecoms Markets', in *Towards Competition in Network Industries: Telecommunications, Energy and Transportation in Europe and Russia*, ed. by Paul Welfens and others (Heidelberg: Springer-Verlag Berlin, 1999), pp. 79–114 (p. 79).
[173] See for example the case of Canada and USA in Kevin G. Wilson, *Deregulating Telecommunications: U.S. and Canadian Telecommunications, 1840-1997* (USA: Rowman & Littlefield, 2000), pp. 71–74.
[174] Riaz Esmailzadeh, *Broadband Telecommunications Technologies and Management* (United Kingdom: John Wiley & Sons, 2016), p. 35; Irvin Tucker, *Microeconomics for Today* (USA: Cengage Learning, 2008), pp. 339–43.

3. Thirdly, technological developments such as the arrival of mobile telephony in the sector invalidated the relevance of natural monopolies. It became evident that such justification would not continue to hold water in support of monopolies. Furthermore, inherent failures of monopolies to deliver what is expected from consumers paved the way to competition policy.[175] Thus, from the 1980s, many countries started to break telecommunications monopolies through privatization and competition (also known as liberalization).[176]
4. Fourthly, the convergence of communication services means that now telecommunication is just part of a broader communication ecosystem.[177] With the convergence of communications services, which has been facilitated explicitly by the broadband internet, the telecommunications sector has grown beyond voice services. It includes data and content services that a single provider can offer through a single channel.[178]

Today, as we are about to close the first quarter of the twenty-first century, the world testifies to unprecedented telecommunications developments.[179] Such developments, with unmatched velocity, have seen a revolutionary growth of communications services. In terms of access, for example, there were over 1.1 billion subscriptions to fixed telephones and over 7.7 billion mobile-cellular telephone subscriptions as of 2018.[180] Over 50 percent of the global population had access to the internet.[181] Two years later, in 2020, world mobile phone subscriptions stood at 105 per 100

---

[175] See for example OECD, *OECD Communications Outlook 2001* (Paris: OECD Publishing, 2001), pp. 25–26; Jennifer A. Manner, *Global Telecommunications Market Access* (Boston and London: Artech House, 2002), pp. 10–12; OECD, *OECD Communications Outlook 1999* (Paris: OECD Publishing, 1999), p. 12.

[176] Alhassan G. Mumuni, Mushtaq Luqmani, and Zahir A. Quraeshi, 'Telecom Market Liberalization and Service Performance Outcomes of an Incumbent Monopoly', *International Business Review*, 26.2 (2017), 214–24 (pp. 214–15) <https://doi.org/10.1016/j.ibusrev.2016.06.008>; Christopher Hurst, 'Liberalization and Regulation of Telecommunications: Some Observations on the UK Experience', *Utilities Policy*, 2.1 (1992), 13–24 (pp. 13–15) <https://doi.org/10.1016/0957-1787(92)90049-O>.

[177] See the definition of convergence in Section 2.4 of this chapter.

[178] The concept of convergence is defined in the next section of this chapter. But for an overview see Petros Iosifidis, *Global Media and Communication Policy* (Hampshire; New York: Palgrave Macmillan, 2011), pp. 169–85.

[179] Martin R. Hilbert, *From Industrial Economics to Digital Economics: An Introduction to the Transition* (Chile: United Nations Publications, 2001), p. 12.

[180] ITU, 'Statistics' (ITU, 2018) <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> [accessed 26 September 2019].

[181] ITU, 'Statistics', pp. 1–3.

inhabitants.[182] Fixed connections, however, remain on the lower side at 15 connections per 100 inhabitants.

Regarding internet connectivity, 2020 saw access to a 4G network standing at 95% of the entire population in urban areas and 71% in rural areas.[183] These figures represent the world average. Regional variations exist, especially between developing and developed countries.[184]

The telecommunications sector is now expanding from connecting people to connecting devices (internet of things-IoT).[185] For example, the development of smart homes allows a communication network to connect with different home devices and appliances so that one can access or control such devices remotely.[186] Smart cities, another modern development in the communication industry, allow the integration of ICT to provide public services, improve participation and governance.[187] These developments show how far the telecommunications sector is willing to go. In short, what has happened in the telecommunications sector is electrifying. It is now a broad communication ecosystem that is nothing but a necessity to human life.[188]

---

[182] ITU, *Measuring Digital Development Facts and Figures 2020* (Switzerland Geneva: International Telecommunication Union, 2020), p. 9.
[183] ITU, *Measuring Digital Development Facts and Figures 2020*, p. 5.
[184] ITU, *Measuring Digital Development Facts and Figures 2020*, pp. 4–5.
[185] For legal aspect of this concept read Rolf H. Weber and Romana Weber, *Internet of Things: Legal Perspectives*, 49 (Heidelberg: Springer-Verlag Berlin, 2010); For technical aspects see Yulei Wu and others, *5G-Enabled Internet of Things* (Boca Raton: CRC Press, 2019); *Internet of Things: Challenges and Opportunities*, ed. by Subhas Chandra Mukhopadhyay, Smart Sensors, Measurement and Instrumentation, volume 9 (Switzerland: Springer International Publishing, 2014).
[186] See Laura Stevens, 'What Is a Smart Home', *BT.Com*, 2018 <http://home.bt.com/tech-gadgets/internet/connected-home/what-is-a-smart-home-11364214165664> [accessed 21 February 2020].
[187] See Manuel Pedro Rodríguez Bolívar, 'Smart Cities: Big Cities, Complex Governance?', in *Transforming City Governments for Successful Smart Cities*, ed. by Manuel Pedro Rodríguez-Bolívar (Switzerland: Springer International Publishing, 2015), VIII, 1–7 (p. 2) <https://doi.org/10.1007/978-3-319-03167-5_1>; For detailed account of smart cities see Annalisa Cocchia, 'Smart and Digital City: A Systematic Literature Review', in *Smart City*, ed. by Renata Paola Dameri and Camille Rosenthal-Sabroux (Cham: Springer International Publishing, 2014), pp. 13–43 <https://doi.org/10.1007/978-3-319-06160-3_2>.
[188] See Raéf Bahrini and Alaa A. Qaffas, 'Impact of Information and Communication Technology on Economic Growth: Evidence from Developing Countries', *Economies*, 7.1 (2019), 21 <https://doi.org/10.3390/economies7010021>; Ficawoyi Donou-Adonsou, Sokchea Lim, and Samuel A. Mathey, 'Technological Progress and Economic Growth in Sub-Saharan Africa: Evidence from Telecommunications Infrastructure', *International Advances in Economic Research*, 22.1 (2016), 65–75.

2.4 Material Features of the Telecommunications Sector in the 21st Century

This sub-section presents a few features of the telecommunications sector as it stands today, in the first quarter of the 21st century.

2.4.1 Liberalization is the New Normal

So far, this research has shown that monopolies in telecommunications were the acceptable choice for organizing the sector until the early 1980s. Governments of the day deliberately protected national monopolies by foreclosing competition.[189] Only the US had started to liberalize its telecommunications sector as early as 1947, climaxing in 1996 after passing the Telecommunications Act.[190] Most of the European countries waited until 1987, when liberalization took shape under the European Commission framework.[191] In Africa, liberalization was, instead, a slow process.[192] Most of the liberalization reforms took place in the middle and late 1990s.[193]

At the heart of liberalization are efforts to relax regulatory rules in favor of the market economy.[194] In principle, liberalization demands pro-competitive regulatory rules.[195] The result of this process is to have competition replacing monopolies.[196] One must note that liberalization is a continuous process. For example, one study showed that as of 2014, there were incumbent firms with monopoly powers in 31 countries in

[189] Manner, pp. 25–26; Bert Hoffmann, *The Politics of the Internet in Third World Development: Challenges in Contrasting Regimes with Case Studies of Costa Rica and Cuba* (New York & London: Routledge, 2004), p. 202.
[190] Victor Mayer-Schönberger and Mathias Strasser, 'A Closer Look at Telecom Deregulation: The European Advantage', *Harvard Journal of Law and Technology*, 12.3 (1999), 562–86 (p. 564).
[191] Mayer-Schönberger and Strasser, p. 564.
[192] Indogesit Williams and Benjamin Kwofie, 'The Impact of Liberalization on the Mobile Telephony Market in Africa: The Case of Ghana, Nigeria and Kenya', in *The African Mobile Story*, ed. by Knud Erik Skouby and Idongesit Williams, River Publishers Series in Communications (Aalborg: River Publishers, 2014), pp. 17–42 (p. 17).
[193] Williams and Kwofie, p. 17; As of 2009, for example, 42 Africa countries had introduced competition in the sector. Mark D. J. Williams, Rebecca Mayer, and Michael Minges, *Africa's ICT Infrastructure: Building on the Mobile Revolution*, Directions in Development, Infrastructure (Washington, D.C: World Bank, 2011), p. 71.
[194] Williams and Kwofie, p. 566.
[195] Dmitrii Trubnikov, 'The Russian Telecommunications Experience: A Positive Outcome of the Competitive Order in the Industry', *Journal of Industry, Competition and Trade*, 2019, 1–24 (p. 3) <https://doi.org/10.1007/s10842-019-00304-5>.
[196] Ekaterina Markova, *Liberalization and Regulation of the Telecommunications Sector in Transition Countries: The Case of Russia*, Contributions to Economics (Heidelberg: Physica-Verlag, 2009), pp. 78–79.

Africa.[197] In 2020, other countries like Ethiopia are still in the early stages of liberalizing their telecommunications services by breaking through their national mobile monopoly.[198]

2.4.2 Increased Access to Communication Services

The world today witnesses a significant increase in access to communication services. The increase is both in terms of users and available services. The general trend is an increase in subscriptions to mobile networks while subscriptions to a fixed network decrease. Several factors account for this trend, key ones being flexibility and the groundbreaking technology associated with mobile networks. For example, today, a cellular mobile phone performs beyond the standard voice services. Beyond voice services, a mobile phone is now a television, a radio, a computer, a GPS device, a camera, and a storage device. With the help of millions of applications in applications stores, it is a device that can be turned into (almost) anything.[199]

At first, communication services were seen only as a luxury for the few.[200] Current statistics, however, suggest that access to such services has gained universal significance. For example, whereas in 2005, there were only 2.2 billion connections to mobile telephony, the end of 2018 recorded over 8.1 billion connections.[201] The trend is the same for internet access, even though there is a significant variation in different world regions. For example, even though there is a considerable improvement now

---

[197] Russell Southwood, 'Top 5 Telco Monopolies Hurting Africa', *Business Tech*, February 2014 <https://businesstech.co.za/news/telecommunications/52592/top-5-telco-monopolies-hurting-africa/> [accessed 8 November 2019].

[198] Africanews, 'African, Global Telecom Giants Bid to Enter Ethiopia Market', 2020 <https://www.africanews.com/2020/06/27/monopoly-distancing-ethiopia-moves-to-liberalize-telecoms-sector//> [accessed 20 August 2020].

[199] J Clement, 'App Stores: Number of Apps in Leading App Stores 2019', *Statista*, 2020, p. See <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/> [accessed 18 February 2020]; For mobile money technology see Aslı Demirgüç-Kunt and others, *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution* (Washington, D.C: World Bank, 2018); Jane K. Winn and Louis de Koker, 'Introduction to Mobile Money in Developing Countries: Financial Inclusion and Financial Integrity Conference Special Issue', *Washington Journal of Law, Technology & Arts*, Mobile Money Symposium 2013, 8.3 (2013), 155–63; Jenny C Aker and Isaac M Mbiti, 'Mobile Phones and Economic Development in Africa', *Journal of Economic Perspectives*, 24.3 (2010), 207–32 <https://doi.org/10.1257/jep.24.3.207>; Nick Hughes and Susie Lonie, 'M-PESA: Mobile Money for the "Unbanked" Turning Cell Phones into 24-Hour Tellers in Kenya', *Innovations: Technology, Governance, Globalization*, 2.1–2 (2007), 63–81 <https://doi.org/10.1162/itgg.2007.2.1-2.63>.

[200] For detailed account see several publications in Eli M. Noam, *Telecommunications in Africa* (New York: Oxford University Press, 1999).

[201] ITU, 'Key ICT Indicators for Developed and Developing Countries and The World (Totals and Penetration Rates 2005-2018)' (ITU Publishing, 2019), p. 1.

compared to the early 1990s, Africa still has the lowest penetration of telephone services in the world. In 1994, Africa accounted for only 2% of the world telecommunications. The penetration rate was only 1.5 lines per 100 inhabitants compared to 65 and 47 per 100 inhabitants in the US and OECD countries.[202] Today, while the world average records over 100% penetration rate, Africa records stand at 76%. The penetration rate in sub-Saharan Africa remains the lowest, with only 45% of the entire population connected to telecommunications services.[203]

The presented data in the preceding paragraph sends a clear message on the relevance of telecommunications. Telecommunications services now form an integral part of human life. More importantly, they are becoming increasingly crucial in many countries' development agendas. Thus, it is not surprising to see that the telecommunications sector is one of those sectors receiving much attention from authorities, even after its liberalization. One such attention is regulation, which is at the center of this research.

2.4.3 Enhanced Role of Broadband Internet

Apart from the increased access to telephone services, there is also an increase in demand for broadband internet for, among others, communication purposes.[204] Current trends and developments have made the broadband internet part and parcel of communication services as its role in the economy has become ubiquitous.[205] Furthermore, the needs increase as broadband internet becomes pivotal for the delivery of communication services. Such needs include service delivery via internet protocol, such as online content and voice services (Voice over IP). Other needs that surge demand for broadband internet include increased use and reliance on mobile

---

[202] Eli M. Noam, 'Introduction', in *Telecommunications in Africa*, ed. by Elim M Noam (New York: Oxford University Press, 1999), pp. 3–12 (p. 9).
[203] GSMA, *The Mobile Economy: Sub-Saharan Africa 2020* (London, United Kingdom: The GSMA Association, 2020), pp. 3 & 8.
[204] Fore broadband definition, see Section 2.2.6 of this chapter.
[205] See generally OECD and IDB, *Broadband Policies for Latin America and the Caribbean: A Digital Economy Toolkit* (Paris: OECD Publishing, 2016), p. 19; Raul L. Katz, 'The Impact of Broadband on Jobs and the German Economy', *Intereconomics*, 45.1 (2010), 26–34 <https://doi.org/10.1007/s10272-010-0322-y>; Herbert G Thompson, 'Broadband Impacts on State GDP: Direct and Indirect Impacts', 2008, 17.

applications (apps),[206] considerable developments in Artificial Intelligence (AI),[207] and increased preference for smart living such as smart cities[208] and smart homes.[209]

These new trends push governments to set better policies for enhanced broadband services.[210] They also pressure providers of telecommunications services to concentrate on the provision of even faster broadband internet.[211] There are already movements to recognize the right to the internet (and broadband internet) as one of the fundamental rights.[212] The argument here is that the internet provides a vital link to all other fundamental rights.[213]

2.4.4 The convergence of Communication Services

Slightly over ten years ago, in 2008, OECD Ministers met in Seoul, South Korea.[214] They deliberated on the "Future of the Internet Economy."[215] At that time, not much of the impact of communication convergence was ubiquitous.[216] However, they anticipated what such convergence could do. Thus, they declared to "facilitate the convergence of digital networks, devices, applications, and services."[217] Their declaration was not in vain. Eight years later, the OECD boldly acknowledged that

---

[206] GSMA, *The Mobile Economy 2019* (London: GSMA Intelligence, 2019), p. 6.
[207] See Zhongzhi Shi, *Advanced Artificial Intelligence* (World Scientific, 2011), p. 1; Anne Sraders, 'What Is Artificial Intelligence? Examples and News in 2019', *TheStreet*, 2019 <https://www.thestreet.com/technology/what-is-artificial-intelligence-14822076> [accessed 21 February 2020].
[208] See Rodríguez Bolívar, VIII, p. 2.
[209] Laura Stevens, p. 1.
[210] ITU, *World Telecommunication Development Conference (WTDC-17) 9-20 October 2017* (Buenos Aires, Argentina: ITU, 2018), p. 569 <https://www.itu.int/en/ITU-D/Conferences/WTDC/WTDC17/Documents/WTDC17_final_report_en.pdf> [accessed 18 February 2020].
[211] See for example a race to 5G network at GSMA, *The Mobile Economy 2019*, p. 6.
[212] 'Finland Makes Broadband a "Legal" Right', *BBC News*, 2020 <https://www.bbc.com/news/10461048>; Merten Reglitz, 'Why Internet Access Has Become a Human Right', *The Independent* (UK, 19 November 2019) <https://www.independent.co.uk/news/science/internet-access-human-right-politics-labour-party-uk-government-a9208841.html> [accessed 20 October 2020].
[213] 'Finland Makes Broadband a "Legal" Right', p. 1; Merten Reglitz, p. 1.
[214] OECD, *Convergence and Next Generation Networks, OECD Ministerial Meeting on the Future of Internet Economy* (Seoul, Korea: OECD, 2008), pp. 2–10.
[215] OECD, *Convergence and Next Generation Networks, OECD Ministerial Meeting on the Future of Internet Economy*, pp. 2–10.
[216] See Lydia DePillis and Ivory Sherman, 'Amazon's Extraordinary 25-Year Evolution', 2018 <https://www.cnn.com/interactive/2018/10/business/amazon-history-timeline/index.html> [accessed 27 September 2019]; William L. Hosch, 'Netflix | Founders, History, Programming, & Facts', *Encyclopedia Britannica*, 2019 <https://www.britannica.com/topic/Netflix-Inc> [accessed 27 September 2019]; David E. Borth, 'Mobile Telephone: Definition & History', *Encyclopedia Britannica*, 2017 <https://www.britannica.com/technology/mobile-telephone> [accessed 27 September 2019].
[217] OECD, *The Seoul Declaration for the Future of the Internet Economy* (Seoul, Korea: OECD, 2008), p. 6.

"the digital convergence anticipated during the 2008 Seoul Ministerial has become a reality."[218]

So, what is the convergence of communication services? Historically, communications services were delivered via single-purpose dedicated networks.[219] Each service needed a different technology and, therefore, different transmission channels together with delivering devices.[220] There was a boundary between information technology (I.T.) and Communication Technology (C.T.).[221] With the convergence of I.T. and C.T., the walls no longer exist. Thus, convergence is "the ability to bring together classical telecommunication services, internet, computing, and broadcasting into one."[222] Under the converged services, one can access telephone, broadcasting, internet services using the same device or channel.[223]

Thus, the convergence of communication services, which is perhaps the most recent development in the sector, has revolutionized and improved the way things operate. The effects of such convergence are ubiquitous. They range from simplifying the availability of services to consumers to the rise of technological disruptors (discussed in the next section). There is also a need to change or improve regulatory perspectives. For consumers, however, convergence is a blessing. Just one channel, such as a personal computer, is sufficient to deliver ICT services.

More effects of the convergence are perhaps evident to service providers. To them, convergence means the need to streamline their services to meet new consumers' demands. Of course, venturing into new and sophisticated technologies and raising new investments become inevitable. Also, such convergence brings about new dimensions in the state of competition as new markets develop.

---

[218] OECD, *Digital Convergence and Beyond: Innovation, Investment, and Competition in Communication Policy and Regulation for the 21st Century* (Paris: OECD Publishing, 2016), p. 5.
[219] Ivan Huang, and others, 'The Convergence of Information and Communication Technologies Gains Momentum', in *The Global Information Technology Report 2012: Living in a Hyper Connected World*, ed. by Soumitra Dutta and Beñat Bilbao-Osorio (Geneva: World Economic Forum, 2012), pp. 35–45 (p. 35).
[220] Huang, and others, p. 35.
[221] Huang, and others, p. 35.
[222] Hu Hanrahan, *Network Convergence: Services, Applications, Transport, and Operations Support* (Chichester, England: John Wiley & Sons Ltd, 2007), p. 32.
[223] Ingo Vogelsang, 'Convergence and Net Neutrality', in *Communications Regulation in the Age of Digital Convergence: Legal and Economic Perspectives*, ed. by Jan Krämer and Stefan Seifert (Karlsruhe: Karlsruhe Universität Verlag, 2009), pp. 19–28 (p. 20).

For governments, unique challenges arise on how to address the converged sector. Indeed, the legal framework, which was tailored in the old PSTN, would not suffice. A new focus on the converged and digitalized services becomes inevitable. All that can be said is that convergence has brought about a unique architecture, affecting almost every stakeholder in communications.

2.4.5 The emergence of Technological Disruptors

Due to the convergence of technology, there is an emergence of 'technological disruptors.'[224] Technological disruptors come from disruptive technology, meaning a new invention that alters consumers', industries,' and businesses' long-term perspectives, approaches, and preferences.[225] Technological disruption renders those businesses and services that were considered superior and standard irrelevant. As for the telecommunications sector, disruptors, for example, those offering VoIP services such as WhatsApp and Microsoft or those like Netflix and Amazon that use telecom infrastructure, are already challenging telecommunications firms' traditional voice and messaging services.[226] This calls for the review of the legal and regulatory frameworks to address these new dimensions adequately.

2.4.6 Changing of Telecommunications Firms' Business Model

Telecommunications firms are now 'forced' to change their business models to mitigate the effects of convergence and technological disruptions. The move includes venturing into new territories such as content services. For example, British Telecom has already launched BT TV and BT Sports.[227] It offers a bundled television (TV) and fiber broadband package.[228] In the US, AT&T acquired DirecTV, making AT&T the

---

[224] Clayton M. Christensen, Michael E. Raynor, and Rory McDonald, 'What Is Disruptive Innovation?', *Harvard Business Review*, 1 December 2015 <https://hbr.org/2015/12/what-is-disruptive-innovation> [accessed 24 February 2020].

[225] Tim Smith, 'Disruptive Technology', 2020 <https://www.investopedia.com/terms/d/disruptive-technology.asp> [accessed 20 October 2020].

[226] Williams and Kwofie; International Telecommunication Union, *Regulatory Challenges and Opportunities in the New ICT Ecosystem* (Geneva: International Telecommunication Union, 2018), pp. 16–17 <http://handle.itu.int/11.1002/pub/81118c75-en> [accessed 18 February 2020].

[227] Gideon Spanier, 'Why Britain's Telecom Companies Are Expanding into Media Operations', *The Independent*, 8 December 2014 <http://www.independent.co.uk/news/media/opinion/gideon-spanier-why-britain-s-telecom-companies-are-expanding-into-media-operations-9909071.html> [accessed 18 September 2019].

[228] See British Telecom, 'TV & Broadband Packages | Cheap Broadband and TV Deals | BT' <https://www.bt.com/tv/packages/> [accessed 30 September 2019].

largest provider of TV subscriptions in the USA.[229] It moved to acquire Time Warner (a media giant owning CNN and entertainment channels such as HBO) successfully in 2018 despite fierce opposition from the US Department of Justice.[230] Apart from Time Warner, Comcast, one of the US telecommunications conglomerates, has already deepened itself in media. Just recently, it has acquired Sky, one of the UK's media giants.[231] Several other telecommunications giants such as Deutsche Telekom, Telefónica, MTN, and Verizon have already changed their business model to address these new sector patterns.

Because of these developments brought by the convergence, there is a change in understanding telecommunications markets. In order to carry out market analysis for competition purposes, telecommunications services must not be understood in isolation but in a more comprehensive package of converged services.[232] These changes also call for a review of regulatory regimes. There will be a need to review the regulatory mandate and institutional capacity to ensure that the regulatory framework is modernized to accommodate these changes.[233]

2.5 Economics of Telecommunications Sector

Unlike other economic sectors, the telecommunications sector has peculiar economic features. Through these features, one understands why many governments had decided to monopolize telecommunications. They also shed light on how liberalization took place. It is through these features that one can also better understand regulation and competition. This section, therefore, briefly discusses the key features of the telecommunications sector.

---

[229] Hadas Gold, 'Appeals Court Backs AT&T Acquisition of Time Warner', *CNN*, 2019 <https://www.cnn.com/2019/02/26/media/att-time-warner-merger-ruling/index.html> [accessed 30 September 2019].
[230] Gold, p. 1.
[231] Amol Rajan, 'Why Comcast Wanted Sky so Badly', *BBC News*, 2018 <https://www.bbc.com/news/entertainment-arts-45634303> [accessed 30 September 2019].
[232] See Yu-Li Liu, 'The Impact of Convergence on the Telecommunications Law and Broadcast-Related Laws: A Comparison between Japan and Taiwan', *Keio Communications Review*, N0 3, 2011, pp. 61–62 <https://www.mediacom.keio.ac.jp/publication/pdf2011/03LIU.pdf> [accessed 16 June 2020].
[233] See Rajendra Singh and Siddhartha Raja, *Convergence in Information and Communication Technology: Strategic and Regulatory Considerations* (Washington, D.C: World Bank, 2010), pp. 33–101.

2.5.1 Network Structure and its Monopolistic Effects

This chapter has shown that telecommunication has been considered a network industry similar to a tree and its branches.[234] That being the case, not every interested person could establish a network segment (at least not in the traditional setup of a telephone network). As a result, it became economically and practically feasible and efficient for just one or a few firms to run such networks. The telecommunications network structure is crucial in understanding the place of competition. At first, especially before the introduction of mobile networks, this structure called for monopolies. As already presented, the concept of natural monopoly developed to justify only one firm to operate in the sector.[235]

Today, the network concept is still applicable in the sector, especially when considered in terms of network effects (as discussed in the next section). However, there is consensus that the sector is no longer a natural monopoly, although monopoly may continue to exist in some parts of it.[236] Many countries now have more than one telecommunications provider, proving that telecom firms can co-exist to bring additional competitive benefits to consumers. Thus, even though the sector is still a network one, technological innovations have made it possible for many firms to compete. What is required is for policymakers to create a supportive environment for these players.

---

[234] Günter Knieps, *Network Economics: Principles, Strategies, Competition Policy*, Springer Texts in Business and Economics (Cham: Springer, 2015), p. 1.

[235] See for example, Mark A. Jamison, 'A Further Look at Proper Cost Tests for Natural Monopoly' (Public Utility Research Center Warrington College of Business Administration University of Florida, 1998), pp. 1 & 6; William J. Baumol, 'On the Proper Cost Tests for Natural Monopoly in a Multiproduct Industry', *The American Economic Review*, 67.5 (1977), 809–22 (p. 810); Richard A. Posner, 'Natural Monopoly and Its Regulation', *Stanford Law Review*, 21.3 (1969), 548 (p. 548) <https://doi.org/10.2307/1227624>; For more technical insights on network effects see Joseph Farrell and Paul Klemperer, 'Coordination and Lock-In: Competition with Switching Costs and Network Effects', in *Handbook of Industrial Organization*, ed. by Mark Armstrong and Robert Porter (The Netherlands: North-Holland, 2007), III, 1967–2072 (pp. 2007–56) <https://doi.org/10.1016/S1573-448X(06)03031-7>; Gary Madden, Anirudha Banerjee, and Grant Coble-Neal, 'Measuring Telecommunication System Network Effects', in *Frontiers of Broadband, Electronic and Mobile Commerce*, ed. by Russel Cooper and Gary Madden, Contributions to Economics (Heidelberg ; New York: Physica-Verlag, 2004), pp. 195–220 (pp. 195–220).

[236] See for example Markova, *Liberalization and Regulation of the Telecommunications Sector in Transition Countries*, p. 66; Joshua Gans and Stephen King, 'Regulating Interconnection Pricing', in *Australian Telecommunications Regulation: The Communication Law Centre Guide*, ed. by Alasdair Grant (Australia: UNSW Press, 2004), pp. 55–85 (p. 56); Bijl and Peitz, p. 1; J. Gregory Sidak and Daniel F. Spulber, *Deregulatory Takings and the Regulatory Contract: The Competitive Transformation of Network Industries in the United States* (USA: Cambridge University Press, 1998), p. 66; Müller-Jentsch, p. 5.

2.5.2 Network Effects

The network effects theory is an economic theory that argues that the value of goods or services depends on the number of users.[237] Consumers seek compatibility with other users to interact or trade with them or enjoy similar complements in such a situation.[238] In other words, as Farrell and Klemperer argue, network effects exist "if one agent's adoption of a good (a) benefits other adopters of the good (a 'total effect') and (b) increases others' incentives to adopt it (a 'marginal effect')."[239]

Telecommunications is one of the sectors with pronounced network effects where a network's value increases with subscribers.[240] With these effects, a service provider with many subscribers will likely attract more customers because each new customer wants to join such a network.[241] As a result, network effects give such providers economies of scale and scope and hence, a competitive advantage.[242] In other words, network effects may increase the market shares of an already dominant firm in the market. Such an increase in shares and dominance is, in itself, not a problem. However, it provides a door for abuse. At this point, rules of regulation and competition must come to play to tame firms benefiting from network effect against possible abuse of their dominance.

2.5.3 Natural Monopoly

Connected with the two preceding concepts is the natural monopoly theory. Natural monopoly happens when only one firm becomes efficient to satisfy the market demand either because of economies of scale or substantial start-up costs. Richard Posner defines natural monopoly by arguing that "if the entire demand within a relevant market can be satisfied at the lowest cost by one firm rather than by two or

---

[237] Mikołaj Czajkowski and Maciej Sobolewski, 'How Much Do Switching Costs and Local Network Effects Contribute to Consumer Lock-in in Mobile Telephony?', *Telecommunications Policy*, 40.9 (2016), 855–69 (p. 888) <https://doi.org/10.1016/j.telpol.2015.10.001>.
[238] Farrell and Klemperer, III, p. 1971.
[239] Farrell and Klemperer, III, p. 2007.
[240] Larouche, pp. 365–66.
[241] Seyfi Top, Serkan Dilek, and Nurdan Çolakoğlu, 'Perceptions Of Network Effects: Positive Or Negative Externalities?', *Procedia - Social and Behavioral Sciences*, 24 (2011), 1574–84 (p. 1676) <https://doi.org/10.1016/j.sbspro.2011.09.033>; Stanley Liebowitz and Stephen Margolis, 'Network Effects', in *Handbook of Telecommunications Economics*, ed. by Martin Cave, Sumit Kumar Majumdar, and Ingo Vogelsang (Amsterdam; Boston: Elsevier, 2002), pp. 76–97 (p. 76).
[242] Markova, *Liberalization and Regulation of the Telecommunications Sector in Transition Countries*, p. 65.

more, the market is a natural monopoly, whatever the actual number of firms in it."[243] Expanding on the market, Gruzman holds,

> "if one firm has lower costs than any other firm or combination of firms in producing a good or service at the full level of market demand, then the industry, operating in a free market, will become a monopoly because the one firm can always profitably underprice entrants and drive them out of business."[244]

Based on these definitions, services provided under public utilities such as water, gas, electricity have been considered natural monopolies. This has also been true for telecommunications and public transportation.[245]

The relevance of natural monopoly in telecommunications is that it helps to understand the monopolistic history of the sector. As already provided in the chapter, the telecommunications sector once possessed features of a natural monopoly. This was the main reason why the competition was suppressed. Explaining the justifications, Posner argues that

> "if such a market contains more than one firm, either the firms will quickly shakedown to one through mergers or failures, or production will continue to consume more resources than necessary. In the first case, competition is short-lived, and in the second, it produces inefficient results. Competition is thus not a viable regulatory mechanism under conditions of natural monopoly."

However, natural monopolies are hardly a case in the telecommunications sector today. The coming of mobile services has made the theory redundant. However, for those parts of the sector where natural monopoly may continue to exist, the theory helps one to understand regulatory actions taken instead of adopting competition rules.

---

[243] Richard A. Posner, *Natural Monopoly and Its Regulation* (Washington, D.C: Cato Institute, 1999), p. 1.
[244] Peter Grossman, 'Is Anything Naturally a Monopoly?', in *The End of a Natural Monopoly: Deregulation and Competition in the Electric Power Industry*, ed. by Peter Grossman and Daniel H. Cole, The Economics of Legal Relationships, v. 7 (Amsterdam ; Boston: JAI, 2003), pp. 9–38 (p. 10).
[245] Posner, *Natural Monopoly and Its Regulation*, pp. 1–2.

2.5.4 Huge Investments Costs

It is undisputed that the establishment and running of telecommunications are very costly.[246] Investment costs are sunk as they are all needed once at the beginning of the network rolling. As a result, entry becomes difficult for relatively new and small firms.[247] As for those already in the market, the question of recouping investment costs becomes overriding. Thus, it is not surprising that some of them adopt uncompetitive measures such as high prices, predatory prices, or collusive practices. The intention is to foreclose competition in order to recover investment costs quickly. Thus, it follows that rules to ensure fair competition are necessary to ensure that the desire to recover investment costs does not lead to anti-competitive practices.

2.5.5 Economies of Scope and Scale

There is sufficient literature to indicate that economies of scale and scope apply significantly in the telecommunications industry.[248] On the one hand, economies of scale mean that a firm will reduce production costs if the production of goods increases.[249] Simply put, the costs of producing goods or services sink as production increases. If translated in the telecommunications context, operating costs decrease as many people join the network. On the other hand, economies of scope mean that producing or offering two or more products is cheaper than if each item is produced or offered separately.[250] Thus, it is more profitable for telecommunications firms to

---

[246] For empirical studies on the telecommunications costs see Sergio Luis Franklin, 'Investment Decisions in Mobile Telecommunications Networks Applying Real Options', *Annals of Operations Research*, 226.1 (2015), 201–20 <https://doi.org/10.1007/s10479-014-1672-9>; Dkhil; F. Babonneau and others, 'Robust Capacity Assignment Solutions for Telecommunications Networks with Uncertain Demands', *Networks*, 62.4 (2013), 255–72 <https://doi.org/10.1002/net.21515>; A. M. Elvidge and J. Martucci, 'Telecommunications Network Total Cost of Ownership and Return on Investment Modelling', *BT Technology Journal*, 21.2 (2003), 184–90 <https://doi.org/10.1023/A:1024467706446>.

[247] See Elvidge and Martucci, pp. 184–90.

[248] Jamison, *Industry Structure and Pricing*, pp. 44–45; Qiong Wang, 'Pricing and Equilibrium in Communication Networks', in *Handbook of Optimization in Telecommunications*, ed. by Mauricio G. C. Resende and Panos M. Pardalos (USA: Springer Science & Business Media, 2008), pp. 545–69 (p. 545); ABA Section of Antitrust Law, *Telecom Antitrust Handbook* (USA: American Bar Association, 2005), p. 8; Byung-Keun Kim, *Internationalizing the Internet: The Co-Evolution of Influence and Technology* (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2005), p. 46; Alexandre De Streel, 'Remedies in the Electronic Communication Sector', in *Remedies in Network Industries: EC Competition Law Vs. Sector-Specific Regulation*, ed. by Damien Geradin (Antwerp-Oxford: Intersentia nv, 2004), pp. 67–124 (p. 67); Jeffery J. Wheatley, *World Telecommunications Economics* (London, United Kingdom: IET, 1999), pp. 121–23.

[249] Robert Baldwin, Martin Cave, and Martin Lodge, *Understanding Regulation: Theory, Strategy, and Practice*, 2nd ed (New York: Oxford University Press, 2012), p. 444.

[250] Baldwin, Cave, and Lodge, *Understanding Regulation*, p. 444.

offer bundled services, such as expanding their product range rather than dealing with a single product. The economies of scope would quickly justify why telecom firms are ever-expanding the scope of their services and prefer to offer them bundled.

In the context of liberalization, economies of scale and scope can no longer be considered as a critical factor to support monopolies. However, as long as they continue to exist in the sector (or part thereof), they give firms with significant market powers an added competitive advantage, for example, by being an entry barrier to new firms.[251] Such barriers are prominent if the sector has elements that may affect free competition. Such elements may include, for example, tying and bundling, exclusive dealing, high switching costs, geographical dominance, and considerable investments in research or advertising costs.[252] In the absence of pro-competition policies, economies of scope and scale may seriously impair competition in the sector.

2.5.6 Locking-in Effects

Literature shows that locking-in effects are apparent in the sector and may, at times, have anti-competitive effects.[253] Locking-in happens when switching is either too costly or complicated. As a result, customers are 'forced' to remain with the same network.[254] Switching costs may result from many factors, some of them being complicated contractual terms or long-term contracts.[255] Such costs may also come from market practices such as locked sim cards, mobile phones, or other

[251] OECD, *Barriers to Entry* (Paris: OECD Publishing, 2005), p. 49; G. Anandalingam and Henry C. Lucas Jr, *Beware the Winner's Curse: Victories That Can Sink You and Your Company* (New York: Oxford University Press, 2004), p. 99; Antonio Bavasso, *Communications in EU Law: Antitrust Market Power and Public Interest* (The Netherlands: Kluwer Law International B.V., 2003), p. 80; Buckley, *Telecommunications Regulation*, pp. 11–12.
[252] OECD, *Barriers to Entry*, p. 110.
[253] Arturo Basaure, Henna Suomi, and Heikki Hämmäinen, 'Transaction vs. Switching Costs—Comparison of Three Core Mechanisms for Mobile Markets', *Telecommunications Policy*, 40.6 (2016), 545–66 (pp. 345–50) <https://doi.org/10.1016/j.telpol.2016.02.004>; Olayiwola Bello, *Mobile Telecommunication Customer Loyalty in Nigeria: Determining Factors* (Hamburg: Diplomica Verlag, 2012), pp. 32–33; Ge Zhu, Shan Ao, and Jianhua Dai, 'Estimating the Switching Costs in Wireless Telecommunication Market', *Nankai Business Review International*, 2011, p. 214 <https://doi.org/10.1108/20408741111139954>.
[254] Gruber, pp. 181–82.
[255] Gruber, pp. 181–82.

telecommunications equipment, inability to retain sim-card numbers after switching, and many more.[256]

Switching often comes with financial repercussions. For example, one study quantified switching costs from France Telekom to Cegetel to around 420 Euros.[257] Apart from financial costs, switching costs may also extend to procedural and relational costs.[258] They may include "compatibility, transaction, learning, uncertainty, contractual (or discount coupons), and search costs."[259]

Even though policy trends now shift towards simplifying the switching process, complications still abound.[260] For example, there are still complications in switching processes such as long and cumbersome switching procedures, early exist charges, non-transparent charges, technical inoperability, or long-term deals that make switching expensive.[261]

The locking-in effects extend beyond inconveniences and losses that customers experience. It is a significant blow to new firms trying to enter new markets or relatively young firms that seek to expand after a successful entry. In both cases, efforts to secure new customers may not pay off quickly because potential customers are already locked elsewhere. It is not difficult to see that in the absence of pro-competitive regulation, locking-in may also be a source creating or strengthening dominance and hence, affect competition in the sector.[262] As some authors have put it

---

[256] Gruber, pp. 181–82.

[257] Jackie Krafft and Evens Salies, 'Why and How Should New Industries With High Consumer Switching Costs Be Regulated? The Case of Broadband Internet in France', in *Regulation, Deregulation, Reregulation: Institutional Perspectives*, ed. by Michel Ghertman and Claude Ménard, Advances in New Institutional Analysis Series (Cheltenham, UK; Northampton, MA: Edward Elgar, 2009), pp. 327–50 (p. 340).

[258] Basaure, Suomi, and Hämmäinen, p. 548.

[259] Pratompong Srinuan, Chalita Srinuan, and Erik Bohlin, 'An Empirical Analysis of Multiple Services and Choices of Consumer in the Swedish Telecommunications Market', *Telecommunications Policy*, Special issue on: Selected papers from the 10th Conference in Telecommunications, Media and Internet Techno-economics, 38.5 (2014), 449–59 (p. 453) <https://doi.org/10.1016/j.telpol.2014.03.002>.

[260] Onkokame Mothobi, 'The Impact of Telecommunication Regulatory Policy on Mobile Retail Price in Sub-Saharan African Countries' (presented at the 3rd Annual Competition & Economic Regulation (ACER) Conference, Dar es Salaam, 2017).

[261] See further at Patrick Xavier and Dimitri Ypsilanti, 'Switching Costs and Consumer Behaviour: Implications for Telecommunications Regulation', *Info*, 2008, p. 14 <https://doi.org/10.1108/14636690810887517>.

[262] Hyungjin Kim and Hyunchul Kim, *Analysis on Lock-in Effects by Estimating for the Switching Costs in Telecommunications Bundles*, Proceedings of International Academic Conferences (International Institute of Social and Economic Sciences, November 2016) <https://ideas.repec.org/p/sek/iacpro/5306986.html> [accessed 18 February 2020]; See Mehmet Karacuka, A. Nazif Çatık, and Justus Haucap, 'Consumer Choice

correctly, switching costs "usually increase firms' profits, deter entry, and make the market less competitive."[263]

2.6 Theoretical Aspects of Telecommunication Regulation

Until now, this chapter has introduced telecommunications. It has traced the invention of the mobile phone and the development of telecommunications as a sector. It has also shown key features that identify with the sector. This section presents regulation as a theory and its justification.

2.6.1 Understanding Regulation

Scholarly attempts to define regulation have not found consensus. The evidence of this argument lies in the manner several authors define the concept. It has been described as a "multifaceted notion,"[264] a "slippery concept,"[265] an "old battleground of ideas,"[266] or a "highly contested concept."[267] The term has been defined in "myriad ways"[268] and has "acquired a bewildering variety of meanings."[269] Some argue that it is difficult "to obtain a holistic sense of its contours and the nature of its terrain."[270] Thus, it remains "notoriously difficult to define with clarity and precision, as its meaning and the scope of its inquiry are unsettled and contested."[271]

Mariateresa Maggiolino argues that "only a cubist rendition would be capable of showing on a single plane what current economic regulation is – a kaleidoscopic

---

and Local Network Effects in Mobile Telecommunications in Turkey', *Telecommunications Policy*, 37.4 (2013), 334–44 <https://doi.org/10.1016/j.telpol.2012.10.005>; Lucio Fuentelsaz, Juan Pablo Maicas, and Yolanda Polo, 'Switching Costs, Network Effects, and Competition in the European Mobile Telecommunications Industry', *Information Systems Research*, 23.1 (2012), 93–108 <https://doi.org/10.1287/isre.1100.0303>; Eun-A. Park, 'Explicating Barriers to Entry in the Telecommunications Industry', *Info*, 2009 <https://doi.org/10.1108/14636690910932984>; OECD, *Enhancing Competition in Telecommunications: Protecting and Empowering Consumers* (Seoul, Korea: OECD Publishing, 2008).

[263] Czajkowski and Sobolewski, p. 899.

[264] Sandra Eckert, 'European Regulatory State', in *Handbook on the Politics of Regulation*, ed. by Dāwid Lēwî-Faur (Cheltenham: Elgar, 2011), pp. 513–24 (p. 514).

[265] Carol Harlow and Richard Rawlings, *Law and Administration*, Law in Context, 3rd ed (Cambridge; New York: Cambridge University Press, 2009), p. 23.

[266] Harlow and Rawlings, p. 23.

[267] Dāwid Lēwî-Faur, 'Regulation and Regulatory Governance', in *Handbook on the Politics of Regulation*, ed. by Dāwid Lēwî-Faur (Cheltenham: Elgar, 2011), pp. 1–25 (p. 3).

[268] Eckert, p. 515.

[269] Anthony I. Ogus, *Regulation: Legal Form and Economic Theory* (Bloomsbury Publishing, 2004), p. 1.

[270] Bronwen Morgan and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials*, The Law in Context Series (Cambridge, UK; New York: Cambridge University Press, 2007), p. 1.

[271] Morgan and Yeung, p. 3.

object whose many facets result from more than thirty years of continuous theoretical and practical changes."[272] Variations and difficulties in defining regulation result from it being a multidisciplinary concept and hence, capable of multiple expressions.[273]

Nevertheless, this study confines regulation within specified limits. As prominent authors of regulation have once argued, a "field of study that does not know its boundaries could be accused of youthful empire-building or unimaginative scholarship: if regulation is everything, then it is nothing."[274] In short, in a broader approach, regulation entails various forms of governmental control of public and private actions, especially what they may do and, to some extent, how they can do it.[275] It includes ways in which governments affect private life through various instruments such as specific sets of commands (binding rules), deliberate influence, and all forms of socio-economic influence. The result of regulation is to restrict some unwanted behaviors and to prevent the occurrence of unwanted results.[276] Thus, anything, which controls what and how to conduct specific activities may fall into regulation.[277]

---

[272] Mariateresa Maggiolino, 'The Regulatory Breakthrough of Competition Law: Definitions and Worries', in *Competition Law as Regulation*, ed. by Josef Drexl and Fabiana Di Porto (London & USA: Edward Elgar Publishing Limited, 2015), pp. 3–26 (p. 4).

[273] Lēwî-Faur, p. 3; Jacint Jordana and David Levi-Faur, 'The Politics of Regulation in the Age of Governance', in *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*, ed. by Jacint Jordana and David Levi-Faur, The CRC Series on Competition, Regulation and Development (Cheltenham, UK; Northampton, MA, USA: E. Elgar, 2004), pp. 1–30 (p. 3).

[274] Robert Baldwin, Martin Cave, and Martin Lodge, 'Introduction: Regulation-The Field and the Developing Agenda.', in *The Oxford Handbook of Regulation*, ed. by Robert Baldwin, Martin Cave, and Martin Lodge (Oxford, U. K: Oxford University Press, 2012), pp. 3–16 (p. 12).

[275] See more in Eva Thomann, 'The Notions of Regulation and Self-Regulation in Political Science', *Journal of Self-Regulation and Regulation*, 3 (2017), 55–75 (p. 55) <https://doi.org/10.11588/josar.2017.0.40136>; Ashley C. Brown, Jon Stern, and Bernard William Tenenbaum, *Handbook for Evaluating Infrastructure Regulatory Systems* (Washington, D.C: World Bank, 2006), pp. 3–4; Martin Ricketts, 'Economic Regulation: Principles, History and Methods', in *International Handbook on Economic Regulation*, ed. by Michael A. Crew and David Parker (Cheltenham, UK; Northampton, MA: Edward Elgar, 2006), pp. 34–59 (p. 34); Giandomenico Majone, 'Regulation and Its Modes', in *Regulating Europe*, ed. by Giandomenico Majone, European Public Policy Series (London; New York: Routledge, 1996), pp. 9–27 (p. 9); Michael A. Crew, 'Efficiency and Regulation: A Basis for Reform', *Managerial and Decision Economics*, 3.4 (1982), 177–87 (p. 177).

[276] Baldwin, Cave, and Lodge, *Understanding Regulation*, pp. 3–4; Colin Kirkpatrick, 'Economic Regulation in Developing Countries', in *Leading Issues in Competition, Regulation, and Development*, ed. by Paul Cook and David Parker, The CRC Series on Competition, Regulation and Development (Cheltenham,UK; Northampton, MA, USA: E. Elgar, 2004), pp. 92–103 (p. 92).

[277] Peter Drahos and Martin Krygier, 'Regulation, Institutions and Networks', in *Regulatory Theory*, ed. by Peter Drahos, 1st edn (ANU Press, 2017), pp. 1–22 (pp. 3–4).

However, in this study, the focus lies on the narrow approach to regulation, otherwise known as economic regulation.[278] This kind of regulation deals with governmental control of economic activities. Economic regulation, it has been argued, is "an integral – vital, even – component of all developed economies, and, usually to an even greater extent, of developing markets."[279] It is a "state-imposed, positive, coercive alteration of or derogation from the operation of the free market in a sector, typically undertaken to correct market defects of an economic rather than social nature."[280]

Economic regulation addresses market failures by either creating markets or correcting them. The preferred tools of economic regulation may include controls on entry, prices, or even production.[281] Economic regulation may also extend to the control of technology, marketing, and advertisement.[282] In telecommunications, regulation concerns governments' intervention in the sectoral operations, for example, by dictating conditions on entry, output, quality of service, competition, or consumer protection.[283]

2.6.2 Justifications for Regulation

What this chapter has shown so far is that the telecommunications sector is a changing industry. The nature of technology and the types of services offered have been changing over time. These changes question the relevance of various policies adopted in the sector. One of them, which is at the center of this study, is the extent

---

[278] Reena das Nair and Simon Roberts, 'Competition and Regulation Interface in Energy, Telecommunications and Transport in South Africa', in *Competition Law and Economic Regulation in Southern Africa Addressing Market Power in Southern Africa*, ed. by Imraan Valodia, Simon Roberts, and Jonathan Klaaren (Baltimore, Maryland: Project Muse, 2019), pp. 120–50 (pp. 120–23) <https://muse.jhu.edu/book/60587/> [accessed 11 September 2019]; Ricketts, pp. 34–35.
[279] Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*, p. 139.
[280] Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*, p. 143.
[281] Lester Salamon, 'Economic Regulation', in *The Tools of Government: A Guide to New Governance*, ed. by Lester Salamon (Oxford, New York: Oxford University Press, 2002), pp. 117–55 (p. 119); David Sappington and Joseph Stiglitz, 'Information and Regulation', in *Public Regulation: New Perspectives on Institutions and Policies*, ed. by Elizabeth Bailey, MIT Press Series on the Regulation of Economic Activity, 14 (Cambridge, Mass: MIT Press, 1987), pp. 1–43 (p. 7); Posner, 'Theories of Economic Regulation', p. 335.
[282] R Uukkivi, M Ots, and O Koppel, 'Systematic Approach to Economic Regulation of Network Industries in Estonia', *Trames. Journal of the Humanities and Social Sciences*, 18.3 (2014), 221 (p. 224) <https://doi.org/10.3176/tr.2014.3.02>; Harlow and Rawlings, p. 240; W. Kip Viscusi, John M. Vernon, and Joseph Emmett Harrington, *Economics of Regulation and Antitrust*, 2nd ed (Cambridge, Mass: MIT Press, 1995), pp. 307–9.
[283] Stephen Breyer, 'Regulation and Deregulation in the United States: Airlines, Telecommunications and Antitrust', in *Deregulation or Re-Regulation? Regulatory Reform in Europe and the United States*, ed. by Giandomenico Majone (London: New York: Pinter; St. Martin's Press, 1990), pp. 7–58 (p. 9).

of regulation. What factors justify regulation even after liberalization has taken place? This section attempts to answer the question. One would notice that the rationale spans beyond traditional justifications of market failure to other policy considerations.

2.6.2.1 Telecommunications Economics

This study has shown in Section 2.4 that telecommunications economics can easily create dominant firms. If left unchecked, the potential for foreclosing competition, for example, through elevated entry barriers, is imminent. Thus, it is not difficult to see that it is telecommunication economics that calls for regulation. Given the sector's economic features, the markets' failures are likely to happen in the total absence of governments' intervention.[284]

Traditionally, the (then) presence of natural monopoly and network effects were cited to justify regulation.[285] The argument here, as already presented, is that because of natural monopolies and network effects, markets are "extremely fragile and apt to operate very efficiently if left alone,"[286] and, therefore, "governments are benign and capable of correcting these market failures through regulation."[287] In other words, it is in the public's interests for governments to intervene to rectify those failures.[288] Thus, governments regulate telecommunications to correct "imperfect competition, incorrect market operation, missing markets, and undesirable markets."[289]

---

[284] Jamison, 'A Further Look at Proper Cost Tests for Natural Monopoly', pp. 1 & 6; Baumol, p. 810; Posner, 'Natural Monopoly and Its Regulation', p. 548.
[285] See Alemu, p. 18; King, pp. 26 & 36; Peter Alexiadis and Martin Cave, 'Regulation and Competition Law in Telecommunications and Other Network Industries', in *The Oxford Handbook of Regulation*, ed. by Robert Baldwin, Martin Lodge, and Martin Cave (Oxford, U. K: Oxford University Press, 2012), pp. 500–522 (pp. 501–2); Colin Blackman and Lara Srivastava, *Telecommunications Regulation Handbook: Tenth Anniversary Edition.* (Washington, D.C: The World Bank, 2011), p. 10; Christian Kirchner, 'Regulating towards What? The Concepts of Competition in Sector-Specific Regulation, the Likelihood of Their Realisation and of Their Sustainability, and Their Relationship to Rendering Public Infrastructure Services', in *The Evolution of European Competition Law: Whose Regulation, Which Competition?*, ed. by Hanns Ullrich, ASCOLA Competition Law (Cheltenham, UK ; Northampton, MA: Edward Elgar, 2006), pp. 241–55 (pp. 241–42); Kevin G. Wilson (chapter 3).
[286] Posner, 'Theories of Economic Regulation', p. 336.
[287] Shleifer, p. 440.
[288] Johan den Hertog, *Review of Economic Theories of Regulation*, Discussion Paper Series 10-18 (The Netherlands: Utrecht School of Economics, 2010), pp. 5 & 10.
[289] Johannes Aleidus den Hertog, *Public and Private Interests in Regulation: Essays in the Law and Economics of Regulation* (The Netherlands: University of Utrecht, 2003), p. 10.

Even though public interests gained prominence, criticisms abound. Andrei Shleifer, for example, advances the criticisms on the theory in the following words;

> "first, markets and private orderings can take care of most market failures without any government intervention at all, let alone regulation. Second, in the few cases where markets might not work perfectly, private litigation can address whatever conflicts market participants might have. And third, even if markets and courts cannot solve all problems perfectly, government regulators are incompetent, corrupt, and captured, so regulation would make things even worse."[290]

From the above quote, we learn that Shleifer dismisses public interests as a justification for regulation. His view is that markets alone can correct such failures without any government interference. Daniel Carpenter, on his side, considers the theory as a "fictional straw man."[291] He argues that there is no such thing as a public interest regulation theory. If anything, Daniel continues to argue, "it has been synthesized much more clearly in the writings of its opponents than by any who would call themselves public interest scholars of regulation."[292] Further, he holds, the theory is "a normative portrait of what regulation ought to look like, but since it lacks an account of how regulatory politics might create regulation, it is woefully incomplete."[293] If anything, concludes Carpenter, the theory commits a form of "theoretical naivete."[294]

Despite these criticisms of the concept that Jane Johnstone calls "contentious," "ambiguous," and "slippery,"[295] the theory helps understand why governments may find it necessary to regulate a specific sector of the economy. Put differently, the theory suggests that if it becomes necessary to regulate, then it must be for the direct benefit of the entire public, which can be seen in various forms such as improved consumer welfare through decreased prices and increased innovation.

---

[290] Shleifer, p. 440.
[291] Daniel Carpenter, *Reputation and Power: Organizational Image and Pharmaceutical Regulation at the FDA* (New Jersey: Princeton University Press, 2014), p. 36.
[292] Carpenter, p. 36.
[293] Carpenter, p. 38.
[294] Carpenter, p. 38.
[295] Jane Johnston, 'The Public Interest: A New Way of Thinking for Public Relations?', *Public Relations Inquiry*, 6.1 (2017), 5–22 (p. 7) <https://doi.org/10.1177/2046147X16644006>.

Apart from traditional justifications, other economic features may also justify regulation. For example, the locking-in effects demand legal oversight to ensure a smooth transition from one firm to another. Similarly, economies of scale and scope may demand a regulatory eye to see that the resulting market powers are not abused. Thus, it is telecommunications economics that calls for minimal regulation to facilitate effective market functioning.

2.6.2.2 Facilitation of Competition

We have seen monopolies were once a preferred model of industrial organization in telecommunications. However, when the liberalization wind swept in, sector-specific regulation became a fitting precursor to introducing competition.[296] Sector regulation was necessary to introduce competition in a once monopolized sector. However, a word of caution is needed here. Regulation is highly appreciated only when it performs transitional roles, helping the sector's transformation from monopoly to competition.[297] This role is necessary to ensure orderly evolution to competition through appropriate structures, infrastructures, and certainty of procedures.[298]

Therefore, regulation becomes necessary only to the extent discussed in the preceding paragraph, for example, to set rules for entry, interoperability, and availability of communication resources. After achieving competition, the role of regulation dwindles only to the extent necessitated by natural market structures. At this stage, "soft regulation" or "competition-based regulation," which means limited state interference as long as competition exists, is desirable.[299]

---

[296] See for example, Martin Cave, Christos Genakos, and Tommaso Valletti, 'The European Framework for Regulating Telecommunications: A 25-Year Appraisal', *Review of Industrial Organization*, 55.1 (2019), 47–62 <https://doi.org/10.1007/s11151-019-09686-6>; Wolfgang Briglauer and Carlo Cambini, *The Role of Regulation in Incentivizing Investment in New Communications Infrastructure* (Deutsche Telekom AG, 2017); Jerry A. Hausman and William E. Taylor, 'Partial Deregulation in Telecommunications: An Update', *Journal of Competition Law and Economics*, 2016, pp. 465–76 <https://doi.org/10.1093/joclec/nhw019>; Jerry A Hausman and Taylor, pp. 386–90.

[297] Paul Crampton, 'Striking the Right Balance Between Competition and Regulation: The Key Is Learning from Our Mistakes' (presented at the APEC-OECD Co-operative Initiative on Regulatory Reform: Third Workshop, Jeju Island, Korea: OECD Publishing, 2002), p. 6.

[298] Crampton, p. 8.

[299] Yuri Biondi and Pierpaolo Giannoccolo, 'Innovation and Regulation in Telecommunications Industry: A Comparative Institutional Economic Analysis', *Revue d'économie Industrielle*, 147, 2014, 11–50 (p. 11) <https://doi.org/10.4000/rei.5839>; Briglauer and Cambini, p. iii.

In other words, there is no need to impose regulations on markets where competition is working. However, if parts of the markets have monopolistic trends or have other trends that make it difficult for competition rules to apply *ex-ante*, regulation may continue to exist. The determinant factor here should be pro-competitive regulation, i.e., a regulation that mimics markets operations as far as possible.

2.6.2.3 Technical Necessity

Even after full liberalization of the telecommunications sector, the sector's inherent nature may still necessitate regulation. For instance, technical questions like interconnection, access, or spectrum rights availability might need *ex-ante* regulatory.[300] Further, as telecommunications move to IP-based services (packet switching), regulation becomes even highly important to regulate the interaction between traditional circuiting switching and IP-based services.[301] Also, regulation may be necessary to ensure the quality of service and safety of communication systems and equipment.[302] Furthermore, it may be necessary to regulate the sector's converged aspects to avoid any possible failures.[303]

Of all justifications discussed in this section, this study opines that technical regulation is the most crucial. Such regulation sets the necessary conditions and environment for meaningful competition. For example, let us think of spectrum rights that are at the core of wireless communication. There will be a complete foreclosure of competition if relevant authorities monopolize them. As presented in the latter parts of this work, the spectrum is also a scarce resource, meaning it demands effective management for optimal results. The practical approach is to have a manager, a regulator, whose role is to ensure equitable availability. The *ex-post* rules

---

[300] OECD, *Interconnection and Local Competition* (Paris: OECD Publishing, 2001), pp. 13–17; Eli M. Noam, *Interconnecting the Network of Networks* (USA: MIT Press, 2001), pp. 14–16.
[301] Gunawan Wibisono and others, 'Design of IP Interconnection Regulation for Multiplication Indonesia Telecommunication', *Journal of Physics: Conference Series*, 1175 (2019), 1–6 (pp. 1–4) <https://doi.org/10.1088/1742-6596/1175/1/012109>.
[302] See International Telecommunication Union, *Quality of Service Regulation Manual* (Geneva: International Telecommunication Union, 2017), pp. 7–114; Noel D. Uri, *The Economics of Telecommunications Systems* (New York: Nova Publishers, 2004), pp. 53–65.
[303] See for example Terry Flew, 'National Media Regulations in an Age of Convergent Media: Beyond Globalisation, Neo-Liberalism and Internet Freedom Theories', in *Global Media and National Policies: The Return of the State*, ed. by Terry Flew, Petros Iosifidis, and Jeanette Steemers (Hampshire: Palgrave Macmillan, 2016), pp. 75–91 (pp. 85–88); Iosifidis, pp. 186–203.

of competition alone cannot address this question. The same argument is also valid regarding access and interconnection, or other technical questions, for example.

2.6.2.4 Rapid Technological Advancement and Consumer Protection

This chapter has already shown that telecommunication is constantly changing. One of the facilitating factors is rapid technological advancement. New products that are rolled out in the market regularly would demand rational consumers to make rational decisions.[304] However, this is not always the case. Consumers are not always rational and may fall victim to big firms' marketing tricks, including powerful branding and advertisements resulting from strong financial muscles.[305] They need protection.[306]

At this point, sector regulation comes in as a neutral umpire to protect the welfare of consumers.[307] However, there is a caveat that we must observe here. Such regulation must only address effects that cannot be corrected by market forces and rules of competition. In other words, as this study has consistently put it so far, only pro-competitive regulation can address consumers' concerns in the age of rapid technological advancement. For example, such measures may include rules on comprehensive consumer education and awareness programs, addressing consumer complaints, quality of goods and services, and protecting consumer rights, among many others.

2.6.2.5 Other Justifications

Many other justifications for regulation may exist apart from those already examined in this part. For example, regulation may continue for national security reasons.[308] It may also exist for reasons spanning beyond welfare economics, such as promoting

---

[304] For details on rationality of consumers, see Kinshuk Jerath and Qitian Ren, 'Consumer Rational (In)Attention to Favorable and Unfavorable Product Information, and Firm Information Design', *Journal of Marketing Research*, 58.2 (2021), 343–62 <https://doi.org/10.1177/0022243720977830>; Kenneth Train, *Optimal Regulation: The Economic Theory of Natural Monopoly* (Cambridge, Mass: MIT Press, 1991).
[305] Paul Wragg, 'Advertising, Free Speech and the Consumer', in European Consumer Protection: Theory and Practice, ed. by James Devenney and Mel Kenny (Cambridge ; New York: Cambridge University Press, 2012), pp. 313–35 (pp. 314–16).
[306] For a detailed account on why consumers need protection, and how consumers can be protected see OECD, *OECD Recommendation of the Council on Consumer Protection in E-Commerce* (Paris: OECD Publishing, 2016), pp. 8–20 <https://doi.org/10.1787/9789264255258-en>.
[307] For specific areas where regulators should develop policies for consumer protection see ITU, *Regulation and Consumer Protection in a Converging Environment* (Switzerland: ITU, March 2013), pp. 8–16.
[308] Shi, p. 1.

social solidarity, human rights (through universal communication initiatives), distributional justice, and environmental considerations.[309] Because of expanding justifications for regulation, the subject matter of regulation has also expanded beyond market failures such that a new terminology known as *the regulatory state* has developed.[310]

Regulatory state indicates the increasing governments' preferences for regulation. For example, at one time, the UK had 63 national regulators and 468 local authority regulators, hence earning the nickname a "regulatory laboratory."[311] In the US, where regulation had already taken prominence as early as the late 1880s, regulation has sometimes been referred to as "the fourth branch of government."[312] Similar preference to regulation also became prominent in Europe, especially after the 1970s.[313] All this means that it is possible to have many other justifications as determined by the jurisdiction in question.

2.6.3 Regulation and Establishment of [Independent] Sector Regulators

In regulating the telecommunications sector, the practice shows that many countries prefer to establish independent sector regulators.[314] Sector regulators are typically

---

[309] Cento Veljanovski, 'Economic Approach to Regulation', in *The Oxford Handbook of Regulation*, ed. by Robert Baldwin, Martin Cave, and Martin Lodge (Oxford, U. K: Oxford University Press, 2012), pp. 17–38 (p. 18); Baldwin, Cave, and Lodge, *Understanding Regulation*, p. 23; Tony Prosser, 'Regulation and Social Solidarity', *Journal of Law and Society*, 33.3 (2006), 364–87 (p. 369) <https://doi.org/10.1111/j.1467-6478.2006.00363.x>; Richard J. Pierce and Ernest Gellhorn, *Regulated Industries in a Nutshell*, West Nutshell Series, 4th ed (St. Paul, Minn: West Group, 1999), pp. 63–66.

[310] See for example Mathias Finger, 'Towards a European Model of Regulatory Governance', in *Handbook on the Politics of Regulation*, ed. by Dāwid Lēwî-Faur (Cheltenham: Elgar, 2011), pp. 525–36 (p. 527); Eckert, p. 514; David Levi-Faur, 'Regulatory Capitalism and the Reassertion of the Public Interest', *Policy and Society*, 27.3 (2009), 181–91 (p. 181) <https://doi.org/10.1016/j.polsoc.2008.10.002>; John Braithwaite, *Regulatory Capitalism: How It Works, Ideas for Making It Work Better* (Cheltenham, UK ; Northampton, MA: Edward Elgar, 2008), p. 1.

[311] Morgan and Yeung, p. 234; Richard Rawlings, 'Introduction: Testing Times', in *The Regulatory State: Constitutional Implications*, ed. by Dawn Oliver, Tony Prosser, and Richard Rawlings (Oxford ; New York: Oxford University Press, 2010), pp. 1–14 (p. 4).

[312] Steven P. Croley, *Regulation and Public Interests: The Possibility of Good Regulatory Government* (Princeton, NJ: Princeton University Press, 2008), p. 4.

[313] Giandomenico Majone, 'From the Positive to the Regulatory State: Causes and Consequences of Changes in the Mode of Governance', *Journal of Public Policy*, 17.2 (1997), 139–67 (p. 139).

[314] See Balthasar Strunz, *The Interface of Competition Law, Industrial Policy and Development Concerns: The Case of South Africa*, 1st edition (New York, NY: Springer Berlin Heidelberg, 2018), p. 182; Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*, p. 43; Kirsten Rodine-Hardy, *Global Markets and Government Regulation in Telecommunications* (New York: Cambridge University Press, 2013), pp. 11–12; Fabrizio Gilardi, *Delegation in the Regulatory State: Independent Regulatory Agencies in Western Europe* (Cheltenham, UK; Northampton, MA: Edward Elgar, 2008), p. 125; OECD,

sector-specific, majoring in addressing failures in such a sector.[315] For example, a regulator may intervene through overseeing or setting prices (not encouraged in today's standards), determining acceptable standards on the return of investment, setting up product standards, or ensuring the fulfillment of other social objectives.[316] The peculiar feature of sector regulators is that they are separated from central government hierarchies. Therefore, while central government departments (mostly ministries) remain with policy setting roles, a regulator, which is supposed to have some degree of independence, gets actively engaged in the sector's daily regulation.[317]

Apart from technical regulation, it is not rare for regulators to promote competition. They do so by setting up regulatory standards that promote competition, such as entry rules, licensing, tariff regulation, and access.[318] Furthermore, depending on the jurisdiction in question, regulators may also have direct powers to enforce competition laws. In this case, they assume a role usually enjoyed by competition authorities. Therefore, sector regulators are critical in the whole regulation agenda. Their central role, if summarized, is to translate regulatory rules into tangible results. A well-designed regulator, in most cases, will translate into sound and effective regulation.

2.7 Aspects of Competition in the Telecommunications Sector

Four decades ago, competition law was but a realm of few jurisdictions. Until the 1980s, only the US and some EU countries had competition legislation.[319] From the 1980s, however, many countries started to adopt competition policies.[320] Such

---

Telecommunication Regulatory Institutional Structures and Responsibilities, 11 January 2006, pp. 6–7 <https://doi.org/10.1787/231741271464>.

[315] Rodine-Hardy, *Global Markets and Government Regulation in Telecommunications*, pp. 10–13; Buckley, *Telecommunications Regulation*, pp. 1–2.

[316] OECD, *Independent Sector Regulators – Background Note* (Paris: OECD Publishing, 2019), p. 6.

[317] OECD, *Telecommunication Regulatory Institutional Structures and Responsibilities*, pp. 5–7.

[318] Xavier and Ypsilanti, 'Behavioral Economics and Telecommunications Policy', p. 83.

[319] Shanker Singham, *A General Theory of Trade and Competition: Trade Liberalisation and Competitive Markets* (London: Cameron May, 2007), p. 75; In fact, as of 1960, only German had a credible system of competition law. See Giorgio Monti, *EC Competition Law*, Law in Context (Cambridge: Cambridge University Press, 2007), p. 401.

[320] Hubert Buch-Hansen and Angela Wigger, 'Revisiting 50 Years of Market-Making: The Neoliberal Transformation of European Competition Policy', *Review of International Political Economy*, 17.1 (2010), 20–44 (p. 36); For a detailed history on the development of the EU Competition policy see Wolf Sauter, *Coherence in EU Competition Law*, Oxford Studies in European Law, First edition (Oxford, United Kingdom: Oxford University Press, 2016), pp. 27–60.

changes resulted from several factors. Among others, they include the collapse of the Soviet Union (communism) and the signing of the Treaty of European Union in 1992, where competition policy has always been considered an integral part or pillar of European integration.[321] These changes spread to developing countries as competition became an integral package of extensive economic reforms.[322]

Today, the importance of competition law is ubiquitous. One author has even argued that competition is "an economic lubricant."[323] It would follow, the argument goes, that "the machine works more efficiently when all the parts move freely."[324] Through competition, "we get more output from the same input or the same output with less input."[325] Thus, "take away the competition," and the argument concludes, "it all begins to grind together. Eventually, friction brings it to a halt, sometimes a fiery one."[326]

Many jurisdictions have now adopted competition policies after understanding their overarching importance. Preference for competition comes from understanding that competition is vital for economic efficiency (allocative, productive, and distributive efficiency), innovation, and overall economic growth and development.[327] For example, as of 2013, over one hundred and thirty countries had competition laws.[328] Twenty-six of them were from Africa.[329] The growth depicts the global understanding

---

[321] See Umut Aydin and Kenneth P. Thomas, 'The Challenges and Trajectories of EU Competition Policy in the Twenty-First Century', *Journal of European Integration*, 34.6 (2012), 531–47 (pp. 531–32) <https://doi.org/10.1080/07036337.2012.707359>; Josef Drexl, 'Economic Integration and Competition Law in Developing Countries', in *Competition Policy and Regional Integration in Developing Countries*, ed. by Josef Drexl and others (Cheltenham, UK; Northampton, Mass: Edward Elgar, 2012), pp. 231–52; Thomas M. J Möllers and Andreas Heinemann, *The Enforcement of Competition Law in Europe.* (Cambridge: Cambridge University Press, 2008), pp. 444–45.

[322] Paul Cook, 'Competition Policy, Market Power and Collusion in Developing Countries', in *Leading Issues in Competition, Regulation, and Development*, ed. by Paul Cook and others (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2004), pp. 39–57 (p. 39).

[323] John Mauldin, 'America Has A Monopoly Problem', *Forbes*, 11 April 2019 <https://www.forbes.com/sites/johnmauldin/2019/04/11/america-has-a-monopoly-problem/> [accessed 8 November 2019].

[324] Mauldin, p. 1.

[325] Mauldin, p. 1.

[326] Mauldin, p. 1.

[327] David Bailey and Laura Elizabeth John, *Bellamy & Child: European Union Law of Competition* (New York, NY: Oxford University Press, 2018), pp. 39–40; William Weld, 'Telecommunications and the Competitive Advantage of Massachusetts', *Federal Communication Law Journal*, 47.2 (1994), 295–400 (pp. 397–98).

[328] Umut Aydin and Tim Büthe, 'Competition Law & Policy in Developing Countries: Explaining Variations in Outcomes; Exploring Possibilities and Limits', *Law and Contemporary Problems*, 79.4 (2016), 1–36 (p. 1).

[329] Deloitte, *Competition Law in Africa: Maximising Competitor Advantage Consumer Value Chain Spotlight* (United Kingdom: Deloitte, 2016), p. 6.

of the ever-increasing role of competition in the economy. As one author has put it, competition is a "precious public benefit that should be safeguarded" and that any attempts to discourage it are likely to cause "greater overall harm than individual gain."[330]

This section introduces the concept of competition. It first defines competition and proceeds to look briefly at different forms of competition. Included in this discussion are definitions of monopoly, perfect competition, oligopoly, and effective competition.

2.7.1 Defining competition

In its simple plain meaning, competition indicates a process by which two or more parties engage in a contest/rivalry. It is a competition for a particular reward, just as two football teams compete for a trophy. *Prima facie*, this definition appears understandable and straightforward. When considered as a legal and technical term, however, its meaning gets complicated. A proof of this assertion lies in how several authors of competition law define it. Many of such attempts, one author would argue, are vague.[331] Even after a century and three decades have passed since the passage of Sherman's Act in 1890,[332] the first masterpiece of law that laid down rules on competition, no consensus exists on its meaning.[333] One author, Oliver Black, calls this lack of consensus "a scandal of anti-trust."[334]

A panoramic view from several authors reveals that they equate competition to a rivalry among economic agents/firms in the market.[335] John M Clarks (the pioneer of

---

[330] Oliver Black, *Conceptual Foundations of Antitrust* (Cambridge: Cambridge University Press, 2005), p. 6.
[331] John Vickers, 'Concepts of Competition', *Oxford Economic Papers*, 47.1 (1995), 1–23 (p. 3); Many authors would agree with Vickers. See Enn Listra, 'The Concept of Competition and the Objectives of Competitors', *Procedia - Social and Behavioral Sciences*, 213 (2015), 25–30 (p. 26) <https://doi.org/10.1016/j.sbspro.2015.11.398>; Donghyun Park, 'The Meaning of Competition: A Graphical Exposition', *The Journal of Economic Education*, 29.4 (1998), 347–57 (p. 356) <https://doi.org/10.1080/00220489809595927>; Mark Addleson, 'Competition', in *The Elgar Companion to Austrian Economics*, ed. by P. J. Boettke (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 1998), pp. 96–99; Les Seplaki, *Cost and Competition in American Medicine: Theory, Policy, and Institutions* (Maryland: University Press of America, 1994), pp. 5–6.
[332] *Sherman Act*, *15 U.S.C 1-38*, 1890, 15 U.S.C 1-38.
[333] See Maurice E. Stucke, 'What Is Competition?', in *The Goals of Competition Law*, ed. by Daniel Zimmer, ASCOLA Competition Law The Fifth ASCOLA Workshop on Comparative Competition Law (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2012), p. 28.
[334] Black, p. 6.
[335] See for example Richard Whish and David Bailey, *Competition Law*, 7th ed (Oxford ; New York: Oxford University Press, 2012), p. 3; *Cases and Materials on UK and EC Competition Law*, ed. by Kirsty Middleton and Kirsty Middleton, 2nd ed (Oxford; New York: Oxford University Press, 2009), p. 1; Terry Burke, Angela

the workable/effective competition concept) puts it even in better terms. He says that competition is,

> "rivalry in selling goods, in which each selling unit normally seeks maximum net revenue, under conditions such that the price or prices each seller can charge are effectively limited by the free option of the buyer to buy from a rival seller or sellers of what we think of as "the same" product, necessitating an effort by each seller to equal or exceed the attractiveness of the others' offerings to a sufficient number of sellers to accomplish the end in view."[336]

Some other authors go a step further beyond the rivalry concept. One of them is Robert Bork, one of the luminary leaders of the Chicago School of Economics.[337] Bork argues that competition is a state of affairs where consumers' welfare cannot be increased by moving to an alternative state of affairs through judicial decree.[338] To Bork, the concept of rivalry is insufficient because it judges illegal any attempt to eliminate rivalry.[339]

Joana and Albertina define competition as the relationship between several undertakings offering the same goods or services to identifiable customers.[340] As for George Stigler, also one of the leading authors of the Chicago School of Economics, competition is the absence of monopoly powers.[341] When competition exists in the market, argues Niamh Dune of the London School of Economics, a "single seller's sales would plummet if it [the seller] raised its prices above those charged by other sellers."[342]

Genn-Bash, and Brian Haines, *Competition in Theory and Practice* (London: New York: Routledge, 1999), p. 1; Fred E. Foldvary, *Dictionary of Free-Market Economics* (Cheltenham, UK; Northampton, MA: Edward Elgar, 1998), p. 85.

[336] John. M. Clark, 'What Is Competition?', *The University Journal of Business*, 3.3 (1925), 217–40 (p. 243).

[337] For Chicago School of Economics, see David Colander and Craig Freedman, *Where Economics Went Wrong: Chicago's Abandonment of Classical Liberalism* (Oxfordshire: Princeton University Press, 2018).

[338] Robert H. Bork, *The Antitrust Paradox: A Policy at War with Itself* (New York: Free Press, 1978), p. 59.

[339] *Bork, p. 57.*

[340] Joanna Goyder and Albertina Albors-Llorens, *Goyder's EC Competition Law*, Oxford EC Law Library, 5th ed (Oxford; New York: Oxford University Press, 2009), p. 9; See also D. G. Goyder, *EC Competition Law*, 4th ed (Oxford; New York: Oxford University Press, 2003), p. 8.

[341] George J. Stigler, 'Perfect Competition, Historically Contemplated', *Journal of Political Economy*, 65.1 (1957), 1–17 (p. 14).

[342] Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*, p. 14.

As for Tanzania, the definition of competition is in S. 5(2) of the Fair Competition Act. The Section reads that,

> "Competition means competition in a market in Tanzania and refers to the process whereby two or more persons: (a) supply or attempt to supply the same or substitutable goods or services to the persons in the same relevant geographical market; or (b) acquire or attempt to acquire the same or substitutable goods or services from the persons in the same relevant geographical market."

The above definition takes a technical approach to define competition in two dimensions, the supply-side competition and the demand-side competition. There is competition on the supply-side if at least two or more persons supply goods or services, including substitutable goods or services, and that supply is in the same relevant geographical market. Competition on the demand-side means that at least two or more persons demand the same or similar goods or services within the same relevant geographical market.

From these definitions, competition implies some rivalry in the marketplace under the following conditions. Firstly, at least two or more providers or suppliers of goods or services must exist in the market, i.e., the absence of monopolistic or heavily concentrated markets. Secondly, there must be some rivalry vis-à-vis cooperation or coordination between providers or suppliers. Price setting, for example, should purely result from market operations instead of suppliers' agreements. Thirdly, the suppliers or providers must be operating within the same market limitations. Fourthly, there must be sufficient competitive restraints such that consumers may easily and swiftly change to another supplier if there is a change in behavior of one firm, say, in cases of excessive increase in price.

2.7.2 Different Forms of Competition

The competitiveness of markets depends on several factors. Among others, they include government policies on the economy, established constitutional and legal orders, and the peculiar characteristic of respective markets. For example, government licensing policies or patent systems may either consolidate monopolies or facilitate entry to promote competition. Some firms may also grow and tilt the competition equilibrium because of sound business plans, suitable investments, and

entrepreneurial innovation.[343] As a result, several forms of competition develop in different markets. This sub-section briefly looks at various forms of competition.

2.7.2.1 Monopolies in Telecommunications

A monopoly exists where only one firm offers goods or services without any actual or potential competition.[344] Such a firm has market control. It is the price maker.[345] Usually, monopolistic markets may result from several factors, such as entry barriers or natural market conditions.[346] Monopolies may also result from government support. Milton Friedmann argues such government support to be the most important source of monopoly.[347] Through government support and interventions, protection policies in the form of licensing, patents, tariff setting, tax legislation, or other restrictions of production inputs result in monopolies.[348] Monopolies may also develop due to economies of scale and scope.[349] Telecommunication is one of the sectors, which developed into monopolies in many parts of the world.[350]

2.7.2.2 Perfect Competition in Telecommunications

Perfect competition is an extreme opposite of a monopoly. It provides a benchmark to understand competition better.[351] Some features of perfect competition include many (more than one) buyers and sellers with homogeneous products or services.[352] Further, both service providers and consumers should have perfect information on market operations. Also, there should be no entry or exit barriers, which means firms

---

[343] Fernando Herrera González, 'The Causes of Market Power: A Market Process Perspective', in *Monopolies: Theory, Effectiveness and Regulation*, ed. by Robert W Karlsen and Michael A Pettyfer (New York: Nova Science Publishers, 2011), pp. 27–60 (p. 56).
[344] Moritz Lorenz, *An Introduction to EU Competition Law* (Cambridge: Cambridge University Press, 2013), p. 10.
[345] Stephen Martin, *Industrial Organization in Context* (Oxford; New York: Oxford University Press, 2010), p. 30.
[346] Alison Jones and Brenda Sufrin, *EU Competition Law: Text, Cases, and Materials*, Fifth edition (Oxford, United Kingdom; New York, NY: Oxford University Press, 2014), p. 35.
[347] Milton Friedman and Rose D. Friedman, *Capitalism and Freedom*, 40th anniversary ed (Chicago: University of Chicago Press, 2002), pp. 129–30.
[348] Lorenz, p. 10; Friedman and Friedman, p. 130.
[349] Lorenz, p. 10.
[350] Ekaterina Markova, *Liberalization and Regulation of the Telecommunications Sector in Transition Countries: The Case of Russia* (Heidelberg: Physica-Verlag, 2008), p. Chapter III; Eli M. Noam, *Telecommunications in Europe*, p. 63.
[351] Richard B. McKenzie and Dwight R. Lee, *In Defense of Monopoly* (USA: University of Michigan Press, 2008), p. 26.
[352] Jones and Sufrin, p. 7.

can enter and exit markets as freely as they desire.[353] Moreover, there is a question of transaction costs and externalities, which ought to be absent.[354] It is also important to note that in such a market, suppliers and consumers must act independently to maximize individual profits and utility, respectively.[355] Summarized by McKenzie and Lee, a market with perfect competition market has the following features:

> "(1) numerous producers are in the market; (2) all producers produce the same product, meaning all producers' products are identical in all regards; (3) the cost of entry into and exit from the market is zero; (4) the cost of information about the prices and products, both current and future, is also zero to both producers and consumers, which implies that everyone in the market is perfectly informed; and (5) no costs and benefits can be externalized to parties not involved in the market transactions."[356]

Obviously, with perfect competition, sellers cannot control prices to the disservice of consumers.[357] There cannot be an abuse of dominance since no one is dominant. Ultimately, it is the consumer who stands to benefit more. As Whish and Bailey sum it up, the benefits of perfect competition include "lower prices, better products, wider choice, and greater efficiency than would be obtained under conditions of monopoly."[358]

Perfect competition, however, does not exist.[359] Some authors have even argued it to be an invalid concept.[360] Any argument purporting to prove the existence of perfect competition, argues one economist, is similar to one trying to prove that a fish can

---

[353] *Jones and Sufrin, p. 7.*
[354] *Jones and Sufrin, p. 7.*
[355] Christopher Ritson, *Agricultural Economics: Principles and Policy* (London: Granada, 1977), p. 121.
[356] McKenzie and Lee, p. 26.
[357] Aldo Rustichini and Nicholas Yannelis, 'What Is Perfect Competition', in *Equilibrium Theory in Infinite Dimensional Spaces*, ed. by M. Ali Khan and Nicholas C. Yannelis (Heidelberg: Springer Verlag, 2013), pp. 249–66 (p. 249).
[358] Whish and Bailey, *Competition Law*, p. 4.
[359] See for example Sampat Mukherjee, Mallinath Mukherjee, and Amitava Ghose, *Microeconomics* (Delhi: PHI Learning Pvt. Ltd., 2004), p. 169; Brian P. Simpson, *Markets Don't Fail!* (Oxford: Lexington Books, 2005), p. 40; Roger van den Bergh and Peter D. Camesasca, *European Competition Law and Economics: A Comparative Perspective* (Antwerp-Oxford: Intersentia, 2001), pp. 21–23; David Needham, *Business for Higher Awards* (Oxford: Heinemann, 1999), p. 388.
[360] Simpson, p. 41.

fly.[361] In other words, the principal argument here is that it is impossible to have such a market, even though the idea remains valuable in understanding competition.[362] The same is also true for the telecom sector, both in Tanzania and other jurisdictions. Being a sector with peculiar economic features and characterized by information asymmetries, it is far from displaying perfect competition. In many cases, as the next subsections show, oligopoly is the main identifying feature of the industry.

2.7.2.3 Oligopolies in Telecommunications

Oligopoly originates from two Greek words *oligos* (few) and *polein* (to sell), meaning a market structure with few firms in competition.[363] Exactly how many firms are few is not absolute, although some argue that in such markets, there are always a handful of competitors, usually between two and eight.[364] Others suggest that oligopoly exists if the top five leading firms control at least 60 percent of the market shares or sales.[365] What is clear is that with oligopoly, there is a concentration of market powers to a few firms. As a result of this structure, firms end up being highly interdependent.[366] For example, a change in one firm's output affects another firm's profit.[367] This relationship compels other firms to change their outputs as well.[368] Thus, it is not surprising to learn that oligopoly is a breeding ground for collusive practices.[369] Entry barriers also characterize oligopolistic markets, resulting from incumbent firms' behaviors or other extraneous factors such as government policies.[370] In many parts of

[361] Nathalie Benatia, 'Jean Tirole - Markets That Are Perfect Are like Fish That Can Fly', *Investors' Corner*, 2019 <https://investors-corner.bnpparibas-am.com/thought-leadership/investment-forum/jean-tirole-markets-perfect-fish-fly/> [accessed 8 November 2019].
[362] González, pp. 42–45.
[363] Santiago Chelala, 'A Note on Downward Inflexibility of Prices and the Origin of the Term «Oligopoly» in Thomas More's "Utopia"', *History of Economic Ideas*, 19.2 (2011), 97–108 (p. 97).
[364] Goyder and Albors-Llorens, p. 16.
[365] Geoff Riley, *AQA A2 Economics Module 5 & 6 Digital Textbook* (West Yorkshire: Tutor2u Limited, 2004), p. 71.
[366] Christopher Decker, *Economics and the Enforcement of European Competition Law* (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2009), pp. 13–14.
[367] Burke, Genn-Bash, and Haines, p. 4.
[368] Burke, Genn-Bash, and Haines, p. 4.
[369] See for example Stefan Voigt and André Schmidt, *Making European Merger Policy More Predictable* (Springer Science & Business Media, 2005), p. 102; D. D. Tewari, *Principles of Microeconomics* (New Delhi: New Age International, 2003), p. 196.
[370] Victor J. Tremblay and Carol Horton Tremblay, *New Perspectives on Industrial Organization: With Contributions from Behavioral Economics and Game Theory* (New York: Springer Science & Business Media, 2012), p. 178.

the world, including Tanzania, the telecommunication sector appears to be oligopolistic.[371]

2.7.2.4 Effective Competition in Telecommunications

The concept of 'effective competition' surfaces a lot in many competition laws and legal texts. Indeed, the promotion of effective competition has been defined as the main objective of competition law.[372] For example, the reading of the EU Merger Control Regulation reveals that its key objective is to promote effective competition in the EU internal market.[373] In Tanzania, S. 5(a) of the TCRA Act directs the TCRA to "promote effective competition."

Despite promoting effective competition being considered the main objective of competition policy, little effort has been dedicated to its definition.[374] From Whish and Bailey, however, we learn that effective competition is a state of the market where firms are subjected to "a reasonable degree of competitive constraints, from actual and potential competitors and customers, and that the role of a competition authority is to see that such constraints are present on the market."[375]

It follows that effective competition is not a specific competition model. It is not the means but rather the ends. [376] It is, Stephen Sosnick argues, "an image of a socially

---

[371] Katarina Valaskova and others, 'Oligopolistic Competition among Providers in the Telecommunication Industry: The Case of Slovakia', *Administrative Sciences*, 9.3 (2019), 49 (p. 10) <https://doi.org/10.3390/admsci9030049>; Paul J. J. Welfens, *Digital Integration, Growth and Rational Regulation* (Heidelberg: Springer Berlin Heidelberg, 2007), p. 137; Tommaso M. Valletti, 'Is Mobile Telephony a Natural Oligopoly?', *Review of Industrial Organization*, 22.1 (2003), 47–65 (p. 63) <https://doi.org/10.1023/A:1022191701357>; Other sectors with oligopolistic competition include airline industries, banking sector, petrol industry and pharmaceutical industry. See Sandra Marco Colino, *Competition Law of the EU and UK*, 8th edn (United Kingdom: Oxford University Press, 2019), p. 182; Ulrich van Suntum, *The Invisible Hand: Economic Thought Yesterday and Today* (Germany: Springer Berlin Heidelberg, 2005), p. 11.

[372] See for example S. 3 of *The Kenya Competition Act*, 2010, No. 12 of 2010; S. 3 of Tanzania's *Fair Competition Act*, Act No 8 of 2003; *The EC Merger Regulation*, *No 139/2004*, 2004; As for reference of effective competition in legal literature see Alla Pozdnakova, *Liner Shipping and EU Competition Law* (The Netherlands: Kluwer Law International B.V., 2008), p. 424; Nikos Th Nikolinakos, *EU Competition Law and Regulation in the Converging Telecommunications, Media and IT Sectors* (The Netherlands: Kluwer Law International B.V., 2006), p. 492; Lennart Ritter and W. David Braun, *European Competition Law: A Practitioner's Guide* (The Hague: Kluwer Law International B.V., 2005), p. 383.

[373] See the preamble to the *The EC Merger Regulation*.

[374] Some of the attempts to define effective competition are found in Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, 3rd ed (London: Sweet & Maxwell, 2010), pp. 16–21.

[375] Whish and Bailey, *Competition Law*, p. 18.

[376] Bishop and Walker, p. 20.

desirable state of affairs in an industry or market."[377] To achieve that state of effective competition, Sosnick identifies twenty-five flaws that should not exist in the market.[378] Given the identified flaws, effective competition means, among others, the absence of abusive and unfair practices, the absence of collusive practices, the presence of enough market information, and freedom of choice.[379] It is a market structure that delivers the best outcomes to the consumers.[380]

One may equate effective competition with workable competition, which John Clark developed over eighty years ago. Workable competition, Clarks argues, must avoid the extreme of perfect competition or monopoly. Somewhere between monopoly and perfect competition should the effective competition lie. Technically, this means

> "when, after the structural characteristics of its market and the dynamic forces that shaped them have been thoroughly examined, there is no clearly indicated change that can be effected through public policy measures that would result in greater social gains than social losses."[381]

Thus, effective competition, according to Clark, can be measured by examining its results. If, in the end, the market yields maximum benefit to consumers, then such market has effective competition. Thus, an industry may be oligopolistic, and yet, it yields effective competition.[382]

2.8 Regulation and Competition: Synergies and Discord

As a general rule, it is clear that regulation applies to sectors "whose structure is such that one would not expect competitive forces to operate without problems."[383] Telecommunication has been, and in some instances, continues to be, one of those sectors. Among others, regulation deals with market failures in these sectors, trying to

---

[377] Stephen H. Sosnick, 'Toward a Concrete Concept of Effective Competition', *American Journal of Agricultural Economics*, 50.4 (1968), 827–53 (p. 827) <https://doi.org/10.2307/1237622>.
[378] For details on the flaws see Sosnick, pp. 842–50.
[379] For details on the flaws see Sosnick, pp. 842–50.
[380] John M. Clark, 'Toward a Concept of Workable Competition', *The American Economic Review*, 30.2 (1940), 241–56 (pp. 243–44); Jesse W. Markham, 'An Alternative Approach to the Concept of Workable Competition', *The American Economic Review*, 40.3 (1950), 349–61 (p. 361).
[381] John M. Clark, pp. 243–44; Markham, p. 361.
[382] Lorenz, pp. 21–22.
[383] Massimo Motta, *Competition Policy: Theory and Practice* (Cambridge; New York: Cambridge University Press, 2004), p. xviii.

approximate markets as close to typical functioning competitive markets as possible.[384] Put differently, the ideal regulatory regime ought to mimic a competitive market.[385]

On the other hand, competition policy applies to sectors where structural conditions allow optimal competition.[386] For example, rail transport will have some monopolistic characteristics in many countries, hence, calls for regulation. On the contrary, many regional land transportations do not have the same characteristics, so they are open to competition. Similarly, upstream services in the telecom sector, such as wholesale internet services, may call for regulation if there is a monopoly or high concentration. However, in the downstream market in which providers offer connectivity to the last consumers, competition is already in place in many countries, and therefore, regulation is generally unjustified.

The preceding premise shows that it is possible to have both competition and regulation in one sector. The deciding factor on whether regulation or competition or both, are necessary depends on the sector's inherent competitive characteristic. There is no reason that regulation and competition rules cannot exist in a sector where segments are already competitive while others are under monopoly. Where competition is not fully achieved, some studies argue, sector regulation may be the best alternative.[387] The internet services market, as already pointed before, is a good example.

2.8.1 Similarities and Differences

From the preceding explanation, both competition and regulation appear to address almost similar market problems. In essence, they both "seek to identify conditions in

---

[384] Motta, p. xviii.

[385] Tony Prosser, *The Regulatory Enterprise: Government, Regulation, and Legitimacy* (Oxford ; New York: Oxford University Press, 2010), p. 3; Tony Prosser, 'Regulatory Agencies, Regulatory Legitimacy, and European Private Law', in *Making European Private Law: Governance Design*, ed. by Fabrizio Cafaggi and Horatia Muir Watt (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2010), pp. 235–53 (p. 243); Hillard Huntington, 'Market-Based US Electricity Prices: A Multi-Model Evaluation', in *Electricity Pricing in Transition*, ed. by Ahmad Faruqui and Kelly Eakin (New York: Springer Science & Business Media, 2012), pp. 297–314 (p. 318).

[386] Motta, p. xviii.

[387] Larouche, p. Chapter 4; OECD, *Regulatory Reform in the Netherlands* (Paris: OECD Publishing, 1999), p. 166; Kang Yanrong and others, 'General Telecommunications Regulatory Policy', in *Regulating Telecommunications in the EU and China: What Lessons to Be Learned?*, ed. by Bernd Holznagel, Junqi Xu, and Thomas Hart (Münster: LIT Verlag, 2009), pp. 7–84 (p. 83).

which effective downstream competition can function."[388] On the one hand, sector regulation impacts the competitive process by regulating incumbents and other service providers' relationships.[389] On the other hand, it "promotes competition as a process and urges competitors to innovate and perform efficiently to the ultimate benefit of consumers."[390] It would then appear that both sector regulation and competition have a similar objective. It is as if, one would rightly argue, that sector regulation creates a level playing field upon which competition will swiftly operate.

A closer examination of the two, however, reveals significant differences. Niamh Dunne put it in better terms by asserting that

> "the spheres of application for competition law and regulation are neither entirely co-extensive nor mutually exclusive. Certain forms of market failure can be addressed effectively only by competition law mechanisms; others can be remedied only through regulation; and some market failures are susceptible to both competition law and regulatory intervention, albeit the outcome might vary depending on the mechanism selected."[391]

What then are the differences between competition law and regulation?

1. There is a difference in the scope of their application. While competition law is of general application,[392] sector regulation focuses on specific sectors of the economy in which their economic characteristics do not allow the working of effective competition.[393]
2. The level of expertise required is different. As a general rule, competition law enforcement does not require persons with specific knowledge of specific industries. Regulation, however, requires persons with specific expertise in the sector.[394] Expertise is necessary because regulation determines the industry's

---

[388] Robert O'Donoghue and A. Jorge Padilla, *The Law and Economics of Article 102 TFEU*, Second Edition (Oxford, United Kingdom: Hart Publishing, 2013), p. 45.
[389] Stoyanova, p. 76.
[390] *Stoyanova, p. 76.*
[391] Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*, p. 41.
[392] Larouche, p. 401.
[393] See for example Michael J. Rouse, *Institutional Governance and Regulation of Water Services* (London: IWA Publishing, 2013), p. 181; Yanrong and others, p. 83.
[394] Lars Bergman and others, *Europe's Network Industries: Conflicting Priorities: Telecommunications* (London: Centre for Economic Policy Research, 1998), p. 43.

shape and fate beforehand (on the *ex-ante* basis). Thus, regulatory actions must be carried out based on scientific analysis of peculiar features in the industry. This analysis calls for expert intervention.[395]

3. Competition and regulation operate on different approaches. Except for mergers and acquisitions, competition law operates *ex-post* by correcting markets retrospectively.[396] As for regulation, it operates *ex-ante* by establishing structures to normalize markets.[397] *Ex-ante* regulations can predefine the sector's structure and operations.[398]
4. Some authors argue that there are low chances of capture in competition law.[399] This argument stems from the fact that there is no close relationship between enforcing authorities and business firms.[400] However, the chances of capture in regulation are higher because of close relationships between regulators and the regulated.[401] This kind of "symbiotic relationship" may affect the quality of regulatory decisions. Revolving doors concept thus apply in this sector, raising doubts on the efficacy of regulation.[402] Revolving door refers to the movement of high-level employees from the public sector to the private

---

[395] Jones and Sufrin, p. 53; Phil Weiser, 'The Relationship of Antitrust and Regulation in a Deregulatory Era', *U of Colorado Law Legal Studies Research Paper No. 06-19*, 50 (2005), 549–79 (p. 558); Larouche, pp. 401–2; Jean-Jacques Laffont and Jean Tirole, *Competition in Telecommunications* (MIT Press, 2001), p. 278.

[396] Sauter, p. 6; Mario Siragusa and Fausto Caronna, 'A Reassessment of the Relationship between Competition Law and Sector-Specific Regulation', in *Competition Law as Regulation*, ed. by Josef Drexl and Fabiana Di Porto (UK& US: Edward Elgar Publishing, 2015), pp. 153–73 (p. 153); Jones and Sufrin, p. 53; O'Donoghue and Padilla; Hellwig, pp. 211–12.

[397] Sauter, p. 6; Siragusa and Caronna, p. 153; Jones and Sufrin, p. 53; O'Donoghue and Padilla; Hellwig, pp. 211–12.

[398] O'Donoghue and Padilla, p. 45.

[399] See for example Hellwig, p. 216; OECD, *APEC-OECD Co-Operative Initiative on Regulatory Reform:Proceedings of the First APEC-OECD Workshop on Regulatory Reform Beijing, China, September 2001: Beijing, China, September 2001* (Paris: OECD Publishing, 2008), p. 99; Elisa Muzzini, *Consumer Participation in Infrastructure Regulation: Evidence from the East Asia and Pacific Region* (Washington, D.C: World Bank Publications, 2005), pp. 6–7; Tim Schwarz and David Satola, *Telecommunications Legislation in Transitional and Developing Economies* (Washington, D.C: World Bank Publications, 2000), p. 31.

[400] Alison Jones, Brenda Sufrin, and Niamh Dunne, *EU Competition Law: Text, Cases and Materials*, 7th edn (United Kingdom: Oxford University Press, 2019), p. 67.

[401] See for example Hellwig, p. 216; OECD, *APEC-OECD Co-Operative Initiative on Regulatory Reform Proceedings of the First APEC-OECD Workshop on Regulatory Reform Beijing, China, September 2001*, p. 99; Muzzini, pp. 6–7; Schwarz and Satola, *Telecommunications Legislation in Transitional and Developing Economies*, p. 31.

[402] Andrew Calabrese and Colleen Mihal, 'Liberal Fictions: The Public-Private Dichotomy in Media Policy', in *The Handbook of Political Economy of Communications*, ed. by Janet Wasko, Graham Murdock, and Helena Sousa, Global Handbooks in Media and Communication Research (Chichester, West Sussex; Malden, MA: Wiley-Blackwell, 2011), pp. 226–63 (pp. 238–39); Brian Merchant, 'A Revolving Door of Telecom Lobbyists Is Paving a Fast Lane Over the Open Web', *Vice*, 2014 <https://www.vice.com/en_us/article/kbzbqn/a-revolving-door-of-telecom-lobbyists-is-paving-a-fast-lane-over-the-open-web> [accessed 31 October 2019].

sector and vice versa. The impact of revolving doors is that it creates the possibility of lobbying and affects the quality of the public sectors' decisions. For example, the regulators' employees may favor the regulated sector on the expectation of future employment, whether guaranteed or not.[403]

5. There is a difference in the permanency of rules. Sector regulation ought to be transitional only to pave the way for competition.[404] Its role is to ensure "a smooth transition towards a regular functioning of competition in the market."[405] As for competition rules, there is consensus on their permanency nature where they must take precedence when markets are sufficiently competitive.[406]

2.8.2 Co-Existence of Sector Regulation and Competition Law

The co-existence of sector regulation and competition law is often approached with different perspectives and mixed reactions. For example, some argue that competition and regulation are "very close relatives."[407] As would be expected, the argument goes on, "the relationships between close relatives can be quite complicated."[408] At times, such a relationship is blurred with some complexities.[409] Elsewhere, competition is said to be a "close ally" of regulation.[410] Those sharing this perspective see no possible conflict between the two. Be what it may, the relationship between the two is not short of exciting debates. One point of concern is the possibility of divergence in

[403] Calabrese and Mihal, pp. 238–39.
[404] Joaquín Almunia, '"Competition v Regulation: Where Do the Roles of Sector Specific and Competition Regulators Begin and End?', in *Center on Regulation in Europe* (presented at the Center on Regulation in Europe, Brussels: CERRE, 2010), p. 3; Kroes, pp. 3–4; David Newbery, 'The Relationship between Regulation and Competition Policy for Network Utilities' (Faculty of Economics, 2006), p. 3 <https://www.repository.cam.ac.uk/handle/1810/137385> [accessed 12 September 2019].
[405] Motta, p. xviii.
[406] Alexiadis and Cave, p. 500; Prosser, 'Regulatory Agencies, Regulatory Legitimacy, and European Private Law', p. 243.
[407] Kroes, p. 2.
[408] *Kroes, p. 2.*
[409] Almunia, p. 9; Paul Cook, 'Utility Regulation and Competition in Developing Countries', in *International Handbook on Economic Regulation*, ed. by Michael Crew and David Parker (Cheltenham, UK ; Northampton, MA: Edward Elgar, 2006), pp. 106–16 (p. 114).
[410] Martin C. Stewart-Smith, *Industry Structure and Regulation* (Washington, D.C: World Bank Publications, 1999), p. 47.

objectives and how they address such objectives. Regulation may limit the application of competition law[411] or may make its application highly complicated.[412]

Even though close relatives' chances of clashes are relatively higher, this study argues that it must not always be the case. A clear definition of the relationship and the role of each "relative" is what matters. With precise terms and limits, it is possible to have both sector regulation and competition work in harmony to achieve the desired objective of enhancing functioning markets.[413] Such co-existence must respond to fundamental changes in the economy, such that the competitive structure of the relevant market justifies their co-existence.[414] Perhaps Neelie Kroes, the former European Commissioner for Competition Policy (2004-2010), summarizes best the relationship between the two concepts by holding that,

> "We have to get the front end and the back end of market supervision right. Key to that is understanding the limits and roles of regulation and competition law. Our experience is that regulation which respects competition principles is the most efficient type of regulation. When that regulation succeeds in enabling a competitive market, there is less to worry about both for the consumers and for the enforcers of competition rules. But even the most perfectly designed regulation will not eliminate the risk of abuses, so there will always be a role also for competition enforcement. Getting this balance right requires constant dialogue between regulators and competition enforcers."[415]

2.9 Concluding Remarks

This chapter has presented concepts necessary to apprehend this study in its entirety. Specifically, it has introduced the concepts of telecommunications, regulation, competition, and how they interact. However, what is clear is that the sector is

---

[411] Howard A. Shelanski, 'The Case for Rebalancing Antitrust and Regulation', *Michigan Law Review*, 109.5 (2011), 683–732; OECD, *United States - The Role of Competition Policy in Regulatory Reform* (Paris: OECD Publishing, 1998).
[412] Meltem Bagis Akkaya, 'Competition Law Enforcement in Regulated Markets: When Competition Enforcement Clashes with a Regulatory Agency's Enforcement' (Turin School of Local Regulation, 2014).
[413] See Chapter 5 of Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*; Timothy Brennan, 'Regulation and Competition as Complements', in *Obtaining the Best from Regulation and Competition*, ed. by Michael Crew and Menahem Spiegel, Topics in Regulatory Economics and Policy Series, 47 (New York, NY: Kluwer Academic Publishers, 2005), pp. 1–20.
[414] Alexiadis and Cave, pp. 506–7; Hellwig, p. 209.
[415] Kroes, p. 6.

continuously changing, and so are its policies and corresponding legal frameworks. Thus, governments have always been busy understanding these changes and bringing them under their policies and legal purview. On this footing, we first see the telecommunication sector as a natural monopoly, and later on, as a sector in which regulation and competition policies came to play a significant role. These developments, of course, result from the sector's economic features and rapid technological developments. Thus, in the preceding view, the telecommunication sector must be apprehended as an evolving phenomenon. Laws, policies, and regulatory practices must be conscious of this factor and respond accordingly. Only then, like the rest of this work demonstrates, would regulatory frameworks bring about desired results in the sector.

Chapter 3: Evolution of Tanzania's Telecommunications Sector

> *Tanzania is undergoing a digital transformation, reflected by the growing number of people connected to communications and internet services. This is having a profound impact on the country's social, cultural, and economic frameworks, through enhanced access to key services and improved productivity and efficiency across economic sectors.* [416]

3.1 Introduction

By the time Tanzania adopted its Telecommunication Policy in 1997, four years had passed since the start of the liberalization process (further explained in this chapter). However, the state of telecommunication service was disappointing. The telephone density stood at 0.32 per 100 inhabitants.[417] Such average was very well below Tanzania's neighbors, such as Kenya and Southern African Development Cooperation (SADC) countries, with an average of 0.92 and 3.4 per 100 inhabitants, respectively.[418] Compared to other regions of the world, Tanzania fared even worse. By then, the telephone density in Asia, Europe, and the world stood at 3.86, 35.36, and 10.49 per 100 inhabitants, respectively.[419] By any standard, the situation was unsatisfactory and unacceptable. Because of this reality, in their full wisdom, policymakers envisaged that by 2020, Tanzania would have about six connections for every 100 inhabitants.[420]

Surprisingly, Tanzania overtook its projection just a few years after the adoption of the policy. For example, at the dawn of the new millennium, 1 percent of Tanzanians already had access to telephone services.[421] The access increased to 10 percent, 50

[416] GSMA, *Digital Transformation in Tanzania: The Role of Mobile Technology and Impact on Development Goals* (London: GSMA, 2019), p. 3.
[417] *National Telecommunications Policy* (Dar es Salaam: Government Printers, 1997), p. 1.
[418] *National Telecommunications Policy*, p. 1.
[419] *National Telecommunications Policy*, p. 1.
[420] *National Telecommunications Policy*, p. 3.
[421] TCRA, *Telecommunications Statistics from 2000 to 2010* (Dar es Salaam: TCRA, 2010), p. 1.

percent, and over 80 percent in 2010, 2015, and 2020.[422] These numbers convey one fact; that the Tanzania communication sector is rapidly growing. How could all of this happen so fast, given the sector's worse background? The answer comes from Tanzania's shift of policy direction from command to a market economy. Through such change, several reforms took place to shape the sector in its present state.

This chapter discusses the Tanzania telecommunications sector and its evolution. Firstly, for a proper contextual understanding, the chapter starts by giving a brief historical background. The account is crucial because it reflects on the past developments and proceeds to show how their effects extend to the sector at present. Secondly, the chapter appreciates that it is impossible to understand the sector outside its economic context. Thus, it provides an overview of Tanzania's economic environment. It then proceeds to look at early developments in the sector. Thirdly, the chapter looks at reforms in the sector, including the introduction and development of sector regulation. It gives an overview of the telecom markets by analyzing notable market features, market structures, shares, and competition concerns. The objective is to give a holistic picture of the sector and its dimensions.

3.2 General Overview of Tanzania's Economy

Typically, accounts of Tanzania's economic background usually accommodate pre-colonial and colonial aspects.[423] In most cases, these accounts seek to depict developments reached before and after the influx of colonialism in the country, aiming to contrast the two socio-economic systems. However, this study does not deal with pre-colonial history because telecommunications, as understood in this research, did not exist by then. The focus starts with Tanzania's independence since the telecommunications sector started to gain prominence in some parts of the country during that time.

---

[422] Data retrieved from TCRA Statistics for the respective years.

[423] For a detailed account of pre-colonial and colonial economy in Tanzania see Andrew Coulson, *Tanzania: A Political Economy*, Second edition (Oxford: Oxford University Press, 2013), pp. 37–132; Göran Hydén, *Beyond Ujamaa in Tanzania: Underdevelopment and an Uncaptured Peasantry* (Berkeley and Los Angeles: University of California Press, 1980), pp. 38–69; John Iliffe, *A Modern History of Tanganyika*, 1st edn (Cambridge: Cambridge University Press, 1979), pp. 6–380 <https://doi.org/10.1017/CBO9780511584114>.

Since attaining its independence in 1961, Tanzania's economy has passed three significant phases. The first phase (1961-1967) promoted a free market economy. During that phase, Tanzania continued with economic systems inherited from the British. The second phase (from 1967 to the early 1980s) saw a large public sector and centrally planned economy (command economy). It was during that time that Tanzania introduced and glorified socialism. Nationalization took place, and the government was in charge of the economy. The private sector was dead, and competition abhorred. The third phase began in the late 1980s. It saw the undoing of the previous policy decisions. The phase, which continues to exist to date, marked the reintroduction of the market economy. This part explores these phases further.

3.2.1 Market Economy: From 1961-1967

Immediately after its independence in 1961, Tanzania followed a market economy system.[424] What happened was that it continued with economic systems inherited from British rule. Thus, it emphasized production based on market principles, industrial developments, and exports of goods and services (most of the goods were agricultural-based).[425] In other words, the country opted for the market economy.

However, the colonial legacy meant that significant means of production were in the hands of the few. Many of them were of foreign origin (the British, Indians, and Arabs).[426] This fact did not sit well with the political cadre, which was of African origin. There was a disappointment in the market economy's inability to address poverty amongst the Tanzanians.[427] To them, the market economy had failed the people of Tanzania. The government had to intervene.[428]

---

[424] For details see Esther Kokunywanisa Ishengoma, *Firm's Resources as Determinants of Manufacturing Efficiency in Tanzania: Managerial and Econometric Approach* (Münster: LIT Verlag, 2005), p. 8; Peter Wobst, *Structural Adjustment and Intersectoral Shifts in Tanzania: A Computable General Equilibrium Analysis* (Washington, D.C: Intl Food Policy Res Inst, 2001), p. 8; The World Bank, *Tanzania at the Turn of the Century*, p. 22.
[425] Wobst, pp. 8–9.
[426] Prosper Ngowi, 'Economic Development and Change in Tanzania Since Independence: The Political Leadership Factor', in *Political and Managerial Leadership for Change and Development in Africa* (presented at the 29th AAPAM Annual Roundtable Conference, Mbabane, Swaziland: African Association for Public Administration and Management, 2007), p. 23 (p. 262).
[427] Ngowi, p. 262.
[428] Ngowi, p. 262.

There was another factor; the growth of Africanization. Africanization was a philosophical approach that advocated for more Africans, i.e., black people instead of whites (Europeans), to hold more political and economic power.[429] It demonized whatever systems of life and governance that the colonizers left. The market economy was perceived as too 'western' to be accepted by patriotic African leaders. And then there was the growth of socialism in the world. By then, many African leaders sought and revered it as a perfect model to settle old colonial exploitation scores.[430] It has also been argued that being an African Socialist or espouse 'African Socialism' during that period was one of the most respectable things for any African leader.[431] Through socialism, African leaders believed, a new and fair society would thrive in which no doors of exploitation could ever exist. These reasons led Tanzania to take a dramatic policy decision that altered its economic history to date. It adopted socialism.[432]

3.2.2 Command Economy (Socialism): From 1967 to the 1980s

In 1967, Tanzania adopted the celebrated and glorified Arusha Declaration.[433] The Declaration intended, among others, to reaffirm the State's control of its people, resources, and development process. As a result, it brought about tremendous effects on the country's socio-economic policies: a complete shift from the market economy to a socialist economy. According to this Declaration, peasants and workers (and not capitalist exploiters) should own all means of production through their government and cooperative societies.[434] As a result, the Arusha Declaration gave birth to socialism. In reality, however, socialism did not place the economy under the people. It was under the state command.

The shift to command economy was very fast, blowing away the private sector. Specifically, the following changes took place. Firstly, the government nationalized

---

[429] This was the policy many independent African states adopted to abandon all colonial ways of life and legacy including: names, their presence in public service, and their systems of governance.
[430] See Jeannette Hartmann, 'Development Policy-Making in Tanzania 1962-1982: A Critique of Sociological Interpretations' (unpublished Thesis submitted for the Degree of Doctor of Philosophy, University of Hull, 1983), p. 1.
[431] See Hartmann, p. 1.
[432] Ngowi, p. 262.
[433] Julius Kambarage Nyerere, *The Arusha Declaration Ten Years After* (Dar es Salaam: Government Printer, 1977), pp. 1–2.
[434] Part Two (b) of the Arusha Declaration.

private entities in existence at that time at an unprecedented speed. The Declaration was passed on 5th February 1967. In the same week which President Nyerere called 'exciting week,' the government nationalized all private banks, insurance companies, certain trading corporations, and export and import trade.

Furthermore, every week after that, the government took a series of similar actions.[435] The nationalization was made possible by several Acts of Parliament.[436] Secondly, the government statutorily acquired shares in industries, whenever necessary, forcibly.[437] The government acquired shares in private industries that it had not invested in before. Thirdly, the government regulated prices under the Regulation of Prices Act.[438] With the Regulation of Prices Act, prices were no longer determined by the market powers but by the government discretion.

The effect of such changes meant that Tanzania officially became a socialist state. Almost all economic activities were under the monopoly of the state. Such a new form of the economic model would exist until the middle of the1980s.

3.2.3 Re-introduction of the Market Economy: From the 1980s

Socialism enjoyed brief years of survival. It yielded little contrary to what was anticipated, even to the dismay of its principal architect, Mwalimu Julius Nyerere, the first president of Tanzania.[439] Its negative impact on the economy was ubiquitous. Ironically, policies that the political elite hailed to solve Tanzania's economic problems left Tanzania more destitute than before. For example, in 1975, there were 24 countries poorer than Tanzania.[440] That number dropped only to one

---

[435] A. K. Essack, 'The Arusha Declaration', *Economic and Political Weekly*, 6.8 (1971), 488–488 (p. 488); Clarence Dias, 'Tanzanian Nationalizations: 1967-1970', *Cornell International Law Journal*, 4.1 (1970), 59–80 (p. 59); Nyerere, pp. 1–2.

[436] See for example *The National Bank of Commerce Act*, 1967, No. 1 of 1967; *The State Trading Cooperation (Establishment and Vesting of Interests Act*, 1967, No. 2 of 1967; *National Agricultural Production Board Act*, 1967, No. 3 of 1967; *Insurance (Vesting of Interests and Regulation) Act*, 1967, No. 4 of 1967; *Industrial Shares (Acquisition) Act*, No. 5 of 1967.

[437] See *Industrial Shares (Acquisition) Act*, No. 5 of 1967.

[438] Joseph Semboja and S. M. H. Rugumisa, 'Price Control in the Management of an Economic Crisis: The National Price Commission in Tanzania', *African Studies Review*, 31.1 (1988), 47–65 (p. 48) <https://doi.org/10.2307/524583>.

[439] See Emma Hunter, *Political Thought and the Public Sphere in Tanzania.* (New York: Cambridge University Press, 2015), pp. 210 & 11; Nyerere, pp. 1 & 2.

[440] Only Mozambique was poor than Tanzania in 1990. See Edwards, p. 24.

(Mozambique) at the end of the 1980s.[441] As of 1980-85, there was almost a complete collapse of the economy.[442] The economic growth rate was disappointing. As of 1986, for example, there was already negative growth.[443]

At that point, it became clear that the socialist policies were not yielding the expected results.[444] They had failed. They could not address many problems, including the unequal distribution of wealth. Thus, Tanzania had no option but to reform its policies, reverting to market economy policies. Reforms taken were extensive and cross-cutting. For example, the Foreign Exchange Act of 1992 introduced and regulated foreign currency business. The National Investment (Promotion and Protection) Act 1990 set a framework for foreign and local investors. And the Public Corporations Act 1992 dissolved public corporations that had enjoyed a monopoly since 1967.

Tanzania's economic reforms also resulted from the International Monetary Fund (IMF) and the World Bank (WB) pressure as they were ready to support Tanzania, but not under the socialist settings.[445] Thus, the reforms were intended to rescue the already dying economy.[446] Tanzania had to allow private investment, and, for the first time, it also introduced a legal framework to promote and enforce competition.[447] Since then, Tanzania has been carrying out several reform programs to revive its economy. For example, some of those reforms include the following:

1. Firstly, the government adopted several policies to open up the Tanzanian economy. They include the National Investment Policy of 1996 to attract foreign investors,[448] the Sustainable Industries Development Policies (SIDP) of

---

[441] Only Mozambique was poor than Tanzania in 1990. See Edwards, p. 24.
[442] Because of the economic crisis, in 1991 Tanzania was the second most impoverished country in the world. See Edwards, pp. 1 & 241.
[443] David Potts, p. 7.
[444] Damian Mulokozi Gabagambi, 'Tanzania's Growth Experience Following Economic Reforms: Comparative Perspectives with Vietnam', *International Journal of Humanities and Social Science*, 3.9 (2013), 97–106 (p. 97).
[445] Luhanga and Mapunda, p. 105.
[446] Werner Biermann and Jumanne Wagao, 'The Quest for Adjustment: Tanzania and the IMF, 1980-1986', *African Studies Review*, 29.4 (1986), 89–103 (pp. 94–97) <https://doi.org/10.2307/524008>; David Potts, p. 7.
[447] This was done through the *Fair Trade Practices Act*.
[448] See The President's Office Planning Commission, *The National Investment Promotion Policy* (Dar es Salaam: Government Printers, 1996).

1996 to replace central planning with the market economy,[449] and the Integrated Industrial Development Strategy (IIDS 2025) of 2011, which, among others, emphasizes on competition to attract investment and promote economic growth.[450] Furthermore, the government adopted the National Trade Policy of 2003, which projects economic growth centered on a liberalized economic environment.[451]

2. Secondly, in line with the adopted policies, the government passed several laws to break monopolies. They include the Foreign Exchange Act of 1992,[452] the National Investment (Promotion and Protection) Act of 1990,[453] and the Public Corporations Act of 1992.[454]
3. Thirdly, the government took practical steps to abolish monopolies either by breaking them or privatizing them. The government had several programs, such as the National Economic Recovery Program (NESP), the Structural Adjustment Program (SAP), and the Economic Recovery Program (ERP).[455] Specifically, the government established the Presidential Parastatal Sector Reform Commission to facilitate the privatization of public corporations.[456]
4. Fourthly, the government established a framework to promote and protect competition. It first established the Fair Trade Practices Act of 1994. Later on, in 2003, the government enacted the Fair Competition Act and established the Fair Competition Commission. The establishment of competition frameworks marked the apex of liberalization reforms in the country.

---

[449] For details see The United Republic of Tanzania, Ministry of Industries and Trade, *The Sustainable Industries Development Policies* (Dar-es-Salaam: Government Printers, 1996).
[450] For details see The United Republic of Tanzania, Ministry of Industries and Trade, *Integrated Industrial Development Strategy 2025* (Dar es Salaam: Government Printers, 2011).
[451] For details see *National Trade Policy for a Competitive Economy and Export-Led Growth* (Dar es Salaam: Government Printers, 2003).
[452] *Foreign Exchange Act*, 1992, ACT NO 1 OF 1992.
[453] *National Investment (Promotion and Protection) Act*, 1990, ACT NO 10 OF 1990.
[454] *Public Corporations Act*, 1992, ACT NO 2 OF 1992.
[455] Robert Utz and Allister Moon, 'Coordination of Economic Policy Formulation and Implementation', in *Sustaining and Sharing Economic Growth in Tanzania*, ed. by Robert J. Utz (Washington, DC: World Bank, 2008), pp. 303–12 (pp. 303–4); Kjell J. Havnevik, *Tanzania: The Limits to Development from Above* (Uppsala, Sweden and Dar es Salaam, Tanzania: Nordiska Afrikainstitutet, in cooperation with Mkuki na Nyota Publishers, 1993), pp. 287–300; Jannik Boesen and others, 'Introduction', in *Tanzania: Crisis and Struggle for Survival*, ed. by Jannik Boesen and others (Uppsala: Stockholm, Sweden: Scandinavian Institute of African Studies, 1986), pp. 19–30 (p. 25).
[456] See Andrew E. Temu and Jean M. Due, pp. 684–97; Jean M. Due, 'Liberalization and Privatization in Tanzania and Zambia', *World Development*, 21.12 (1993), 1981–88 (pp. 1983–84) <https://doi.org/10.1016/0305-750X(93)90070-P>.

3.2.4 Current Economic Policies

Tanzania's economic policies have been changing and developing over time. Thus, it is not surprising to point out that its economic reforms are a continuous process. Even though Article 3(1) of the Tanzania Constitution maintains Tanzania to be a socialist state, the reforms point towards a market economy. Several policy developments confirm this assertion. For example, in its National Development Vision 2025, Tanzania sees itself as a competitive and dynamic economy that yields sustainable growth and development.[457] To this end, the National Trade Policy seeks to facilitate a "shift from a protected and controlled economy towards a competitive market economy." It has committed to promoting private investment. It has further recognized the private sector's role as a critical component of economic growth and development.[458] It also commits to creating supporting institutions and capacity development for the market economy in the same spirit.[459]

The summation of the preceding observations is that Tanzania now supports the market economy, where enterprises are free to operate as market forces demand. However, there remain some reservations within political powers in which some elements of the command economy persist. For example, it is not rare for political powers to dictate market operations by controlling the production, import, or export of some goods and services. Furthermore, elements of control are present through increased regulation of goods and services, even where there is full competition, such as in transportation, insurance, agricultural products, and services. In other words, it is safe to say that even though, in principle, Tanzania follows the market economy principles, it still has retained some command in the economy in the form of political decisions and regulatory powers. Such command has a direct effect on the economy and the telecom sector, too.

---

[457] See Paragraph 1.2 of the Planning Commission, *The Tanzania Development Vision 2025* (Dar es Salaam: The Planning Commission, 2000).
[458] *National Trade Policy for a Competitive Economy and Export-Led Growth*, pp. 54 & 66.
[459] *National Trade Policy for a Competitive Economy and Export-Led Growth*, p. 77.

3.3 Early Developments of the Telecommunications Sector in Tanzania

The history of Tanzania's telecom sector goes back to before its independence in 1961. A look at its early developments takes us to the era of supra-national monopoly during colonial administration. One must recall that after the first world war, Tanzania (then known as Tanganyika) fell under the British mandate. The British offered communications to Tanzania, Kenya, and Uganda. These countries formed a single British East African territory. Telecom services were first under the East African High Commission (EAHC) and then under the East African Common Services Organization (EACSO).

The EAHC and EACSO were precursors to the East African Community (EAC), which the three countries established in 1967. Following the EAC establishment, telecom services continued to be provided jointly until 1977, when the EAC collapsed. It was from then that each country established its telecom system. This part looks at the development of Tanzania's telecom sector with the preceding background into consideration.

3.3.1 East African High Commission and the East African Common Services Organization

As already noted, Tanzania fell under British rule after the First World War (WWI), joining Kenya and Uganda, which were already under the British since the Berlin Conference of 1884/5.[460] The British had already introduced joint administration of services such as postal, harbors, and railways in Uganda and Kenya.[461] Therefore, Tanzania became a party to the already established joint services. In the same spirit of joint services in its colonies, the British unified communications and transportation

[460] M. Craven, 'Between Law and History: The Berlin Conference of 1884-1885 and the Logic of Free Trade', *London Review of International Law*, 3.1 (2015), 31–59 (pp. 31–42) <https://doi.org/10.1093/lril/lrv002>; Barbara Harlow, 'The Scramble for Africa', in *Archives of Empire: Volume 2. The Scramble for Africa*, ed. by Barbara Harlow and Mia Carter (United Kingdom: Duke University Press, 2003), pp. 1–9 (pp. 1–7).

[461] Dennis L. Dresang and Ira Sharkansky, 'Public Corporations in Single-Country and Regional Settings: Kenya and the East African Community', *International Organization*, 27.3 (1973), 303–28 (p. 307).

facilities in all three territories under the East African Common Services Organization (EACSO).[462] The EACSO had a monopoly over those services.[463]

In 1948, the British established the East African High Commission (EAHC) as a regional organization to administer the joint services, including communications, in the three territories.[464] The EAHC became the first intergovernmental body with a monopoly over telecom services, among others. For example, at the end of 1950, the EAHC saw more than 5760 telephones installed in East Africa.[465] The EAHC lasted until 1961 when the East African Common Services Organization (EACSO) replaced it.[466]

The EACSO was a new post-independent regional body that continued to administer the services, which the EAHC had administered under British rule.[467] It was a peculiar body, some sort of federalism without federation. It had a specialized legislative body to legislate on matters jointly administered in the three states. This legislative body was fashioned in the lines of the European Community.[468] Thus, even after the three territories' independence, communication services were still under the monopoly administration of the EACSO.[469]

3.3.2 East Africa Postal and Telecommunications Corporation

The cooperation, which Tanzania, Kenya, and Uganda had since their pre-colonial times, continued even after their independence. The peak came when they signed a treaty to establish the East African Cooperation on the 6th day of June 1967 (the 1967 EAC).[470] The 1967 EAC, which replaced the EACSO, aimed to deepen cooperation in

---

[462] Dresang and Sharkansky, p. 307.
[463] Dresang and Sharkansky, p. 307.
[464] EAC, 'EAC History' <https://www.eac.int/eac-history> [accessed 2 October 2019].
[465] Allan Smith, 'History of the East African Posts and Telecommunications Administration 1837 to 1967' (unpublished Doctor of Philosophy, University of Nairobi, 1971), p. 484 <http://erepository.uonbi.ac.ke/handle/11295/26809> [accessed 3 February 2020].
[466] E. N. Gladden, 'The East African Common Services Organization', *Parliamentary Affairs*, XVI.4 (1963), 428–39 (pp. 428–30) <https://doi.org/10.1093/oxfordjournals.pa.a054027>.
[467] EAC.
[468] Gladden, p. 428.
[469] Arthur Hazlewood, 'The Territorial Incidence of the East African Common Services1', *Bulletin of the Oxford University Institute of Economics & Statistics*, 27.3 (1965), 161–76 (p. 161) <https://doi.org/10.1111/j.1468-0084.1965.mp27003001.x>.
[470] For historical developments towards the establishment of the EAC see Paulo Sebalu, 'The East African Community' (1972) 16 Journal of African Law 345, 345–349.

the region's economic activities. For instance, Article 71(2) of the EAC Treaty established four corporations. One of them was the East Africa Postal and Telecommunications Corporation (EAPTC), others being the East African Railways Corporation, the East African Harbours Corporation, and the East African Airways Corporation.

The EAPTC had jurisdiction in all three countries. It also covered Zanzibar, whose post and telecom company, the Zanzibar Post and Telecommunication Services, merged with EAPTC.[471] The EAPTC offered, coordinated, and regulated post and telecommunications services in the region. Individual member states of the EAC had no national telecommunications companies as all three countries were under the monopoly of the East Africa Postal and Telecommunications Corporation.

3.3.3 Tanzania Postal and Telecommunication Corporation: The National Monopoly

The 1967 East Africa Cooperation, once hailed as the oldest and most prosperous regional economic community in the world, collapsed in 1977.[472] Eventually, all of its corporations were dissolved, including the East Africa Postal and Telecommunications Corporation. Each country, in that painful process, had to start up with whatever remained in its control. For telecommunications, it meant each country would have to establish its own telecom company. Tanzania had to follow suit as well. Through an Act of Parliament, it established the Tanzania Postal and Telecommunication Corporation (TPTC) of 1977.[473]

It is worth a mention that in 1977, ten years had already passed since Tanzania adopted socialism. Therefore, the TPTC automatically held a monopoly over the provision of postal and telephone services. Under Section 59(1) of the Tanzania Postal and Telecommunications Corporation Act, it had "the exclusive privilege of

---

[471] By Act No 18 of 1968.

[472] The Editor, 'Why the First EA Community Collapsed', *Daily Monitor*, 2012 <https://www.monitor.co.ug/OpEd/Letters/Why-the-first-EA-Community-collapsed-/806314-1653726-arwsdy/index.html> [accessed 20 November 2019]; For the reasons of its collapse see John-Mary Kauzya, 'Comparative Perspectives of the Challenges and Prospects of the Civil Services Reforms in Kenya, Tanzania and Uganda', in *International Handbook on Civil Service Systems*, ed. by Andrew Massey (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2011), pp. 178–224 (p. 178).

[473] See *Tanzania Postal and Telecommunication Corporation*, ACT NO 15 OF 1977.

providing telephone services and or constructing maintaining and operating telephone apparatus within the United Republic." No private entity had the right to offer telephone services. Similarly, it was not possible to construct, operate, or maintain a communication apparatus without the approval of the Director-General of the corporation. In other words, the absolute monopoly of communication services was under the corporation.

Therefore, Tanzania's telecom sector's early days saw service provision in a highly monopolized structure. This structure was unique as it was under the supranational arrangement where supranational organizations monopolized telecom services for a long time. The national telecom monopoly, the TPTC, enjoyed brief years of absolute monopoly from 1977 to 1993. From 1993, the newly formed national telecom, the Tanzania Telecommunications Company Limited (TTCL), had a monopoly over fixed-line services until 2005.

3.4 Telecommunications Reforms

We have seen in the previous sections that Tanzania had to reform its economy from the 1980s. The reforms appreciated that the market economy was the best policy option for national development. The reforms were crosscutting, affecting different sectors and extending to the telecom sector, which was dreadful. Major reforms centered on breaking the telecom monopoly, separation of regulatory and operational function, liberalization of mobile telephony and fixed telephony.

3.4.1 Breaking of the National Monopoly

The first step in the reform process involved breaking the national monopoly, the Tanzania Postal and Telecommunication Corporation. Two companies came out of it. Regarding telecommunications, the government established a new company known as Tanzania Telecommunication Company Limited (TTCL).[474] The new company did

[474] This company was established by the *Tanzania Telecommunication Incorporation Company Act*, ACT NO. 20 OF 1993.

not have a monopoly over mobile services. However, it continued to have a monopoly over fixed network telephony until 2005, when the sector became fully liberalized.[475]

As for postal services, the government established the Tanzania Posts Corporation (TPC) in 1994.[476] The same spirit of reforms created a competitive environment in the postal sector by allowing other interested service providers.[477] Immediately after allowing competition in the sector, several new couriers received their licenses to operate in the country. They include, for example, Skynet, TNT Express Worldwide, DHL Worldwide Express, Atlas Freight Services, Tanzania Post Corporation (EMS), Ndondondo Mwendambio, and Sangare Enterprises.[478]

3.4.2 Separation of Operational and Regulatory Functions

It is important to recall that the Tanzania Posts and Telecommunication Corporation was both a regulator and service provider. By several Acts of Parliament in 1993, the government separated postal, broadcasting, and telecommunications services and established a separate regulatory framework.[479] For example, it established the Tanzania Communication Commission (TCC) to regulate telecommunications and postal services.[480] Regarding broadcasting services, it established the Tanzania Broadcasting Commission (TBC).[481] In line with the broader reform agenda, the regulators, among others, had to open up markets to competition by encouraging private investment, licensing new operators, and promoting and enforcing competition.

3.4.3 The liberalization of Telecom Services

The breaking of the national monopoly was just one step in the reform process. The next one involved the liberalization of telecom services by allowing private firms in the sector. The process took two steps. The government immediately allowed private

---

[475] Hudson, p. 213; van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 67.
[476] Mawenya, p. 119.
[477] See Mawenya, p. 119.
[478] See Mawenya, p. 119.
[479] See details in *The Tanzania Communications Act*, 1993, ACT NO. 18 OF 1993; *Tanzania Broadcasting Services Act*, ACT NO 6 OF 1993; *Tanzania Telecommunication Incorporation Company Act*, ACT NO. 20 OF 1993.
[480] See S. 3 of *Tanzania Communications Act*, ACT NO 18 OF 1993.
[481] S. 5 of *Tanzania Broadcasting Services Act*, ACT NO 6 OF 1993.

investment in the mobile sector.[482] As for fixed telecom services, the government took a different turn. TTCL had to continue with the fixed-line monopoly until the year 2005. [483] The rationale was simple. Since the mobile services market was not active, the government had no direct interests to protect. Everyone was free to enter the market immediately. The situation was different for fixed services as TTCL was the sole services provider. The government sought it better to protect it against possible fierce competition until it was well prepared to compete with private firms.

3.4.3.1 Licensing Mobile Services

The telecommunication reform process went in tandem with the liberalization of telephony services, starting with mobile services. Licensing regulation was a vital tool to facilitate the process under Sections 9-20 of the Tanzania Communications Act. The TCC, which was the regulator then, divided Tanzania into zones and issued licenses accordingly.[484] The plan was to offer two licenses for each zone.[485] In other words, the regulator opted for duopoly at the local level. The first mobile operators, MIC Tanzania Limited (Mobitel), now trading as Tigo, got its license in November 1993 (reviewed and renewed by TCC in 1996).[486] TRI Telecommunications Tanzania Limited (Tritel) entered the market shortly after Mobitel in 1994.[487] In 1995, Zantel got its license to provide telecommunications services to Zanzibar.[488] Tritel went into bankruptcy and lost its license in 2003.[489]

Because of the duopolistic regulatory approach, all newly licensed mobile operators concentrated on the coastal zone, Dar es Salaam and Zanzibar, for practical business reasons. As a result, market penetration was unsatisfactory. There were only 37,940

---

[482] Hudson, p. 213; van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 67.
[483] Hudson, p. 213; van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 67.
[484] Annemijn van Gorp and Carleen Maitland, 'Regulatory Innovations in Tanzania: The Role of Administrative Capabilities and Regulatory Governance', *Info*, 11.1 (2009), 64–77 (p. 67) <https://doi.org/10.1108/14636690910933000>.
[485] van Gorp and Maitland, 'Regulatory Innovations in Tanzania: The Role of Administrative Capabilities and Regulatory Governance', p. 67.
[486] van Gorp and Maitland, 'Regulatory Innovations in Tanzania: The Role of Administrative Capabilities and Regulatory Governance', p. 67.
[487] Mawenya, p. 118.
[488] Mawenya, p. 118.
[489] Leonard Mwakalebela, 'Tanzania: Tritel to Surrender Its Licence Next Week', *Business Times* (Dar es Salaam, 31 January 2003) <https://allafrica.com/stories/200301310560.html> [accessed 7 October 2019].

cellular subscribers in 1998.[490] Such a rate prompted the regulator to review its licensing framework. Consequently, it abandoned zonal licensing in place of national licensing.[491] Two more operators entered the Tanzanian market; Vodacom Tanzania Limited (2000) and Celtel Tanzania Limited, now Airtel Tanzania Limited (2001).[492] The two companies' entrance, plus the TCC's restructuring of the licensing framework, saw an increase in mobile telephone subscriptions. In 2004, for example, there were 1,600,000 subscribers, up from 37,940 in 1998.[493]

3.4.3.2 Licensing Fixed Telephony Services

We noted already that when the liberalization of mobile telephony services started early in 1993, TTCL continued with an absolute monopoly over fixed-line services. The monopoly prevented other interested firms from rolling out fixed-line networks, a factor accounting for a very little penetration of such services to date. In 2001, however, the government of Tanzania decided to privatize the TTCL.[494] Celtel International (MSI) from the Netherlands and Detecon from Germany obtained 35 percent of the government's shares.[495] The government retained 36 percent while giving up the remaining 29 percent to financial institutions and its employees.[496]

Even after the privatization process, the government continued to grant the TTCL monopoly over the fixed-line network.[497] Only after 2005 were other companies allowed in this market. During this exclusivity period, TTCL was to connect 800,000 more subscribers and establish two public payphones for every 3000 inhabitants.[498] However, the task was too huge for TTCL to execute. At the end of the exclusivity period, TTCL had added only 80,000 subscribers and 2200 public payphones over ten

---

[490] Simon Moshiro, 'Licensing in the Era of Liberalization and Convergence: The Case Study of The Republic of Tanzania' (ITU, 2005), p. 9 <https://www.itu.int/ITU-D/treg/Case_Studies/Licensing/TANZANIA_CS.pdf> [accessed 20 February 2020].
[491] Moshiro, p. 9.
[492] Moshiro, p. 9.
[493] Moshiro, p. 10.
[494] Joyce L. Ndalichako, Eustela P. Bhalalusesa, and Hashim M. Twaakyondo, 'Factors Shaping Successful Public Private Partnership in The ICT Sector in Developing Countries: The Case of Tanzania', 2002, p. 6.
[495] van Gorp and Maitland, 'Regulatory Innovations in Tanzania: The Role of Administrative Capabilities and Regulatory Governance', p. 67; Moshiro, pp. 8–9.
[496] van Gorp and Maitland, 'Regulatory Innovations in Tanzania: The Role of Administrative Capabilities and Regulatory Governance', p. 67; Moshiro, pp. 8–9.
[497] Hudson, p. 213; van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 67.
[498] Moshiro, pp. 8–9.

years.[499] Establishing a fixed-line network, it would appear, was a more challenging task than TTCL had envisaged. Perhaps this explains why, even after the expiry of TTCL exclusive operation, no other firm has attempted to dip its toes in this market.

3.4.4 Introduction of Competition Policy in the Telecom Sector

Together with the presented developments, Tanzania introduced a competition policy in the sector. The first developments came with pronouncements in its liberalization policies. The government adopted the telecommunications, investment, trade, and ICT policies, all of which sought to promote competition. It then translated these policies into law and proceeded to establish institutions to foresee the enforcement process. All these developments paved the way for competition in the sector.

3.4.4.1 Policy Developments

Usually, the Tanzanian government works through policy pronouncements. They are government declarations on its direction in specific sectors of the economy or governance. Among others, policy documents usually carry a situational analysis, an examination of observed weaknesses, and statements on the government's commitments, that is, what it plans to do. Regarding the telecom sector, the leading policy is the National Telecommunication Policy of 1997. Its main objective is to ensure telecom services provision "in a liberalized and competitive manner."[500]

To achieve the stated objective, paragraph 3.3.1 of the Policy directs the government "to encourage fair competition and create an enabling environment to attract investors and private sector participation."[501] To do so requires, among others, efforts to ensure a friendly environment for effective competition. Thus, the Policy indicates the government's commitment to establishing supportive and enabling macroeconomic, legal, and regulatory environments in which telecom firms can operate freely and competitively.[502] To this end, the government is committed to

[499] Moshiro, pp. 8–9.
[500] *National Telecommunications Policy*, p. 2.
[501] *National Telecommunications Policy*, p. 5.
[502] *National Telecommunications Policy*, pp. 3–4.

encouraging fair competition and ensuring that it fosters competition in its regulatory functions.[503]

The introduction of the competition policy meant that the government must create a welcoming atmosphere to attract investment and promote trade.[504] Two policy documents serve this objective: The National Investment Promotion Policy and the National Trade Policy. On the one hand, the National Investment Promotion Policy of 1996 reiterates the government's withdrawal from doing business, and instead, its role is limited to providing guidance, promotion, and facilitation of services providers.[505] Specifically, under paragraph 4.1.1., the policy states that:

> "With the on-going economic reforms, the role of the Government in investment has been narrowed down to the provision of clear policy guidelines, the stimulation and promotion of investment sectors, and overseeing the general development, rather than directly engaging itself into productive activities within the investment sector. Therefore, the Government's role is limited to guiding, promoting, and facilitation, and being a service provider for investment."[506]

The quoted commitment meant that now the government would focus only on establishing a supportive regulatory framework.[507] The literal interpretation of the quoted policy statement suggests that it will not engage directly in production and trading activities. This policy statement is the basis of the government's all-time rhetoric when tasked with challenging questions on the availability of goods or services; 'the government does not do business.'

On the other hand, the National Trade Policy of 2003, among others, seeks to maintain a conducive and enabling environment in which trade thrives.[508] Under this policy, the government's vision is to ensure freedom of trade through economic regulation and competition policy, freedom of choice, access to the market, and

---

[503] *National Telecommunications Policy*, pp. 6–7.
[504] *National Investment Promotion Policy* (Dar es Salaam: Government Printers, 1996), pp. 34 & 46.
[505] *National Investment Promotion Policy*, pp. 25–26.
[506] The President's Office Planning Commission, pp. 25–26.
[507] *National Investment Promotion Policy*, p. 26.
[508] *National Trade Policy: Trade Policy for a Competitive Economy and Export-Led Growth* (Dar es Salaam: Government Printers, 2003), p. 19.

improved innovation, all of which contribute to consumer protection.[509] Of interest, the government repeats its commitment to withdraw from trading activities to provide competitive space for private firms. Paragraph 4.1 of the Policy reads,

> "The fundamental role of government is in providing the enabling policy environment that will facilitate the private sector in becoming the engine of economic activity and growth through efficiency and better performance. **The Tanzanian Government is already implementing a policy entailing its withdrawal from direct involvement in economic activity to facilitate channeling its resources in the conventional area of establishing and maintaining a conducive and enabling policy environment**."[510]

The Government's decision to get out of active business aimed to create a conducive environment for private actors.[511] One must remember that before this decision, the government participated both in making business policies and doing business. This position would not be ideal with the market economy because the government would have to compete with other private entities, which it also regulates through various laws, regulations, and administrative directions. Simply put, there would not be a level playing field.

Other policies also stress the role of competition in the sector. One of them is the ICT Policy of 2003, which was reviewed in 2016. The policy recognizes that ICT is the "bedrock for national economic development in a rapidly changing global environment."[512] Thus, it seeks to build Tanzania with "economically, socially and culturally enriched people in ICT-enabled knowledge society."[513]

The role of ICT policy in competition comes to the effective utilization of communications resources. For example, paragraph 3.3.1.1 seeks to ensure effective and competitive allocation of such resources to facilitate entry to attract new

---

[509] *National Trade Policy: Trade Policy for a Competitive Economy and Export-Led Growth*, pp. 22–23.
[510] *National Trade Policy for a Competitive Economy and Export-Led Growth*, p. 19.
[511] For reasons why governments should, as a general rule, not get involved in doing business directly, see John Steele Gordon, 'Why Government Can't Run a Business', *Wall Street Journal*, 21 May 2009, section Opinion, p. 1 <https://www.wsj.com/articles/SB124277530070436823> [accessed 22 June 2020].
[512] *National Information and Communications Technology Policy* (Dar es Salaam: Government Printers, 2016), p. vi.
[513] *National Information and Communications Technology Policy*, p. 13.

investment.[514] Thus, such resources should be allocated on a "fair, transparent, and non-discriminatory basis."[515] To do so, a legal and regulatory framework, which promotes effective competition, becomes necessary.[516] Further, the Policy calls for rules to ensure neutrality in service provision and technology.[517] Similarly, it calls for frameworks to guarantee the standardization of rules, technology, and equipment to ensure interoperability for effective competition.[518] All of these envisaged objectives are only possible, the Policy further holds, if there is a regulator who promotes effective competition in the sector. [519]

3.4.4.2 Legislative Developments

To translate policy directions into enforceable legal norms, the government enacted several laws to promote and enforce competition. The first attempt came in 1993 with the introduction of the Tanzania Communications Act. However, as we shall see later in this section, this law had blanket provisions on competition enforcement. There were no rules to define anti-competitive practices and corresponding remedies. Thus, as a result, no active competition enforcement took place under it.

A meaningful attempt to introduce competition law in the sector was the enacting of the Tanzania Communication Regulatory Authority Act of 2003. This law under Section 4 established a regulator: the TCRA, with an overall mandate to regulate and promote competition in the sector. Specifically, Section 5(a) and Section 19 of the Act put competition policy at the top of the sector regulatory activities. For instance, Section 19(1) & (2) reads,

> "19. - (1) In carrying out its functions and exercising its powers under this Act, and under sector legislation in relation to particular markets for regulated services, the Authority shall take into account; (a) whether the conditions for effective competition exist in on the market; (b) whether any exercise by the Authority is likely to cause any lessening of competition or additional costs in the market and is

[514] *National Information and Communications Technology Policy*, p. 20.
[515] *National Information and Communications Technology Policy*, p. 22.
[516] *National Information and Communications Technology Policy*, p. 25.
[517] *National Information and Communications Technology Policy*, pp. 25–27.
[518] *National Information and Communications Technology Policy*, pp. 25–27.
[519] *National Information and Communications Technology Policy*, p. 35.

likely to be detrimental to the public; (c) whether any such detriments to the public are likely to outweigh any benefits to the public resulting from the exercise of the powers."

"(2) The Authority shall deal with all competition issues which may arise in the course of the discharge of the functions, and may investigate and report on those issues, making appropriate recommendations to the Commission or any other relevant authority in relation to; (a) any contravention of the Fair Competition Act, 2003 the Tanzania Bureau of Standards Act, 1975, or any other written law; (b) actual or potential competition in any market for regulated services competition or additional costs in the market and is likely to be detrimental to the public; (c) any determinants likely to result to the members of the public."

The quoted Section puts three fundamental principles to guide the regulation of competition in the sector. The first principle concerns the regulator's role in the sector. The law calls for the regulator to be the guardian of competition by ensuring that market conditions for effective competition exist. This obligation demands the Authority to constantly monitor developments in the sector to satisfy the absence of anti-competitive practices. The second principle regards the Authority's conduct. Here, the law directs that it must not engage in any conduct that lessens competition. In other words, the law calls for pro-competition regulation.

The third principle regards instances where it becomes necessary for the Authority to compromise competition rules. The law provides that if it becomes necessary to engage in or sanction any practice that might otherwise be against competition rules, then such conduct must have more public benefits than its possible detriments. Literature suggests that such benefits may include the need to increase employment opportunities or reduce unemployment, better allocation of resources, cost reduction at all production levels, improving quality of goods or services, fostering international competitiveness, and environmental concerns.[520]

[520] See João Marcelo de Lima Assafim, 'International Report', in *Antitrust Analysis of Online Sales Platforms & Copyright Limitations and Exceptions*, ed. by Bruce Kilpatrick, Pierre Kobel, and Pranvera Këllezi (New York: Springer Berlin Heidelberg, 2018), pp. 16–18; Vijaya Nagarajan, *Discretion and Public Benefit in a Regulatory Agency* (Australia: ANU Press, 2013), pp. 46–53.

However, the TCRA Act did not set rules to prohibit anti-competitive behaviors in the sector. That had to wait until 2010 when the government enacted the Electronic and Postal Communications Act (EPOCA).[521] Under the EPOCA, there are rules to regulate anti-competitive practices, for instance, abuse of dominance and collusive practices. Further details are in the Competition Regulations of 2018.[522] As regards mergers and acquisitions, the regulation is under the Fair Competition Act of 2003.[523]

Therefore, since 2005, the telecommunication sector is fully liberalized. In principle, frameworks are in place to facilitate entry. As we have seen, full liberalization has been instrumentalized by enacting the Tanzania Communications Regulatory Authority Act (The TCRA Act) of 2003. This law is further complemented by the Electronic and Postal Communications Act of 2010, together with over two dozen Rules and Regulations. Under the current liberalized framework, monopolies no longer exist in fixed and mobile telephony. Any interested firm is welcome to invest in the sector. Further, there are competition rules to ensure that firms compete freely and fairly. Also, a quasi-independent regulator exists to ensure, among others, fair play in the sector.

3.5 Introduction and Development of Regulation

Chapter two has defined regulation as governmental interventions in markets to determine or limit their operations to attain particular policy objectives. Also, it shows that regulation became intensified as many governments embarked on the liberalization of their economies. Therefore, there is a close link between the introduction of sector-specific regulation and the telecom sector's liberalization. This link also applies to Tanzania, where effective regulation traces back to 1993 when reforms took shape. Therefore, this part examines the introduction and developments of regulation in the sector from 1993 to the present.

---

[521] *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010.
[522] *The Electronic and Postal Communications (Competition) Regulations*, 2018, GN. NO 26 OF 2018.
[523] See the long title to the *Fair Competition Act*, ACT NO 8 OF 2003.

3.5.1 Early Attempts to Regulate the Sector: The 1993 Regulatory Framework

The year 1993 was the turning point of the Tanzania telecommunications sector. It witnessed the opening of doors to private investment.[524] The only exception was the continuous monopoly over domestic fixed-line telephony given to the TTCL until 2005.[525] As already noted, Section 4(1) of the Tanzania Communications Act of 1993 established the Tanzania Communications Commission (TCC). The TCC was a considerable step in the development of the telecommunications sector in the country. One author noted that

> "Tanzania's establishment of a regulator [the TCC] in 1993 was for Africa, and even worldwide, an early endeavor to regulating the telecommunications market: TCC was among the first 30 autonomous regulatory authorities in the world".[526]

The reading of the Tanzania Communication Act (the Act) reveals that the first regulatory framework was meant to facilitate the transition from monopoly to the market economy. Its key features were the following:

1. Firstly, the government established the Tanzania Communication Commission (TCC) as a regulator. The TCC's establishment meant that the Ministry responsible for communication remained only with policy formulation roles while the TCC dealt with regulation.
2. Secondly, despite the separation of regulatory activities, the Minister responsible for communication retained significant regulatory powers. Such powers were beyond general policy settings. Thus, for example, Section 7(3)(a)(ii)-(v) of the Act gave the Minister various powers such as powers to issue directives to the Commission on the nature and extent of licensing conditions. The Minister could also direct the Commission on how to set tariffs. Similarly, the Minister had powers to direct the Commission on various technical standards. Furthermore, such powers included issuing directives relating to issuing, varying, or canceling communications licenses.

---

[524] For the collapse of socialism and the transformation of the telecom sector see Luhanga and Mapunda.
[525] Hudson, p. 213; van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 67.
[526] van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 66.

3. Thirdly, apart from the above-mentioned specific powers, the law also permitted the Minister to do almost everything in the sector. Section 7(3)(a)(iv) of the Act permitted the Minister to direct the Commission on "any other general policy matter within the powers of the Commission." These powers, in essence, made the Minister on top of the Commission. He/she was, in all sense, based on powers provided under Section 7(3)(a)(i)-(iv) of the Act, the one calling the shots.
4. Fourthly, Sections 5, 10, and 20 of the Act granted the TCC powers of technical regulation. Thus, apart from licensing, the TCC dealt with the management of radiofrequency. It was also responsible for setting up technical standards for telecom networks and equipment. This regulation would ensure technical interoperability and safety of communications systems as well as users of communication services.
5. Fifthly, the Tanzania Communications Act empowered the TCC to deal with competition matters. Section 5(1)(k) of the Act directed the TCC to "promote competition in telecommunications services." Furthermore, Section 5(2)(c) required the TCC to consider effective competition in discharging its functions. This provision meant that the TCC was not allowed, as a general rule, to engage in any practice that makes telecom services less competitive. It was also the TCC's duty to protect and promote competition. Thus, the general competition framework under the Fair Trade Practices Act did not apply.
6. Lastly, even though the TCC had powers to promote and enforce competition in the sector, it did little in *ex-post* enforcement. There is no jurisprudential experience showing how it addressed competition matters. This enforcement deficit could be explained by the inherent weakness of the competition framework. The enforcement mandate was just blanket with neither rules to define anti-competitive practices nor regulations on how enforcement should occur. It was, therefore, not surprising that nothing was done regarding *ex-post* competition enforcement.

The presented features show that the first regulatory framework took a rudimentary approach. Its focus was on facilitating the new firms' entry. As a result, the emphasis was on the *ex-ante* regulation. It is, for this reason, the framework for effective

enforcement of competition never fully developed. Neither substantive nor procedural rules were present to precisely define parameters of competition enforcement. The TCC had to enforce what was uncertain. Nevertheless, the law gave it broader regulatory powers such that most of the regulatory decisions ended without further opportunities for appeal, for example. Appeals against the TCC's decision were limited. Sections 11(5), 19(4), and 20(2) of the Act confined the right to appeal only to technical issues, meaning it was not possible to appeal on substantive grounds.

The most important observation is that even though the law separated the TCC from the Ministry, the same law gave the Minister enormous powers such that he/she could change the course of regulation. In other words, the TCC was not independent. The regulatory practice witnessed strong governmental interferences and control.[527] For example, since its establishment in 1994, the Minister did not appoint the commissioners until four years later, in 1998.[528] However, soon after the Minister appointed the commissioners, he dismissed them over a dispute on who should be licensed as a mobile phone operator.[529] Here, it would appear that while the Minister favored one operator, the commissioners favored another.[530] The simple solution was for the Minister to dismiss the commissioners, making him the *de facto* regulator.[531]

Therefore, while the first regulatory framework was instrumental in liberalizing the sector, some weaknesses existed regarding its independence and efficiency. It appears that the government was still not fully cognizant of the powers it had to yield after years of control under the command economy. It was, for this reason, that it maintained considerable powers in the sector.

The exclusion of general competition law meant that the government desired to have a special treatment in the sector, having less application of market principles and competition and more governmental involvement through regulation. Unfortunately, the approach did not end with the first regulator. As chapter six shows, the

---

[527] Mohammad A. Mustafa, Bruce Laidlaw, and Mark Brand, *Telecommunications Policies for Sub-Saharan Africa* (Washington, D.C: World Bank Publications, 1997), p. 65.
[528] Noll and Shirley, p. 54.
[529] Noll and Shirley, p. 54.
[530] Noll and Shirley, p. 54.
[531] Noll and Shirley, p. 54.

government continues to control the whole regulatory framework through different regulatory and administrative practices.

3.5.2 Regulating the Liberalized Sector: The 2003 Framework

In 2003, the Government of Tanzania carried out yet other significant reforms by enacting the Tanzania Communications Regulatory Authority Act. This law introduced the new regulator, the TCRA, with an expanded mandate compared to the now-defunct TCC.[532] The long title of this law provides for its objectives, which, among others, seek to intensify regulation. This law merged the regulation of telecommunications and broadcasting services. As a result, the new regulator, the TCRA, replaced the TCC and TBC.

In the same year, the government enacted the Fair Competition Act (from now on: FCA). The FCA established the Fair Competition Tribunal (FCT) under Section 83(1). This tribunal became the first quasi-judicial body to receive appeals from the TCRA decisions. The FCT's name is misleading because it does not deal only with competition matters. It is also an appellate body for all other regulatory bodies in the country.[533] In short, the 2003 framework has the following features:

1. Firstly, there are institutional reforms in which the law came out concerning which institution performs which functions. Section 4 of the TCRA Act established the TCRA as the overall regulator of communications services. As for the appellate framework, Part XIII of the Fair Competition Act established the Fair Competition Tribunal (FCT).
2. Secondly, there is now the convergence of regulatory functions. The TCRA, under Sections 6(1)(e), 56(1), and 58(1) of the TCRA Act, has combined functions of TCC and TBC. Thus, TCRA is the regulator of telecommunication, postal, broadcasting, and internet services.
3. Thirdly, there is a reduction of ministerial powers compared to the 1993 framework. The 2003 framework has further distanced the regulator from the

[532] Part II of *The Tanzania Communications Regulatory Authority Act*, ACT NO 12 OF 2003.
[533] See S 61 of *Fair Competition Act*, ACT NO 8 OF 2003; and Section 36 of *The Tanzania Communications Regulatory Authority Act*, ACT NO 12 OF 2003.

ministry responsible for communication. However, as the rest of this work shows, the Minister still retains some considerable influence.

4. Fourthly, there is now an explicit exclusion of the general competition framework in the sector. Under Sections 19&20 of the TCRA Act and Section 96(1)-(3) of the FCA, the Fair Competition Commission (FCC) does not have the powers to enforce or promote competition in the sector. The only exception is on merger and acquisitions cases where FCC has jurisdictions across all sectors of the economy in the country. Apart from mergers and acquisitions, the FCC can only act in the telecom sector if it has been specifically asked by the TCRA to do so.
5. Fifthly, there is an exclusion of the ordinary courts of law in enforcing competition. The TCRA acts as a 'court' of the first instance. There is only one level of appeal to the FCT, whose decision is final per Section 84(1) of the FCA and Section 36(3) of the TCRA Act.
6. Sixthly, even after structural and institutional reforms initiated in the 2003 framework, there is no guarantee of the TCRA's independence.

The 2003 framework was the first detailed framework to address the sector's regulation. It succeeded, for example, in establishing regulatory and institutional frameworks and standards. However, there were no detailed regulatory rules. The detailed regulatory rules, including those dealing with competition enforcement, had to wait for seven years until 2010 when further legislative development took place.

3.5.3 The 2010 Regulatory Framework

The process of reforming the sector reached its climax in the year 2010. The government decided to address one problem that had persisted since the first introduction of regulation in 1993; lack of detailed regulation rules. It enacted the Electronic and Postal Communications Act of 2010 (EPOCA). The Act, among others, intended to

> "make provisions for the enactment of electronic and postal communications law with a view to keeping abreast with developments in the electronic communications industry; to provide for a comprehensive regulatory regime for electronic communications service providers and postal communications service providers, to

establish the Central Equipment Identification Register for registration of detachable SIM card and built-in SIM card mobile phones; to provide for duties of electronic communications and postal licensees, agents and customers, content regulation, issuance of postal communication licenses and to regulate competitions and practices; to provide for offenses relating to electronic communications and postal communications and to provide for transitional provisions, consequential amendments, and other related matters."[534]

From the mentioned long title to the Act, it is clear that EPOCA intended to be as detailed as possible to cover almost every sector aspect. For example, there are rules under the Act to regulate licensing, interconnection, access to infrastructure and infrastructure sharing, and spectrum management.[535] Furthermore, there are now rules to regulate technical standards and to regulate competition.[536] It is also worth noting that the law gives TCRA powers to regulate broadcasting and online content. Thus, not only does the TCRA has the power to regulate what broadcasters broadcast, but also it has the power to monitor and control contents posted online, including those shared through social media.[537]

3.5.4 Policy Objectives for Regulating the Telecom Sector in Tanzania

This chapter has so far looked at the introduction of regulation in Tanzania. In this subsection, the focus is on the policy objectives for regulating telecommunications services in the country. Such objectives could be deduced from the provisions of the Constitution of the United Republic of Tanzania of 1977, the Tanzania Communications Act of 1993 (now repealed), the Tanzania Communications Regulatory Authority Act of 2003, the Universal Communications Services Act of 2006, the Electronic and Postal Communications Act of 2010 and the Cybercrimes Act of 2015. As for policy directions, the focus lies on the National Telecommunications Policy of 1997 and the National Information and Communications Technology Policy (ICT Policy) of 2016.

---

[534] The long title to *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010.
[535] See Part II (a), (b) and Part IV (d) of *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010.
[536] See Part IV (a), (b), and (f)-(h) of *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010.
[537] See Part IV (i) of *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010; And *The Electronic and Postal Communications (Online Content) Regulations, 2018.*, GN NO. 133 OF 2018.

3.5.4.1 Promotion of Efficiency

Section 5(a) and Section 6(1)(c) of the TCRA Act require the TCRA to promote economic efficiency and monitor the efficiency of production and distribution of services in the sector. The Act, however, does not define the term 'efficiency.' Nonetheless, in the general economic understanding, efficiency has been described to include production efficiency (i.e., producing at the lowest costs possible), allocative efficiency (producing and distributing goods and services to those in demand (consumer preferences) and dynamic efficiency (productive efficiency) achieved over time, for example, by investing in new technologies.[538]

In promoting efficiency, there must be rules that promote and facilitate entry, efficient use of communication resources such as spectrum and numbering resources, and the creation of market conditions that stimulate innovation amongst service providers. These rules are provided for and enforced by sector regulation. Furthermore, in promoting efficiency in the sector, Clause 2.2.2. of the National Telecommunication Policy advocates for regulatory measures that promote research and development, encourage new services and technologies, and local production of communication devices.[539] Thus, efficiency goals cut across all firms, irrespective of their market powers, to ensure the sector's delivery of quality and affordable services to consumers.

3.5.4.2 Promotion of New Investment

To transform a once-monopoly sector into a competitive one, adequate strategies to attract new investments are necessary. The same is true for Tanzania, as it was essential to get new investors to supplement meager work already done by the TTCL during its monopoly era. Clause 2.2.2 of the National Telecommunication Policy calls explicitly for "the creation of a conducive microeconomic, legal and regulatory

[538] For an interesting and critical discussion on the subject see Francesco Ducci and Michael Trebilcock, 'The Revival of Fairness Discourse in Competition Policy', *The Antitrust Bulletin*, 64.1 (2019), 79–104 <https://doi.org/10.1177/0003603X18822580>; Albert Allen Foer and Arthur Durst, 'The Multiple Goals of Antitrust', *The Antitrust Bulletin*, 63.4 (2018), 494–508 <https://doi.org/10.1177/0003603X18807808>; Gregory T. Gundlach and Diana Moss, 'The Role of Efficiencies in Antitrust Law: Introduction and Overview', *The Antitrust Bulletin*, 60.2 (2015), 91–102 <https://doi.org/10.1177/0003603X15591991>.

[539] *National Telecommunications Policy*, p. 3.

environment to attract investment in the sector."[540] One way of creating such an environment is through a friendly regulatory environment. Such a regulatory environment must guarantee prospective investors the right to entry, protect their investment, and ensure a competitive environment. Furthermore, such regulation must ensure private investors compete fairly even with government-owned corporations and that they do not become victims of inconsistent or unstable government policies.

The role of regulation in promoting investment must, however, be treated with caution. On the one hand, literature shows that regulation has been vital in developing telecommunications in the world.[541] Some argue that regulatory measures have led to an increase in investment.[542] They have also led to an increase in competition as well as a reduction in prices.[543] For example, because of adequate regulatory frameworks, EU countries, which were behind the US in fixed and mobile access per 100 inhabitants, overtook it by 2002.[544]

On the other hand, however, there is a scholarly consensus that deregulation should follow after achieving competition.[545] Prolonged regulation, some scholars argue, may discourage new investments.[546] Cave, Genakos, and Valletti, for instance, argue that "sector-specific regulation of particular markets can be maintained where firms are found in periodic market reviews to exercise significant market power."[547] In other words, the authors argue that sector-specific regulation is unjustified in the absence

---

[540] *National Telecommunications Policy*, p. 3.
[541] Cave, Genakos, and Valletti, pp. 49–52.
[542] Cave, Genakos, and Valletti, p. 49.
[543] Cave, Genakos, and Valletti, p. 49.
[544] Cave, Genakos, and Valletti, p. 49.
[545] Rupprecht Podszun, 'State-Related Restraints of Competition and Supranational Antitrust Law: How a Harmonised Regional Competition Framework Can Shape a More Market- Oriented Economy', in *Harmonisation of Laws in the East African Community: The State of Affairs with Comparative Insights from the European Union and Regional Economic Communities*, ed. by Johannes Döveling and others, TGCL Series, 5 (Nairobi, Kenya: LawAfrica Publishing (K) Ltd, 2018), pp. 265–96 (pp. 293–94); Jerry A. Hausman and Taylor, 'Partial Deregulation in Telecommunications: An Update'; Jerry A Hausman and Taylor, p. 386; Kirchner, p. 243; Wernhard Möschel, 'Regulation and Deregulation in Telecommunications', *European Business Organization Law Review*, 5.2 (2004), 353–61 (pp. 355–56) <https://doi.org/10.1007/BF03354631>.
[546] Podszun, 'State-Related Restraints of Competition and Supranational Antitrust Law: How a Harmonised Regional Competition Framework Can Shape a More Market- Oriented Economy', pp. 293–94; Jerry A. Hausman and Taylor, 'Partial Deregulation in Telecommunications: An Update'; Jerry A Hausman and Taylor, p. 386; Kirchner, p. 243; Möschel, pp. 355–56.
[547] Cave, Genakos, and Valletti, p. 50.

of firms with significant market powers. Similar observations were made on a recent study conducted on behalf of Deutsche Telekom AG.[548] The study found out that full deregulation is ideal in promoting investment.[549] It noted that

> "if full deregulation is not feasible due to monopolistic market structures, a less intrusive regulatory approach abandoning cost orientation contributes to an increase in investment incentives (albeit not to the extent of full deregulation). On the one hand, cost-based access prices inevitably shift market dynamics away from investment to "wait-and-see" strategies."[550]

As already noted, the introduction of regulation in Tanzania was necessary to provide a conducive environment for private actors. Both the defunct TCC and the current TCRA worked hard to develop an environment that attracts new investments. Such regulatory efforts have contributed to the sector's growth through increased investments, mostly from foreign firms. Only to this extent does the sector regulation find justifications on investment grounds. Caution is necessary here. Too much regulation is to be avoided as it can achieve precisely the opposite.

3.5.4.3 Promotion of Competition

One must note that sector regulation can promote or discourage competition.[551] On the one hand, it can contradict or complicate competition, for example, by adopting rules that foreclose competition or make competition practically impossible.[552] Critics of regulation would go a step further even to paint a negative image of regulation. Some argue that "regulation breeds inefficiency, fosters corruption and protects only vested interests, or it may be enacted with the best of intentions but is impossible to get right in practice."[553]

On the other hand, regulation can reproduce competition or apply competition policy in its regulatory activities. The point here is to ensure the presence of pro-competition

---

[548] Briglauer and Cambini, p. iii.
[549] Briglauer and Cambini, p. iii.
[550] Briglauer and Cambini, p. iii.
[551] OECD, *Regulation Reform in Greece: The Role of Competition Policy in Regulatory Reform* (Paris: OECD Publishing, 2001), p. 7.
[552] OECD, *Regulation Reform in Greece: The Role of Competition Policy in Regulatory Reform*, p. 7.
[553] Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*, p. 185.

regulatory frameworks.[554] In that regard, regulation performs complementary roles. It fills in gaps caused by competition law's impracticality either because of markets' natural demands or inherent factors in a specific sector of the economy.

Since regulation can either promote or discourage competition, there is a support of regulation as a precursor to competition.[555] Regulation is highly appreciated when it performs transitional roles, helping the sector's transformation from monopoly to competition.[556] For example, during the high times of monopolies, state monopolies owned all essential infrastructures.[557] They had all the potential to abuse their dominance.[558] Further, information asymmetries frequently characterized the sector.[559] Such features made entry very complicated. The role of regulation as a transition tool becomes necessary to ensure orderly evolution to competition by maintaining appropriate structures, needed infrastructures and to ensure certainty of procedures.[560]

After achieving competition, regulation's role should dwindle only to the extent necessitated by natural market structures. At this stage, "soft regulation" or "competition-based regulation," which means limited state interference as long as competition exists, is desirable.[561] Continued regulation in a competitive telecom sector, unless justified by technical necessity, may bring more harm than good.

In Tanzania, among others, sector regulation was introduced in the spirit of promoting competition. It was expected that through competition, other regulatory objectives such as the attraction of investments and promotion of efficiency could be achieved. Thus, regulation should not only "just *allow* competition, but it should *foster* it."[562] For example, Section 19 (1)(a)-(c) of the TCRA Act explicitly directs the TCRA not only to "promote effective competition." It also directs it to prioritize

---

[554] OECD, *Regulation Reform in Greece: The Role of Competition Policy in Regulatory Reform*, p. 7.
[555] See for example, Cave, Genakos, and Valletti; Briglauer and Cambini; Jerry A. Hausman and Taylor, 'Partial Deregulation in Telecommunications: An Update'; Jerry A Hausman and Taylor.
[556] Crampton, p. 6.
[557] Hans Schedl, 'Sector-Specific Regulation: Transitory or Ad Infinitum? An International Status Report on Regulatory Institutions', *Journal for Institutional Comparisons*, 5.4 (2007), 35–40 (p. 35).
[558] Schedl, p. 35.
[559] Schedl, p. 35.
[560] Crampton, p. 8.
[561] Briglauer and Cambini, p. iii; Biondi and Giannoccolo, p. 11.
[562] Crampton, p. 8.

effective competition when deciding on several issues in its regulatory capacity. Under no circumstances, the law directs, should the TCRA act to lessens competition in the sector. The same call is in Clause 3.6.1.2. (ii) of the National Information and Communications Technology Policy.

3.5.4.4 Promotion of Universal Communications Service

Promotion of private investment in the sector means market forces now determine market decisions. In principle, market decisions require that production and supply correspond to the existing scales of demands. In other words, production and supply ought to follow attractive markets, that is, where there are substantial corresponding demands. It follows that market forces may not consider other social or political factors. Put differently, market forces in a competitive world are not perfect enough to deliver services to everyone.[563]

For example, one should think of the costs of taking communications services to a small rural settlement of a few hundred peasants separated from the nearest town by a hundred kilometers. Unless it has significant economic activities to warrant the return of such investment, such a community offers no incentive for investment. In such cases, governments must act. They are not expected to provide such services on their own. However, they have "to influence market participants and to create conditions for the accomplishment of the universal service quest."[564]

For Tanzania, the government policy is to deliver communications to everyone, including those scattered in the most remote villages.[565] This policy objective agrees with the equity justifications, often cited as a basis for universal services obligations.[566]

---

[563] Olga Batura, *Universal Service in WTO and EU Law: Liberalisation and Social Regulation in Telecommunications*, Legal Issues of Services of General Interest (The Hague: Asser Press, 2015), p. 132.
[564] Batura, p. 132.
[565] *National Information and Communications Technology Policy*, p. 19.
[566] Jean-Christophe Poudou and Michel Roland, 'Equity Justifications for Universal Service Obligations', *International Journal of Industrial Organization*, 52 (2017), 63–95 (pp. 64 & 65) <https://doi.org/10.1016/j.ijindorg.2017.01.007>; Prosser, *The Regulatory Enterprise*, p. 168; Office of Communication, the UK, *Review of the Universal Service Obligation* (United Kingdom: Office of Communications, 14 March 2016), p. 5; Kirchner, p. 254; Jean-Jacques Laffont, Antonio Estache, and Xinzhu Zhang, *Universal Service Obligations in Developing Countries*, Policy Research Working Papers (The World Bank, 2004), p. 2 <https://doi.org/10.1596/1813-9450-3421>; H. Cremer and others, 'Universal Service: An Economic Perspective', *Annals of Public and Cooperative Economics*, 72.1 (2001), 5–43 (p. 2) <https://doi.org/10.1111/1467-8292.00158>.

For developing countries like Tanzania, universal service is "a necessary component of equitable development strategies—redistribution toward the poor and the underdeveloped regions as part of USOs."[567] This is what Cremer and others call the "redistributive role" of universal services obligations.[568]

Apart from equity considerations, communication for all is, in fact, a constitutional requirement in Tanzania. For example, Article 18(a) and (c) of the Tanzania constitution states clearly that every person has the right to seek, receive, and disseminate information. Also, every person has the right to freedom of communication. It is impossible to realize these rights for everyone if some are excluded from accessing telecom services. Thus, imposing universal services obligations is the best approach to discharge the preceding constitutional duty.

The establishment of universal obligations, however, is not automatic. It requires regulatory coordination. Here is where the TCRA, as the sector regulator, comes in. Through Section 5(d) of the TCRA Act, the law directs the TCRA to "promote the availability of the regulated services to all consumers, including low-income, rural and disadvantaged consumers." In practice, universal communication services delivery is possible through a fund (Universal Communications Services Access Fund (UCSAF)) established by Section 4 of the Universal Communications Services Act.[569] With the said Fund, the government agrees with telecom firms whereby they deliver communications services to rural or urban under-served areas in exchange for subsidies from the Fund. For example, the Fund reported in May 2019 to have spent Tanzanian shillings 118 billion to boost communication services to over five million

[567] Laffont, Estache, and Zhang, p. 2; For discussion on the redistributive role of regulation see Navroz Dubash and Bronwen Morgan, 'The Rise of the Regulatory State of the South', in *The Rise of the Regulatory State of the South: Infrastructure and Development in Emerging Economies*, ed. by Navroz Dubash and Bronwen Morgan, Law and Global Governance Series, 1st ed (Oxford: Oxford University Press, 2013), pp. 1–26.
[568] Helmuth Cremer and others, 'Social Costs and Benefits of the Universal Service Obligation in the Postal', in *Market Competition and Regulation in the Postal and Delivery Sector*, ed. by Michael A Crew and Paul R. Kleindorfer (Edward Elgar Publishing, 2008), pp. 23–35 (p. 24).
[569] *The Universal Communications Services Act*, No 11 of 2006.

Tanzanians in 2501 villages.[570] This achievement would not have been possible in the absence of regulation.

3.5.4.5 Protection of Consumers' Interests

There is consensus in the literature that consumer protection is one of the main objectives of telecom regulation.[571] The argument here is that telecom firms are powerful enough to exploit the majority of consumers. In some parts of the world, telecom firms have a bad reputation. Some even argue them to be "thieves who are not known as thieves."[572] This argument, though debatable as telecom companies have proved vital in charging economic growth and development worldwide, means that a section in society considers them too powerful to warranty some external checks, mostly from government authorities. Consequently, the argument goes, governments must intervene to protect the wider population, which is likely to fall prey to these powerful companies.[573]

Apart from the above observations, rapid technological advancements in the communications sector also necessitate thoughtful reconsiderations on how consumers, especially end consumers, remain protected. Reconsiderations of protection approaches and frameworks are necessary because of the prevalence of harmful practices to consumers, such as lack of clarity and transparency, non-disclosure of all necessary information, deceptive, fraudulent, and misleading commercial practices, as well as lack of immediate and useful frameworks for dispute resolutions.[574]

---

[570] The Reporter, 'Tanzania PM: 5 Million Villagers Enjoy Phone Services after Sh118 Billion Investment', *The Citizen* <https://www.thecitizen.co.tz/news/Tanzania-PM--5-million-villagers-enjoy-phone-services-after/1840340-5095330-93ogym/index.html> [accessed 4 September 2019].

[571] See for example, Pradeep S. Mehta, 'Economic Regulations, Competition, and Consumer Protection in Ancient India', *The Antitrust Bulletin*, 63.3 (2018), 316–29 <https://doi.org/10.1177/0003603X18780557>; Dunne, *Competition Law and Economic Regulation: Making and Managing Markets*, p. 179; Rosalind Stevens, *Regulation and Consumer Protection in a Converging Environment* (ITU, March 2013) <https://www.itu.int/ITU-D/finance/Studies/consumer_protection.pdf>; Paul L. Joskow and Roger C. Noll, 'Regulation in Theory and Practice: An Overview', in *Studies in Public Regulation*, ed. by Garry Fromm (MA: MIT Press, 1981).

[572] Mehta, p. 328.

[573] Mehta, p. 328.

[574] OECD, *OECD Recommendation of the Council on Consumer Protection in E-Commerce*, p. 9; OECD, *Report on Consumer Protection in Online and Mobile Payments* (PAris: OECD Publishing, 2012), p. 3.

It is not tough to justify regulation having the mentioned concerns in mind. A neutral umpire is necessary to limit the growing powers of telecom firms over consumers. Thus, Section 5(b) of the TCRA Act directs the TCRA to adopt rules, regulations, practices, and measures that promote and protect all consumers of communications services in the country. The TCRA must, as Section 5(e) of the same law directs, raise consumers' awareness of their rights and responsibilities, educate the public on the nature of the regulated services, and establish structures to effectively and timely mediate consumer disputes. In furthering this goal, specific Regulations exist to ensure that telecom firms do not prey on consumers.[575]

3.5.4.6 Control on Wealth Distribution and Local Participation

The presence of many foreign-based telecom firms has disturbed policymakers for quite some time. The argument has always been that these firms make windfall profits that do not benefit Tanzanians.[576] Thus, through regulation, Tanzania seeks to distribute telecom wealth and stimulate local participation in the telecom economy.[577] A good example is a requirement under Section 26 of the EPOCA, which directs all telecom firms to offer 25 percent of their shares to the public. Furthermore, by setting the rules of entry, regulation can also determine how small and medium firms participate in the sector.[578]

3.5.4.7 Boosting of Government Revenue

Even though nowhere to be found in its policy books, field findings established that Tanzania uses regulation to boost revenue collection. This objective is not peculiar to Tanzania as studies indicate huge fees and taxes in the telecom sector in developing countries.[579] The taxes and fees target telecom firms and consumers through various

---

[575] *The Electronic and Postal Communications (Consumer Protection) Regulations*, GN. NO. 61 OF 2018.
[576] Such arguments emerge quite often, especially in the Parliament during budget sessions.
[577] Allan Olingo, 'Vodacom, The Largest Share of Telecom Sector in EA', *The East African* (Dar es Salaam, 20 August 2017).
[578] See S. 26 of *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010.
[579] See for example Thornton Matheson and Patrick Petit, *Taxing Telecommunications in Developing Countries* (IMF, 2017), pp. 4 & 5; Mike Rogers and Xavier Pedros, *Taxing Mobile Connectivity in Sub-Saharan Africa: A Review of Mobile Sector Taxation and Its Impact on Digital Inclusion* (London: GSMA, 2017), pp. 9–18; Mayuran Sivakumaran, *Taxing Mobile Connectivity in Asia Pacific: A Review of Mobile Sector Taxation and Its Impact on Digital Inclusion* (London: GSMA, 2017), pp. 8–27; Deloitte, *Digital Inclusion and Mobile Sector Taxation 2016: The Impacts of Sector-Specific Taxes and Fees on the Affordability of Mobile Services* (London: GSMA, 2016), pp. 21–31.

charges for using telecommunications services and devices.[580] The introduction of unusual charges, such as social media tax in Uganda, is a good example.[581] Recent studies indicate that telecom firms in Tanzania pay up to over 40 percent of their revenues to the government.[582] Telecom revenues would not land into government coffers in the absence of regulation. In other words, the more regulatory requirements are in place, the higher the revenues to be collected.

3.5.4.8 Control of the Use of Communication Services

Again, though not expressly declared in its policy books, findings from the field revealed that Tanzania uses regulation to control communications services. This objective is not peculiar to Tanzania. Elsewhere, especially in many African countries, regulation has proved a practical tool for limiting the freedom to consume communication services.[583] In Tanzania, for example, Sections 4(3)(b) and 59 of the EPOCA and 28(1) of the TCRA Act empower the President and the Minister to exercise some controls for "national security reasons."

Similarly, the Regulations allow the government to control how its people consume communication services. For example, through a regulatory order, the TCRA restricted the bulk circulation of SMS for almost a month during the October 2020 general elections. Similarly, although the Authorities have not acknowledged it in public, there was a complete shutdown of the internet and blockage of social media such as WhatsApp, Twitter, Facebook, and YouTube during the same time. All these were done through the existing regulatory powers.

---

[580] Deloitte, *Digital Inclusion and Mobile Sector Taxation 2016: The Impacts of Sector-Specific Taxes and Fees on the Affordability of Mobile Services*, p. 21; Rogers and Pedros, pp. 14–16; Sivakumaran, pp. 15–17.

[581] Simone Schlindwein, 'Uganda: One Year of Social Media Tax', *Deutsche Welle Website*, 2019 <https://www.dw.com/en/uganda-one-year-of-social-media-tax/a-49672632> [accessed 30 October 2020].

[582] PWC, *Sustaining the Momentum National Budget Bulletin 2019/20* (Dar es Salaam: PWC, June 2019), p. 21; Rogers and Pedros, p. 12.

[583] George Ogola, 'Threats to Media Freedom in Africa: Some Old Methods and Some New', *The Conversation*, 3 October 2018 <http://theconversation.com/threats-to-media-freedom-in-africa-some-old-methods-and-some-new-104168> [accessed 5 September 2019]; CIPESA, *State of Internet Freedom in Africa 2016: Case Studies from Select Countries on Strategies African Governments Use to Stifle Citizens' Digital Rights* (Kampala, Uganda: CIPESA, 2016); 'How African Governments Try to Control What Is Said Online', *The Economist*, 19 April 2018 <https://www.economist.com/middle-east-and-africa/2018/04/19/how-african-governments-try-to-control-what-is-said-online> [accessed 6 September 2019].

There is also a criminal aspect of the regulation of communication services. Through the Cybercrimes Act and the Online Contents Regulations, regulatory powers extend surveillance and policing to what people post on the internet and social media to private conversations via platforms such as WhatsApp or Facebook chats.[584] Strong regulatory measures are already in place, where a single post on a Facebook page or text sent via WhatsApp has landed some people good years in jail.[585]

3.5.5 Major Regulatory Milestones to the Present

Apart from the three significant developments, which took place between 2003 and 2010, several other regulatory steps have contributed to shaping the telecommunication sector. Table 3.5-1 presents a summary of major regulatory milestones. It includes those already discussed in the previous sections.

Table 3.5-1 Regulatory milestones and developments in Tanzania from 1977 to 2018

Year	Regulatory Milestone	Remarks
1993	Official start of the liberalization of telecommunications services	TPTC is dissolved, and TTCL is established to provide telecom services in a liberalized sector. However, TTCL maintains a monopoly over fixed network services. The new regulator, the TCC, is established to regulate telecom services. As for broadcasting, a new regulator, TBC, is also established. The first private telecom firm, MIC Tanzania Ltd, get its license.
1995	Further private firms acquire licenses to operate in the sector	Tri Telecom Tanzania Ltd becomes the second private telecom to get a license for mobile services. Zanzibar Telecommunications Limited gets a license to operate in Zanzibar.

[584] See specifically Part III of *The Electronic and Postal Communications (Online Content) Regulations*, GN No. 538 of 2020.
[585] See various sections of the *Cybercrimes Act of 2015*, Act No 14 of 2015.

1996	Former monopoly ventures into a mobile telephone	TTCL gets license for the provision of mobile services.
2003	Passing of Tanzania Communication Regulatory Authority Act	The law establishes the new regulator, the TCRA, to regulate the entire communications sector, including postal services. It also abolishes the TCC and TBC.
2005	End of the TTCL monopoly over fixed telecom services	All firms can now enter the fixed network market.
2005	Introduction of convergence licensing framework	Licensing is now offered based on service and technology neutrality. Licensees have choices on the type of service, technology, and the market they wish to enter.
2006	Introduction of universal services obligations	TCRA to regulate universal services together with the Universal Communications Services Access Fund (UCSAF).
2010	Enactment of the Electronic and Postal Communications Act	Detailed regulatory rules are enacted under the Act and several Regulations enacted under the Act.
2015	Enactment of the Cybercrimes Act and the Electronic Transactions Act	The TCRA mandate now regulates cybersecurity and cybercrimes. There is now an increase in monitoring and control of Tanzania's cyberspace.
2018	The Online-contents Regulations enacted	The TCRA mandate now regulates online content. This mandate includes the monitoring of social media content.

Source: Developed by the researcher

3.6 Notable Market Features of the Tanzania Telecom Market

As already explained, Tanzania's telecom sector currently operates in a liberalized environment. This environment is, of course, a result of several factors, including the extended policy and legal reforms spanning over two decades. As a result of such

reforms, one could notice an increase from just one private firm in 1993 to more than ten firms in 2020. Furthermore, one can also see an increase from less than one percent to over 80 percent subscriptions of the total population within the same period. Apart from policy and legal developments, the effects of a globalized economy and favorable investment policy, which attracted investments from foreign firms in Tanzania, have contributed to such growth.[586] Thus, at present, the sector has the following features presented in subsequent sub-sections.

3.6.1 Increasing Numbers of Providers of Telecom Services

As of June 2020, Tanzania had fourteen operators licensed to provide communication services.[587] Of these, seven are active in providing telecommunications services. They include Vodacom Tanzania Limited (Vodacom), Airtel Tanzania Limited (Airtel), MIC Tanzania Limited (Tigo), Tanzania Telecommunication Company Limited (TTCL), Viettel Tanzania Limited (Halotel), Zanzibar Telecommunications Limited (Zantel), and Smile Communications Tanzania Limited (Smile).

Apart from the mentioned firms, others are either new or have not rolled out their network services. For example, some of the latest entries include Wiafrica Tanzania Limited (Cootel), Mkulima Africa Telecom Company Limited (Amotel-the first MVNO in the country, and Azam Telecom (T) Limited, owned by one of the biggest companies in Tanzania, Bakhresa group of companies.[588] Some have focused more on internet data, for example, Smart, Cootel, and Smile, while the rest focus on both internet data and voice services. Also, of all these service providers, only TTCL provides fixed network services as of 2020.

3.6.2 Continued Dominance of Three Firms: Vodacom, Tigo, and Airtel

It is interesting to note that Vodacom, Tigo, and Airtel have dominated the market to date despite the increasing number of service providers. These firms were among the

---

[586] See for example OECD, *OECD Investment Policy Reviews: Tanzania 2013* (Paris: OECD Publishing, 2013), p. 99; UNCTAD, *Investment Policy Review: The United Republic of Tanzania*, Investment Policy Review Series (Geneva: United Nations, 2002), p. 16,20.

[587] TCRA, 'Licensed Operators › Network Services Licences', *Tanzania Communications Regulatory Authority*, 2020 <https://www.tcra.go.tz/licensing/licensed-operators/network-services-licenses> [accessed 14 May 2020].

[588] Daily News Reporter, 'Azam Mobile Network in Pipeline', *Daily News* (Dar es Salaam, 25 June 2018) <https://www.dailynews.co.tz/news/2018-06-255b30c5a54d9f5.aspx> [accessed 7 October 2019].

first to enter the Tanzania market. Other entry attempts have either failed to enter or failed to expand after successful entry. In its recent study, the TCRA established reasons for complicated entry patterns, including entry and expansion barriers, firms' pricing behaviors, and a strong influence of advertisement and branding.[589]

The only exception came in 2015 when Halotel brought some competition after gaining around 10 percent of market shares within a short time. The entry of Halotel was different from all others. In less than two years, it gained almost ten percent of market shares. Information from the field indicated the reasons for this exception. Firstly, Halotel is owned by the Government of Vietnam with considerable resources at its disposal. As a result, it could easily cover the investment costs needed to roll out its network in the entire country. Secondly, Halotel had received special attention from the authorities, mostly because of the prior political connection. It did not face many regulatory hurdles in the rolling of its network. Thirdly, Halotel's focus on the rural community was one of its selling points in garnering subscribers whom other operators had left out.

Apart from Halotel's entry, there was also a slight decrease in the three firms' shares in 2012 as Zantel tried to raise its share to 10 percent through aggressive promotions. This rise, however, was short-lived because Zantel could not keep up with the competition. Its shares dropped dramatically, and as of 2019, it only had 2 percent of all subscribers.[590] Therefore, as Table 3.6-1 shows, the market is concentrated on the three firms, even after almost twenty years of liberalization.

Table 3.6-1 Percentage of market share based on customers' subscriptions belonging to Vodacom, Tigo, and Airtel from 2010 to 2019

Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Firm											
Vodacom	41	45	34	36	37	32	31	32	32	33	31
Tigo	21	22	24	23	27	28	29	28	29	26.3	25

[589] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets* (Dar es Salaam: Tanzania Communications Regulatory Authority, December 2018), pp. 22–23.
[590] TCRA, *Quarterly Communications Statistics: October-December 2019* (Dar es Salaam: TCRA, 2020), p. 3.

Airtel	28	27	30	33	30	28	26	27	25	26.9	27
Total shares	90	94	88	92	96	88	86	87	86	85.9	83
Others	10	6	12	8	6	12	14	13	14	14.1	17

Source: Extracted from TCRA communications statistics from Dec 2010 to December 2020

3.6.3 Increase in Penetration of Telephony Services

Access to telephony services in the country has increased significantly, especially after the year 2000. For example, according to TCRA, mobile penetration was only 1 percent in the year 2000.[591] Only 100,518 Tanzanians had subscribed to mobile services. In 2007, the number of mobile subscriptions increased by nearly eighty-five times to around 8.4 million.[592] In 2010, the number of mobile network subscriptions had almost tripled to 21 million.[593] Furthermore, at the end of 2018, telephone penetration stood at 81 percent, with over 43.4 million Tanzania people subscribed to mobile telephony.[594] Table 3.6-2 shows the penetration of telephony services from 2000 to 20120, given in five years intervals.

Table 3.6-2 Percentage of telephone penetration per population from 2000 to 2020

Year	**2000**	**2005**	**2010**	**2015**	**2020**
Telephone penetration %	1	10	50	79	89

Source: TCRA Communication Statistics from 2000 to 2020

3.6.4 The Decline of Fixed Network Services

This study noted a significant decline in fixed network connections in the country. For example, in 2000, fixed network penetration stood at 61 percent of all connections.[595] However, while technological advancements saw a massive increase in mobile phone penetrations, fixed network connections decreased dramatically. In 2010, fixed networks accounted for only 0.82 percent of all connections, further decreasing to

[591] TCRA, *Telecommunications Statistics from 2000 to 2010*.
[592] TCRA, *Telecommunications Statistics from 2000 to 2010*.
[593] TCRA, *Telecommunications Statistics from 2000 to 2010*.
[594] TCRA, *Quarterly Communications Statistics: July-September 2017* (Dar es Salaam: TCRA, 2018).
[595] TCRA, *Telecommunications Statistics from 2000 to 2010*, pp. 1–3.

0.35 percent and 0.2 percent in 2015 and 2020, respectively.[596] For example, as of March 2020, there were only about 76,000 connections of fixed network services vis-à-vis 49 million mobile network connections.[597]

There are many reasons for such a trend. It was observed that there are only two providers with a rollout plan for fixed-line network services; TTCL and Zantel. However, both companies have had poor market performance, and hence, they were unable to expand their client bases. Zantel is already pulling out of this market. It had no single fixed-line connection as of December 2019.[598] The TTCL, which is the former monopoly, is also not doing well either. It had only 2 percent of all subscribers (both fixed and mobile) as of March 2020.[599]

The country's infrastructural challenges also play a significant role in establishing fixed-line networks. As of 2015, only 11 percent of Tanzanian land was surveyed.[600] As a result, it becomes difficult to roll out a plan for establishing a physical network to prospective customers for the remainder of 90 percent. Furthermore, the former monopoly, TTCL, did not invest much in establishing such infrastructure. Thus, without prior infrastructures in place, subsequent investment by newcomers becomes almost impossible.

Beyond the mentioned challenges, one must consider consumers' preference for mobile networks, which offer more flexibility. With continued innovations, mobile phones now offer beyond conventional calling services. Video streaming, radio services, internet access, location-based services, photographing, gaming, and even computing services are just a few examples. They give mobile networks an edge over fixed-line services. Therefore, it does not come as a surprise that many people are now attracted to mobile services.

---

[596] TCRA, *Quarterly Communications Statistics: October-December 2019*.
[597] TCRA, *Quarterly Communication Statistics: January to March 2020* (Dar es Salaam: TCRA, 2020), p. 4.
[598] TCRA, *Quarterly Communications Statistics: October-December 2019*.
[599] TCRA, *Quarterly Communication Statistics: January to March 2020*, p. 4.
[600] Plans were to see that about 20% of all land is registered by 2020, and 50% by 2025/26. See Ministry of Finance and Planning, *National Five Years Development Plan 2016/17-2020/21* (Dar es Salaam: Government Printers, 2016), p. 73.

3.6.5 Limited Access to Internet Services

In general, there is an increase in access to internet services in the country. For example, in December 2018, TCRA recorded 43 percent of internet access. In contrast to that, internet access stood at 17 percent in 2012.[601] By 2018, over 23 million Tanzanians were already accessing the internet. Nonetheless, this number is low compared to other regions of the world. For example, developed countries record over 121 percent of active mobile broadband internet while the world average stands at around 75.2 percent.[602] Tanzania is, by these standards, on the lowest side.

Despite the current growth, access to the internet is primarily through mobile wireless internet as there are limited infrastructures for fixed internet services in the country. Fixed internet services account for less than one percent, meaning only a handful of the Tanzanian population can enjoy broadband services.[603] Consequently, only a few Tanzanians can enjoy communication services enhanced by broadband internet such as VoIP.

3.6.6 Integration of Communication Services and Mobile Money Services

Mobile money is perhaps one of the few inventions identifying with the developing countries. Whereas European countries rely on traditional banking with cashless payment methods such as credit cards, many Tanzanians use their mobile phones for the same purposes. Synchronization of mobile money and telecommunication services in the country is so advanced that each sim card is a default mobile money account. In short, what a bank does, mobile money can do it as well.

The technology of using mobile phones for financial transactions in developing countries has been described to have spread faster than any other technology in human history.[604] Vodacom was the first telecom firm to introduce mobile money

---

[601] TCRA, *Quarterly Communications Statistics: October-December 2018* (Dar es Salaam: TCRA, 2018).
[602] ITU, 'Key ICT Indicators for Developed and Developing Countries and The World (Totals and Penetration Rates 2005-2018)', p. 2.
[603] Shaban Msafiri Pazi, 'Assessment of Broadband Access Technologies in Tanzanian Rural Areas', *International Journal of Internet of Things*, 8.1 (2019), 1–9 (p. 7).
[604] Bossi Masamila, 'State of Mobile Banking in Tanzania and Security Issues', *International Journal of Network Security & Its Applications*, 6.4 (2014), 53–64 (p. 53) <https://doi.org/10.5121/ijnsa.2014.6405>.

services in Tanzania in 2008.[605] The whole idea was to enable any Vodacom network user to send and receive money through a simple text-based transaction. Mobile banking has made life easy. It is now possible to make online payments for various services such as settling utility bills, various central and local government fees, levies, taxes, and subscription-based services. The same is convenient for daily transactions such as payment for groceries. As a plus, interoperability between mobile money and banks has been enhanced. Transferring money from a mobile account to a bank account and vice versa is less than a one-minute task.

The use of mobile money service is easy because it requires no internet connection unless one opts to use smartphone applications. Withdrawal of cash is possible through agents spread all over the country. In big cities like Dar es Salaam, Arusha, and Mwanza, businesspersons and firms that do not accept mobile money payments are becoming exceptions to the general rule. Because of its simplicity, Vodacom's mobile money was well received. Other companies had followed suit. Thus, MIC Tanzania Limited (Tigo) runs Tigo Pesa,[606] Airtel Tanzania Limited runs Airtel Money,[607] Zanzibar Telecommunication Limited (Zantel) operates Ezy Pesa,[608] Viettel Tanzania Limited (Halotel) operates Halopesa,[609] and TTCL runs TTCL Pesa.[610]

The introduction of mobile money services is revolutionary because it brings financial inclusivity for those long forgotten by the traditional banking sector. However, such innovation may also have regulatory and competition concerns. For example, it has to be clear which aspects of mobile money fall under the telecom or financial sectors in terms of regulation. The role of each regulator (the telecom and financial regulators) must be clear. Furthermore, the impact of mobile money services on assessing the sector's competitiveness also comes into question. Will the overall market powers in

---

[605] Masamila, p. 53.
[606] Tigo Tanzania, 'Tigo Pesa', *Tigo Tanzania*, 2020 <https://www.tigo.co.tz/tigo-pesa> [accessed 19 February 2020].
[607] 'Tanzania's Leading Provider of Prepaid, Postpaid Mobile, Internet Services & Mobile Money.', *Airtel* <http://www.airtel.co.tz/> [accessed 19 February 2020].
[608] Zantel, 'Zantel Ezypesa', 2020 <https://zantel.co.tz/ezypesa> [accessed 19 February 2020].
[609] Halotel, 'Halotel', 2020 <https://halotel.co.tz/halopesa> [accessed 19 February 2020].
[610] TTCL, 'TTCL Pesa - TTCL', 2020 <https://www.ttcl.co.tz/ttclpesa_index.asp> [accessed 19 February 2020].

mobile money impact overall competition in the sector? The question is essential as the wall between mobile money and network services is not clear to end-users.

Some of these concerns, such as clarity of regulatory roles, have been partly addressed in the Competition Regulations. However, there is insufficient jurisprudence on the relationship between telecom and mobile money services, including possible anti-competitive effects. Note that for a long time, the interoperability of mobile money services did not exist. The first mover, Vodacom Tanzania, had the absolute advantage of attracting many new customers. It is only in 2016 that Vodacom introduced interoperability. By then, it had more than 50 percent of shares of the mobile money market.[611] This factor alone gives Vodacom significant powers, which can prove useful in its competitive strategies.

3.7 Market Structures and Shares

The TCRA provides quarterly reports based on the type of markets it has defined in the sector. Regulation 15 of Competition Regulations requires the Authority to define markets in terms of product and geography and substitutability of services on the demand and supply side.[612] In so doing, the Authority acknowledges the use of the Small but Significant Non-transitory Increase in Price ("SSNIP") method to define relevant markets.[613] The SSNIP, the Authority argues, intends "to arrive at the smallest product group and the smallest geographic area within which a hypothetical monopolist supplying the focal product would be able to sustain prices above competitive levels profitably."[614]

However, because of challenges inherent to the sector, the Authority does not use this method. The reasons are that it demands intensive data and information. Moreover, the Authority argues that it is hard to use it in the sector because it is difficult to understand "the cross-elasticities of demand for all products and services."[615]

---

[611] Jason Blechman, Faith Odhiambo, and Simon Roberts, *Competition Dynamics in Mobile Money Markets in Tanzania*, Working Paper, 22/2017 (University of Johannesburg: Centre for Competition, Regulation and Economic Development, Centre for Competition, Regulation and Economic Development, 2017), p. 33.
[612] *The Electronic and Postal Communications (Competition) Regulations*, GN. No 26 of 2018.
[613] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 13.
[614] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 13.
[615] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 13.

Furthermore, the Authority opines that it is impractical for one firm to "raise the price of one good and watch the resultant change in quantity for the other goods."[616] Finally, the Authority holds that there is a "lack of strict guideline as to the degree of a price change that might be expected to cause a change in a potential competitive good or time frame in which such a change might occur."[617]

As a result of these challenges, the Authority defines markets in the following ways. Firstly, it receives information from all service providers on the type and nature of their services. Secondly, it groups those services into two major groups, wholesale services and retail services. Thirdly, the Authority puts all substitutable goods or services as belonging to one market for each group. Thus, the Authority defines a relevant market as "all those products and or services which are regarded as interchangeable or substitutable by consumer, because of the products' characteristics, prices, and their intended use."[618]

Based on the Authority's definition of markets, this section briefly looks at the existing markets and corresponding share structures. Accordingly, there are two categories of markets. The first category is the retail market, which includes all telecom firms' services directly offered to their customers. In this category, there are the following four markets: voice call originating, short messaging, mobile money services, and data services. The second category of market relates to wholesale services. There are four markets: wholesale broadband services, broadband transmission services, passive infrastructures, and call termination.

3.7.1 Retail Markets

3.7.1.1 Voice Call Originating

According to the TCRA, the voice call originating market includes subscription shares to the network and comprises on-net calls, off-net calls, and international calls. Regarding subscriptions, it is clear that Vodacom has been dominant for many years.

[616] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 13.
[617] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 13.
[618] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 14.

Until 2005, it commanded more than 35 percent of all subscriptions.[619] The 35 percent market share is the threshold for determining dominance in the sector.[620] It was only the entry of Halotel into the market in 2015 that diluted Vodacom's dominance.[621]

Halotel's entry into the Tanzania market was exciting. Having rolled its network plan only in 2015, it was the first company to have laid 18,000 kilometers (km) of fiber optic cable covering all 26 mainland Tanzania regions. Such grand entry saw Halotel installing over 2500 antenna towers covering almost 95 percent of the Tanzania population. It covered mostly rural dwellers. If anything, Halotel is a game-changer. It has brought about vigorous competition in the market. With only two years of existence, it garnered 10 percent of all subscriptions. Nonetheless, Vodacom still enjoys the highest number of subscribers compared to other operators. Tigo and Airtel closely follow Vodacom in this respect.[622] Subscriptions alone are not enough to give the exact picture of the market. The Authority also looks further into other factors such as voice calls traffic and revenue from voice call services. For example, it came out clear that Vodacom has been commanding 37 percent of all voice call traffic and 41 percent of revenue from the same services.[623] As a result, the TCRA declared that the voice originating market is concentrated, with Vodacom and Tigo having significant market powers.[624]

3.7.1.2 Short Messaging Services

The TCRA has established that Short Messaging Services (SMS) and Over the Top services (OTT) belong to different markets. Hence, there is a need to undertake an independent examination of the SMS market. Here, again, based on the TCRA statistics, Vodacom and Tigo have continued to dominate the market, each with more than the 35 percent threshold.[625] When it comes to revenue shares on SMS, however,

---

[619] TCRA, *Quarterly Communications Statistics April-June 2015* (Dar es Salaam: TCRA, 2015).
[620] See Section 3 of *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010.
[621] See the TCRA communications statistics from 2015 to 2020.
[622] See Table 3.6-1 for details on the percentage of market shares base on customers' subscriptions from 2010-2019.
[623] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, pp. 20 & 21.
[624] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 23.
[625] Data obtain from TCRA statics reports from 2010 to 2019.

a different picture emerges. Tigo has more than half of all shares, leaving the rest behind.[626] As a result of its analysis, TCRA declared the SMS market concentrated as of 2018, with Tigo having significant market powers over the others.[627]

The TCRA also provides statistics for local and international markets. Whereas Vodacom leads in terms of subscriptions, Tigo leads in terms of revenues collected. In total, Vodacom, Tigo, and Airtel lead the market by over 98 percent, both in terms of subscriptions and revenue. Table 3.7-1 presents the latest breakdown in the SMS market.

Table 3.7-1 Shares (in percentage) of local and international SMS and revenue shares of local SMS as of December 2017

Year	SMS share as of December 2017		Revenue Shares as of December 2017
Operator	Local SMS	International SMS	Local SMS[628]
Vodacom	46	41	14
Tigo	40	38	57
Airtel	11	20	20
Others	3	1	9

Source: TCRA's Competition Assessment Report of 2018[629]

3.7.1.3 Mobile Money Services

We have already noted that mobile money technology spread in Tanzania at a very high speed. Following regulatory directives, each telecom company has to establish a separate unit to run mobile money services. Vodacom Tanzania, the pioneer of mobile money in Tanzania, has remained the leading operator with the highest number of mobile money subscriptions despite stiff competition from other providers. There is no official data on mobile money subscriptions from the TCRA before 2015. However, other sources have indicated that Vodacom enjoyed over 50 percent of all mobile

[626] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 33.
[627] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 35.
[628] Note that the TCRA does not provide an assessment of international SMS.
[629] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 35.

money subscribers in 2013.[630] The available data from 2015 still places Vodacom at the top of the board. The three first telecommunication companies have continued to enjoy over 90 percent of the mobile money market.[631] Table 3.7-2, for example, shows subscriptions in the past five years with Vodacom leading the way.

Table 3.7-2 Shares (in percentage) of subscription of mobile money per firm from 2015 to 2020

Firm	2015	2016	2017	2018	2019	2020
Vodacom M-Pesa	45	42	37	39	39	41
Tigo Pesa	30	34	31	32	30	28
Airtel Money	23	23	27	21	20	20
Others	2	1	5	8	11	11

Source: Extracted from TCRA communication statistics from 2015-2020

Apart from the subscription, Vodacom is commanding a significant share in the volume and value of transactions. As a result, the TCRA declared both Vodacom and Tigo to have SMP in the mobile money industry.[632] Table 3.7-3 shows shares of volume and value of mobile money transactions in the year 2017.

Table 3.7-3 Mobile money shares (in percentage) in volume and value for 2017

Firm	Volume of Transactions	Value of Transaction
Vodacom M-Pesa	45	48
Tigo Pesa	38	36
Airtel Money	10	15
Others	7	1

Source: TCRA's Competition Assessment Report of 2018[633]

3.7.1.4 Data Services Market

Data services form an integral part of telecom services in the country. Because of the lack of infrastructure for fixed data services, most people get data services through

[630] CGAP, 'Tanzania's Mobile Money Revolution', 2015 <https://www.cgap.org/research/infographic/tanzanias-mobile-money-revolution> [accessed 19 February 2020].
[631] See for example in TCRA, *Quarterly Communications Statistics: October-December 2016* (Dar es Salaam: TCRA, 2017); TCRA, *Quarterly Communications Statistics: October-December 2017* (Dar es Salaam: TCRA, 2018); TCRA, *Quarterly Communications Statistics: October-December 2018*.
[632] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, pp. 31 & 32.
[633] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, pp. 26–28.

wireless networks. For example, in 2018, more than 23 million people had access to the internet.[634] Only 0.7 percent had access through fixed networks.[635] The rest accessed the internet using wireless internet networks mostly provided by telecom firms.[636]

It follows that telecom firms capitalize on data services. Again, the leaders here are the three companies, Vodacom, Tigo, and Airtel.[637] There is a significant rise in TTCL and Halotel shares in this market for varied reasons. In this study's opinion, the increase in the two companies' shares comes from providing cheaper internet services, thereby attracting customers interested in data services. TTCL has the added advantage of being the former monopoly with the exclusive right to establish fixed infrastructures. It has, for this reason, continued to provide fixed wired and wireless data services. As a result, it commands a significant share in the data market compared to other markets. Halotel's rise in shares in the data market results from its cheap data bundles and intensive penetration in rural areas.

Table 3.7-4 Shares (in percentage) of subscription and revenue from internet services as of December 2019

Firm	Subscription shares	Revenue Shares
Vodacom	35	24
Tigo	37	35
Airtel	24	16
Others	4	25

Source: TCRA's Competition Assessment Report of 2018[638]

As Table 3.7-4 clearly shows, it is only in data services that other firms challenge the three firms (Vodacom, Tigo, and Airtel). For example, Halotel had a 13 percent share of all revenues from data services, while TTCL retained 12 percent. Data service is the only market with no concentration and which no firm with SMP exists.[639]

[634] TCRA, *Quarterly Communications Statistics: October-December 2018*, p. 15.
[635] TCRA, *Quarterly Communications Statistics: October-December 2018*, p. 15.
[636] TCRA, *Quarterly Communications Statistics: October-December 2018*, p. 15.
[637] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 25.
[638] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 25.
[639] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 27.

3.7.2 Wholesale Markets

3.7.2.1 Wholesale Broadband Services

It is interesting to note that no telecom firm provides wholesale broadband services in Tanzania. Instead, the wholesale broadband market is duopolistic, with only two companies offering such services; Seacom Tanzania Limited and Eastern African Submarine Cable (EASSy). Seacom Tanzania is part of the Seacom company, a privately-owned submarine cable company system that connects Africa to the rest of the world. It has points of connection in Africa and beyond, for example, in London, Frankfurt, and Amsterdam.[640]

EASSy, the second provider of broadband services, is a submarine cable with more than 10 Terabytes per second (Tbps) capacity.[641] It is the first of its kind to link East and South Africa to the world. Thus, it connects South Africa in the south with Sudan at the northern point.[642] There are connections for Mozambique, Comoros, Madagascar, Tanzania, Kenya, Somalia, and Djibouti.[643] The two companies, Seacom and EASSy, have a duopoly over wholesale broadband services. Tanzania telecom firms have to procure from either of them and, at times, from both to secure continued connectivity.[644] This structure is not healthy for a competitive data market because the two firms are price makers. Consequently, there are complaints about high data prices in the country.[645]

---

[640] See Seacom, 'About Seacom' (2019) <https://seacom.com/about> accessed 28 February 2020.
[641] See African Development Bank, 'EASSy: The Eastern Africa Submarine Cable System' (*African Development Bank - Building today, a better Africa tomorrow*, 13 March 2019) <https://www.afdb.org/en/projects-and-operations/selected-projects/eassy-the-eastern-africa-submarine-cable-system-156> accessed 28 February 2020.
[642] See African Development Bank, 'EASSy: The Eastern Africa Submarine Cable System' (*African Development Bank - Building today, a better Africa tomorrow*, 13 March 2019) <https://www.afdb.org/en/projects-and-operations/selected-projects/eassy-the-eastern-africa-submarine-cable-system-156> accessed 28 February 2020.
[643] See African Development Bank, 'EASSy: The Eastern Africa Submarine Cable System' (*African Development Bank - Building today, a better Africa tomorrow*, 13 March 2019) <https://www.afdb.org/en/projects-and-operations/selected-projects/eassy-the-eastern-africa-submarine-cable-system-156> accessed 28 February 2020.
[644] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 36.
[645] A recent published study shows that data prices in Tanzania are the highest in the region with 1GB averaging above 5USD. See Stefen Kafeero, 'Ugandans Paying Highest for Mobile Data in E. Africa - Survey', *Daily Monitor* (Kampala, Uganda, 22 September 2019) <https://www.monitor.co.ug/News/National/Ugandans-paying-highest-for-mobile-data-in-E--Africa/688334-5282268-s90bmv/index.html> [accessed 3 March 2020].

3.7.2.2 Broadband Transmission Services

The transmission of data services forms a separate market. The submarine cable systems deliver connectivity only to the designated point of connection for specific countries. It is upon telecom firms to transmit data to their points of connection. In Tanzania, the National ICT Broadband Backbone (NICTBB) transmits data from submarine cable providers to the operators.

The NICTBB is a national fiber optic cable network constructed to enhance the national ICT's policy and promote e-learning, e-government, e-health, and related services. The total planned coverage is 100,000 km to cover all Tanzania villages, to be completed in different phases.[646] Two phases of NICTBB construction are complete, covering 7560 km in 21 regions. NICTBB is connected to international undersea cables such as SEACOM and East Africa Submarine Cable System (EASSy).[647]

Even though the government owns NICTBB, it is under the management of the TTCL. The government is the sole shareholder of the TTCL. Thus, TTCL participates in data services transmission (where it leases or sells transmission capacities to telecom firms) and in the retail market of data services. Therefore, TTCL, in a joint venture with NICTBB, has a monopoly over the transmission of data services. As some telecom firms noted during this study, this fact gives TTCL an unfair competitive advantage in the retail data market.

The other aspect of transmission is that of last-mile connectivity. Last-mile or last-kilometers is a term widely used in the telecom sector (as well as in other network industries). It means the last part of the network that delivers services to customer premises. In the old times of the PSTN, last-mile meant copper wires that connected the customer premises to the nearest network exchange.[648] As we have already noted, TTCL did not command significant market share and, therefore, did not establish significant last-mile connections during its high monopoly time. Nevertheless,

[646] Shaban Msafiri Pazi and Chris Chatwin, 'Assessing the Economic Benefits and Challenges of Tanzania's National ICT Broadband Backbone (NICTBB)', *International Journal of Information and Computer Science*, 2.7 (2013), 117-126. (p. 118).
[647] Pazi and Chatwin, p. 118.
[648] S. C Strother, *Telecommunications Cost Management* (Boston: Artech House, 2002), pp. 168–69.

recognizing the importance of last-mile connections, the government contracted Viettel Tanzania Limited (Halotel) to lay down about 18,000 km of such connections to region and district centers.[649] So far, Halotel has already established 16,000 km of fiber cable.[650] However, the cable is unavailable for leasing or sale, and instead, it is used only by Halotel for its data services. [651] This structure gives Halotel a competitive advantage, especially in rural areas.

3.7.2.3 Passive Infrastructure

Passive infrastructure relates to infrastructures responsible for hosting and transmitting network services, for example, transmission towers. Initially, telecom firms were actively involved in this market by establishing their towers.[652] In 2012, for example, Vodacom, Airtel, and Zantel owned their towers by 100 percent.[653] It was only Tigo that had outsourced to Helios towers.[654] Today, however, the market has changed considerably. Outsourcing of towering services has become a common trend, the major tower operator being HHT Infraco Limited (Ltd).[655] HHT Infraco Ltd commanded nearly 40 percent share of all towers as of 2017.[656] There is no telecom firm, which owns a significant part of towers to harm competition. Furthermore, the firms, which own the towers lease them to each other's on net off basis without actual movement of cash.[657]

3.7.2.4 Call Termination

Call termination happens when one firm facilitates a call from another firm to its network. For example, if a customer from Vodacom calls Tigo, Tigo has the right to terminate the call. Under the Tanzanian framework, it is the calling party that pays. It

---

[649] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 37.
[650] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 37.
[651] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 37.
[652] GSMA, *Powering Telecoms: East Africa Market Analysis Sizing the Potential for Green Telecoms in Kenya, Tanzania and Uganda* (London: GSMA, 2012), p. 14.
[653] GSMA, *Powering Telecoms: East Africa Market Analysis Sizing the Potential for Green Telecoms in Kenya, Tanzania and Uganda*, p. 14.
[654] GSMA, *Powering Telecoms: East Africa Market Analysis Sizing the Potential for Green Telecoms in Kenya, Tanzania and Uganda*, p. 14.
[655] HH Infraco Limited is a subsidiary of Helios Towers, one of the three independent towers operators in the Africa. See HHT Infraco Ltd, 'Project Detail - HTT Infraco Limited', 2020 <https://www.fmo.nl/project-detail/43223> [accessed 28 February 2020].
[656] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 39.
[657] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 39.

means that the receiving party, that is, each firm, has a monopoly over termination.[658] Therefore, the competitive advantage would arise when one firm has such scales such that it receives more calls than the others. In any case, the regulation of termination is done *ex-ante* to avoid anti-competitive results.[659]

3.8 Concluding Remarks

This chapter intended to introduce the telecommunications sector in Tanzania. At first, it traced the early days of the sector that saw the birth and growth of monopoly. It then looked at various reforms that the country had to embark on because monopoly did not prove efficient. As a result of these reforms, the sector was liberalized. The doors for private investment became wide open. To ensure the transition from monopoly to competition, the government introduced regulation. Regulation saw the establishment of the sector regulators, which also doubled as competition enforcement agencies. To a large extent, the regulators became instrumental in the liberalization process and facilitation of competition. Therefore, the sector is now fully liberalized, with a monopoly existing only in the wholesale transmission of broadband internet.

This study must mention a critical lesson at this point; that is, market systems can deliver greater efficiency than monopolies. One ought to consider this. Telecom services in Tanzania came with colonialism, gaining prominence at the beginning of the twentieth century. Throughout the colonial era and after independence, the telecom sector was monopolized. Monopoly continued until 1993. Under the state command, the sector could achieve only 0.32 connections per one hundred inhabitants for almost one entire century. However, when the government reintroduced market-based policies, new investments arrived. Competition intensified. Innovation increased. New technologies advanced. New products and services improved. As a result, connections skyrocketed to 50 percent of the population in just ten years. In 20 years, connections already stand at around 80 percent.

---

[658] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 40.
[659] Chapter three provides details on termination.

Such developments depict what a market economy could deliver in contrast with a command economy, even though it does not yet operate at its optimal level. One can argue that these developments were a mere reflection of the global telecom developments. That is true. However, it is also true that rapid developments and technological advancements in telecommunications resulted from the liberalization process that paved the way for the market economy. Thus, Tanzanian consumers stand to benefit more if the sector adheres to market economy principles.

Even though the presented figures are promising, the chapter notes that the sector still has some concerns. The telecom market does not operate at its optimal level because some parts are still concentrated. Vodacom, Tigo, and Airtel command more than 80 percent of all shares in almost all markets, with Vodacom and Tigo taking the lead. The TCRA, rightly so, describes this pattern as a result of entry barriers. Thus, the authority acknowledges a problem worth examining to ensure a highly competitive sector. However, the problem is beyond entry barriers. Other concerns go to the root of firms' behaviors. They require *ex-post* intervention. The Authority's *ex-ante* regulation has not done much in this regard. Thus, the question of its efficacy, especially when it has *ex-post* enforcement powers, comes to light. Chapter six of this work is dedicated to answering the question.

Chapter 4: Legal and Institutional Framework

> *"The institutional governance arrangements for regulators are critical for assisting or impeding the social, environmental and economic outcomes that it was set up for."*[660]

4.1 Introduction

The previous chapter has demonstrated that Tanzania had to reintroduce market policies after the failure of socialism. Legal and institutional reforms became necessary to support the new policy shift. It was, so to say, a change of economic and legal system and operational cultures. In the telecom sector, it was sector regulation that had to effect these changes. However, one must note, it was not a comfortable journey to introduce, develop, and perfect these changes. At times, it became necessary to have several attempts to introduce and reintroduce regulatory rules and design and redesign the institutions. As a framework for regulating the sector, we have today a product of over twenty years of policy rehearsals, legislative assignments, and institutional developments.

This chapter introduces the Legal and institutional framework that regulates the sector. The objective is to give a detailed picture of how regulation takes place. The chapter focuses only on TCRA's *ex-ante* regulation. The *ex-post* regulation of competition law is presented in the next chapter. Nonetheless, this chapter also looks at the competition dimensions of the *ex-ante* regulation. For instance, it shows the extent to which regulatory rules promote or distort competition.

Therefore, the chapter takes the following format. Firstly, it briefly provides for constitutional aspects of telecommunications regulation. Secondly, it looks at some of the regulatory frameworks, which impact competition in one way or another. Among others, it looks at the regulation of licensing, access, interconnection, radiofrequency,

[660] OECD, *The Governance of Regulators*, p. 18.

tariff, quality of service, and consumer protection. Thirdly, it introduces and describes various institutions responsible for the regulation.

4.2 The Constitutional Aspects of Telecommunications Regulation

The Constitution of the United Republic of Tanzania does not have direct provisions for regulating the telecommunications sector. However, a few provisions may impact the country's policies, generally on the entire economy and specifically on telecommunication regulation. For instance, we have seen in chapter three how Tanzania adopted socialist policies and their impact in the sector. This chapter will also show how the government wants to exercise control of the sector through regulation. This policy approach is a product of the constitutional provisions that maintain Tanzania as a socialist state, almost 30 years after its economic reforms to reintroduce the market economy.

Article 3(1) declares Tanzania a socialist state. Article 9 of the Constitutional upholds the policy of socialism and self-reliance. By upholding this policy, the Constitution directs Tanzania to manage its economy as a socialist state. For instance, Article 9(d) and (j) require the state to plan its national economy, meaning that the economic activities should not rely on market operations but the dictates of the state. To avoid any doubt, Article 9(k) states that the country should be governed by principles of "democracy and socialism." Tanzania followed these constitutional principles to the letter in crafting national economic policies until its economic reforms in the mid-1980s. Since then, Tanzania has been shifting towards a market economy. However, it has retained some policies that promote state control in the economy, including the telecommunication sector. This, it is argued, comes from the constitutional provisions examined above.

Constitutional aspects of telecommunication regulation can also be understood in light of fundamental rights and freedoms, mainly as provided in Articles 16 and 18. Article 16(1) provides for the right to the protection of private communications. Regarding Article 18, the Constitution establishes the right to freedom of expression. The Article establishes that every person has the right to express his or her idea, the right to seek, receive and disseminate information, and the right to have protection

against interference of private communications. The Constitution directs the parliament to enact laws to give effects to these protections. Regulatory laws are among those established in response to these provisions. For example, as this chapter reveals, the TCRA has been established to regulate telecommunication-related services. Thus, it can be argued, the constitutional mandate to regulate telecommunications services comes from these provisions as well.

4.3 The Legal Framework for Telecommunications Regulation

The framework for regulating the sector is extensive. This work cannot afford to investigate each in detail. Thus, it focuses only on the major frameworks that, in one way or another, have an impact on competition. This section looks at the regulation of licensing, access, interconnection, radiofrequency spectrum, tariff, quality of service, and consumer protection. In examining this framework, reference is made to mainly two legislation central to telecommunications regulations: The Tanzania Communications Regulatory Authority Act of 2003 and the Electronic and Postal Communications Act of 2010. Under these two Acts are over two dozen Rules and Regulations that form part of the legal framework under examination.

4.3.1 The Licensing Framework

Licensing of telecommunications services is one of the powerful regulatory tools in the sector. The most obvious goal of licensing is to grant authorizations for service provision. Beyond this objective, licensing can also be an instrument of controlling and shaping telecommunication markets, for example, through controls on entry or local participation.[661] For investment protection purposes, licensing can also act as a private contract between the government and service providers to secure investment rights.[662] Besides, it is not exceptional to have licenses for purposes of extracting fees and levies.[663]

[661] Anne Flanagan, 'Authorization and Licensing', in *Telecommunications Law and Regulation*, ed. by Ian Walden, Fifth edition (Oxford: Oxford University Press, 2018), pp. 285–380 (pp. 285–86).
[662] Anne Flanagan, p. 286.
[663] Anne Flanagan, p. 290.

Beyond the mentioned objectives, it is usual, especially in developing countries, to use licenses to set out rolling-out obligations to ensure equitable distribution of communication services.[664] Thus, it is without a doubt that licensing is applied to achieve many objectives. As Beatrice and Sydney Webb noted, albeit in a non-communications context,

> "The device of licensing—that is, the requirement that any person desiring to pursue a particular occupation shall first obtain specific permission from a governing authority—may be used to attain many different ends. The license may be merely an occasion for extracting a fee or levying a tax. It may be an instrument for registering all those who are following a particular occupation, in order, for some reason or another, to ensure their being brought under public notice. It may be a device for limiting the numbers of those so engaged, or for selecting them according to their possession of certain qualifications. Finally, the act of licensing may be the means of imposing special rules upon the occupation, or of more easily enforcing the fulfilment either of these special rules or of the general law of the land."[665]

Tanzania's licensing framework is governed by the Electronic and Postal Communications Act, together with its Licensing Regulations of 2018.[666] It regulates entry to telecommunications markets, operations of firms in the market, and their exit. This section sheds light on how licensing works in the sector.

4.3.1.1 Licensing Categories

Generally, the literature suggests the presence of three licensing regimes in the telecom sector; individual licenses, class licenses (or general authorization), and the absence of any licensing requirements.[667] Whereas individual licenses are limited to specific operators, general authorizations or class licenses entitle all qualified

---

[664] Arturo Muente-Kunigami and Juan Navas-Sabater, *Options to Increase Access to Telecommunications Services in Rural and Low-Income Areas* (Washington, D.C: World Bank Publications, 2010), pp. 27–28.
[665] Sidney Webb and Beatrice Webb, *The History of Liquor Licensing in England Principally from 1700 to 1830* (London: Longmans, Green and Co, 1903), p. 4.
[666] *The Electronic and Postal Communications (Licensing) Regulations*, GN No 57 of 2018.
[667] Blackman and Srivastava, p. 65; Hank Intven, Jeremy Oliver, and Erdgardo Sepúlveda, *Telecommunications Regulation Handbook.* (Washington, D.C.: World Bank, infoDev Program, 2000), pp. 2–10; Tim Schwarz and David Satola, *Telecommunications Legislation in Transitional and Developing Economies*, World Bank Technical Paper, no. 489 (Washington, D.C: World Bank, 2000), p. 4.

personnel to offer authorized services.[668] It is possible to have a regime that requires no licensing, especially when the sector is already fully liberalized.[669] World trends indicate a shift from individual licenses to general authorizations.[670] For example, a telecom firm does not need an individual license to offer network services in the EU framework.[671] Article 6 of the Authorization Directive provides general authorizations and conditions in which such authorizations may be limited.[672]

Many developing economies, however, are still upholding individual licenses.[673] Tanzania is not an exception. According to the Licensing Regulations of 2018, there are two licensing regimes; individual licenses and class licenses. Under the category of individual license, there are at least four essential licenses, Network facility license, Network services license, Application services license, and radiofrequency license.

4.3.1.1.1 Network Facility License

To understand this license, we must first ascertain the meaning of a network facility. Section 3 of the EPOCA and Regulation 3 of Licensing Regulations define network facility as an element or combination of physical infrastructure elements, which either alone or in connection with another is used to provide network services. Network facilities, however, do not include customer premises. Thus, network facilities mean physical infrastructures that enable a firm to provide network services. Therefore, a network facility license is a type of license that allows the holder to establish such communication infrastructure. It permits the holder, for example, to establish submarine cables, fiber optics, towers, ducts, switching centers, and satellites.

4.3.1.1.2 Network Services License

Network services refer to the actual process of transmitting data for communication purposes. Section 3 of the EPOCA defines network service as "the carrying of information in the form of speech or other sound, data, text or images, by means of

---

[668] Intven, Oliver, and Sepúlveda, pp. 2–10.
[669] Intven, Oliver, and Sepúlveda, pp. 2–10.
[670] Blackman and Srivastava, p. 63.
[671] Anne Flanagan, p. 286.
[672] See Art 6 of the 'Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the Authorisation of Electronic Communications Networks and Services (Authorisation Directive)', *Official Journal of the European Union*, L 108, 2002, 21.
[673] Blackman and Srivastava, p. 63.

guided or unguided electromagnetic energy." Network Service License provides holders with the right to network access codes and interconnection capabilities. This license, it is argued, is the primary license permitting the holder to provide network services. This license permits the provision of network services only, for example, virtual electronic services. If a firm holding this license also desires to own communication infrastructure, which is typical for many telecom firms, then a network license facility becomes necessary.

4.3.1.1.3 Application Services License

Both the EPOCA and Licensing Regulations do not define application service. However, both Section 3 and Regulation 3 of the EPOCA and Licensing Regulation define an application services license as a license that allows the provision of application services. Regulation 3 of the Licensing Regulations hints that application services include all services provided "by means of one or more network services." Examples of such services are in the First Schedule to the Licensing Regulations. Thus, an application services license allows the provision of international connectivity/bandwidth regardless of the technology used, for example, by using satellite or submarine cables. Also, it allows the provision of public voice and messaging services, internet services, internet telephony, data services, and tracking services. Under this license, it is possible to establish private networks, virtual networks, or reselling of communications services to end consumers.

4.3.1.1.4 Radio Frequency Spectrum User License

Access to and use of radiofrequency require a separate license under the Radio Frequency Regulations of 2018.[674] Regulation 4 prohibits using radio frequency spectrum or any part thereof without the TCRA's authorization. Thus, telecom firms must also apply for this license as provided in Regulation 26. Failure to procure this license, Regulation 37(1) of the Radio Frequency Regulations provides, may lead to fines or imprisonment of not less than twelve months.

---

[674] *The Electronic and Postal Communications (Radio Communication and Frequency Spectrum) Regulations*, GN. No 24 of 2018.

4.3.1.1.5 Class License and Other Licenses

Apart from individual licenses already discussed, there are scenarios in which the Authority may issue class licenses. Section 3 of the EPOCA defines class license as the Authority's declaration "authorizing a class of persons to provide electronic communication services subject to requirements as may be determined by the Authority." According to Section 23(1) of the EPOCA and Regulation 40 of Licensing Regulations, a class license may be issued for several activities, including dealing with electronic equipment such as construction, installing, and electronic equipment maintenance. Also, it may be issued for importation, distribution, and selling of communication equipment. Dealing with V-SAT services also requires a class license. Furthermore, it may be issued for radio communications services, Global Marine Distress Safety Systems (GMDSS), or electronic numbering resources.

4.3.1.2 Licensing Practices and Principles

The law has established practices and principles that govern the licensing process. Such principles intend to achieve several objectives. They include promoting competitive licensing, embracing technological changes in the sector, promoting market entry and competition, and controlling the utilization of issued licenses. The next parts present essential practices and principles.

4.3.1.2.1 Converged Framework

Since 2005, the TCRA offers licenses under the converged framework.[675] The converged framework develops from the convergence of communications services that have torn down walls between information and communication technologies. This framework observes the principles of technology and service neutrality. Technology neutrality allows telecom firms to adopt whatever technology is convenient to deliver their services as consumers demand. As for service neutrality, the framework allows licensees to decide on the type of services to offer as

[675] Raynold Mfungahema, 'Policy and Regulatory Approach on The Next Generation Networks: The Case of Tanzania' (presented at the ITU-Regional Workshop on the Next Generation Networks (NGN), Markham Suite Hotel, Dar es Salaam, 2006), pp. 17–18 <https://www.itu.int/ITU-T/worksem/ngn/200610/presentations/npr-p2.pdf> [accessed 17 September 2019].

determined by the firm's capacity, business orientation, and service needs.[676] Thus, a firm can decide only to provide communication facilities or to enter fully into telecom services using the technology of its choice within the region of its preference.

A converged licensing framework is suitable for competition promotion because it widens entry possibilities. For example, small firms may only choose certain services to test waters before the full entry. The framework also provides room for specialized services or services that depend on other providers. For example, it is through this licensing framework that virtual networks are possible. In short, the framework is conducive to promote competition hence benefits consumers with expanded choices at presumably better prices.

4.3.1.2.2 Market Segmentation

Regulation 9(1)-(4) of the Licensing Regulations allows licenses based on market segmentation. There are four market segments; international, national, regional, and district markets. International licenses serve international markets, while national licenses serve the whole of Tanzania. A licensee serves up to ten geographical regions with a regional license, while with a district license, a licensee may serve up to three geographical districts. The segmentation accommodates different firms with different market capabilities and hence, facilitates entry as well as competition. Well-equipped firms with sufficient resources are welcome to start in the international market. As for start-ups, for example, the district or regional market may be a good option.

4.3.1.2.3 Competitive Licensing

Licenses are offered under a competitive framework as provided in Regulation 20(1) of the Licensing Regulations. This framework replaces licensing based on government discretions and gives preference to those firms with requisite capacities. Rooms for extraneous considerations, for example, political connection or financial influences, are reduced. If all goes well, at least on a theoretical level, it is expected that only those firms with the requisite capacity will compete for and acquire the required

---

[676] Chris Kosmopoulos, 'Why Telcos Are Acquiring Ad Tech and Media Companies', *Marfeel*, 2018 <https://www.marfeel.com/blog/why-telcos-are-acquiring-ad-tech-and-media-companies/> [accessed 18 September 2019]; Spanier, p. 1.

licenses. However, the same framework may end up favoring those who are already strong in the market. As a result, the framework may also hinder entry because only those already well-established are likely to win.

4.3.1.2.4 Restricted Disposition

As Regulation 4(1) of Licensing Regulations provides, there is a restricted disposition of licenses. Disposition is widely defined by Regulation 4(2) to include any attempt to assign, transfer, dispose of any rights or obligations, or in any manner, alienate the license or any part thereof. In the same spirit, Regulations 23&24 of the Licensing Regulations prohibit a licensee from changing its share structure without first notifying the Authority. Once issued, the license does not become an absolute private property as the Authority continues to exercise control over it despite complicated procedures and processes in the application and considerable fees.

4.3.1.3 Licensing Conditions

As already noted, licensing can be and is, in fact, a powerful tool of governmental control of the sector. Through licensing, the government (through the regulator) can insert conditions for each firm as determined by regulatory needs. As the Licensing Regulation provides, such conditions are many, and the Authority has powers to add specific conditions to each licensee.[677] This part explores some of the significant conditions.

4.3.1.3.1 Payment of Fees and Royalties

The Licensing Regulations require each licensee to pay fees and royalties. Such fees include application fees, initial license fees, renewal fees, and annual royalty.[678] It has to be noted that licensing fees are not low. As Table 4.3-1 indicates, each license attracts varying fees and royalties. For example, there is an application fee for each license, initial license fee, and renewal fees.

Further, there is an annual royalty fee calculated on gross yearly turnover. Thus, it would turn out that licensing is also a significant source of the Authority's revenue. As

[677] See Part III of *The Electronic and Postal Communications (Licensing) Regulations*, GN No 57 of 2018.
[678] First Schedule, *The Electronic and Postal Communications (Licensing) Regulations*, GN No 57 of 2018.

a result, both the law and Authority take licensing fees seriously because failure to pay them may lead to the license's cancellation.[679] Table 4.3-1 gives a breakdown of necessary fees and royalties under the current framework. Note that fees for spectrum, which are not insignificant, are not included in the Table.

Table 4.3-1 An Extract of licensing fees for international and national licenses

Network Facility License					
Market Segmentation	Application fee (USD)	Initial license fee (USD)	Renewal license fee (USD)	Royalty fee (Annual Gross Turnover (GAT) (USD)	Duration
International	10,000	200,000	300,000	1% of GAT	25 years
National	10,000	400,000	500,000	1% of GAT or 3,000 UDS whichever is greater	25 years
Network Services Licenses					
International	10,000	300,000	400,000	1% of GAT	25 years
National	5,000	600,000	750,000	1% of GAT or 3,000 USD whichever is greater	25 years
Application Service License (With Network Facility and Services Licenses)					
National	5,000	100,000	120,000	1% of GAT	10 years
International	1,000	10,000	15, 500	1% of GAT or 3000 USD whichever is greater	10 years

Source: Extracted from the Licensing Regulation of 2018

4.3.1.3.2 Minimum Public Shareholding Requirement

Observations from the field indicated that the application and process of licenses, including payment of required fees and royalties thereof, are already complicated enough to pose a significant regulatory challenge. Nevertheless, to even complicate matters, Section 26 of the EPOCA requires every telecommunication company to offer at least 25 percent of its shares to the public. Failure to comply with this requirement risks revocation of communications licenses under Section 22 of the EPOCA.

At first, the law under Section 26 of the EPOCA demanded that the 25 percent be offered only to Tanzania nationals. Here, the motivation was more politically motivated with nationalistic inspirations to ensure that Tanzanians are not side-lined in the telecom economy while telecom firms reap enormous profits. However, this inspiration was short-lived. Later on, there were changes of the law through Section 7

[679] See S 15(1) *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010; and Reg. 10(1), *The Electronic and Postal Communications (Licensing) Regulations*, GN NO 57 OF 2018.

of the Finance Act of 2017, in which the 25 percent public offer remains but is not limited only to Tanzanians.

At the time of completing this study, only Vodacom Tanzania had succeeded in complying with this condition. Other companies had not complied, although reports indicated that some were at preparatory stages. For example, Tigo had filed a draft prospectus in 2019, planning to have the initial offer in the first half of 2020.[680] The TCRA has already issued notices of a material breach of licensing conditions. For example, in early 2017, the Authority issued notices to Tigo and Zantel, indicating that the companies could face penalties such as fines, suspension of licenses, or in the worst cases, cancellation.[681]

4.3.1.3.3 Other Conditions

More conditions come with telecommunications licenses. For example, Regulation 6(1) of the Licensing Regulations states clearly that no license may be issued unless the applicant has a physical presence in Tanzania. This requirement aims to simplify regulatory governance as the authorities are sure of where to find licensees. It is also a condition under Regulation 25(1) of the Licensee Regulations that a licensee must prove "interoperability and compatibility of the network service system with other network services systems." This would allow access and interconnection with other service providers. Additionally, the applicant must be willing to provide emergency services as the TCRA determines.[682]

4.3.1.4 Suspension and Cancellation

The Authority has powers to suspend or cancel issued licenses. Grounds for suspension include material breach of conditions, lack of compliance with minimum public shareholding obligation as provided under Section 26 of the EPOCA, and suspension or cancellation agreement between the Authority and licensee.[683] Furthermore, the Authority may cancel a non-renewed license. Before canceling or

---

[680] Millicom, *2019 Millicom Integrated Report* (Luxembourg: Millicom, 2019), p. 212.
[681] See Millicom, *2018 Millicom Integrated Report* (Luxembourg: Millicom, 2018), p. 188.
[682] See Section 12(2) of *The Electronic and Postal Communications Act*, Act No 3 of 2010; And Reg. 25 & 49 of *The Electronic and Postal Communications (Licensing) Regulations*, GN No 57 of 2018.
[683] S. 22 of the *The Electronic and Postal Communications Act*, Act No 3 of 2010.

suspending a license of five or more years, the Authority must first consult with the Minister for communications.[684]

The Authority has already canceled several licenses so far. For example, some telecom firms whose licenses have been canceled include Augere Tanzania Limited[685] and Six Telecom Company Limited.[686] When concluding this study, the Authority had issued cancellation notices for Mycell Communications Limited[687] and 4G Mobile Limited for failing to roll out their network facilities and services, as the law requires.[688]

4.3.1.5 Comments on the General Licensing Framework

The licenses examined above are not exhaustive. Many more licenses may be necessary, depending on the type of activities in question. What comes out visibly is an unnecessary multiplicity of licenses when one enters the country's communication market. Think of this framework as a person who wants to run regional bus services. Firstly, such a person requires a license to own busses and other related infrastructure (network facilities license). Secondly, he will need a license that authorizes him to offer the service between the regions in question (network services license).

Note that the license does not allow him to carry passengers but only qualifies him to do so. When ready, he will need a license to carry passengers and related services between the two regions (application services). This is not an end. The person will need to use the only road available to carry his passengers. Thus, he will need another license for this matter (spectrum user license). All these licenses are individual as he cannot transfer them to another user.

---

[684] S. 6(3), *The Tanzania Communications Regulatory Authority Act*, ACT NO 12 OF 2003.
[685] See TCRA, 'Cancellation of Licence Granted to Augere Tanzania Limited (Issued under Section 22 of the Electronic and Postal Communications Act, Cap. 306)', 2016 <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/284-cancellation-of-licence-granted-to-augere-tanzania-limited> [accessed 5 August 2019].
[686] Six Telecoms lost its licenses for 'repeatedly failing to pay regulatory fees.' See TCRA, 'Cancellation of Licenses Granted to Six Telecoms Company Limited' (TCRA, 2020).
[687] TCRA, 'Taarifa Kwa Umma Kuhusu Kusudio La Kufuta Leseni Ya Kampuni Ya Mycell Company Limited', *TCRA Website* <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/283-taarifa-kwa-umma-kuhusu-kusudio-la-kufuta-leseni-ya-kampuni-ya-mycell-company-limited> [accessed 17 September 2019].
[688] TCRA, 'Taarifa Kwa Umma Kuhusu Kusudio La Kufuta Leseni Ya Kampuni Ya 4G Mobile Limited' <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/282-taarifa-kwa-umma-kuhusu-kusudio-la-kufuta-leseni-ya-kampuni-ya-4g-mobile-limited> [accessed 17 September 2019].

Now, assume the person also wants to import, sell, and distribute busses, including related spare parts. Another license is needed. Furthermore, if he wants to repair his busses or do some installations, well, he will need another license. Moreover, if his passengers use other services connected to his bus, for example, carrying their bags with them, then another license is needed (for example, mobile money licenses). All these licenses entail different procedures for application and renewal as well as different royalties and fees as the First Schedule to the Licensing Regulations of 2018 provide.

This requirement for licenses is cumbersome. It is also annoying. Why not issue a single license that authorizes everything? This approach (single authorization) is friendly to investors and instills compliance for its simplicity.[689] It is what the ITU advocates.[690] What is needed is a licensing framework that is flexible enough to accommodate rapid technological changes and promote the ease of doing business.[691] Should individual licensing becomes mandatory, then the focus should be only on essential services. The adopted licensing framework should be pro-competitive and on objective, transparent, non-discriminatory, and proportionate conditions.[692]

The licensing framework also has an impact on the companies' corporate structures. The mandatory offering of 25 percent of telecom firms to the public is a regulatory challenge that may act as a disincentive to invest in the sector.[693] It is argued that this is a political decision that disregards the market economy's principles. Nor does it consider corporate structures and interests of investors who now have to rearrange to accommodate this regulatory requirement. It is an intrusion to firms' corporate structures with no apparent regulatory objective in promoting investment, competition, and efficiency in the sector.

---

[689] John Buckley, 'Telecommunication Regulation', in *The Cable and Telecommunications Professionals' Reference: PSTN, IP and Cellular Networks, and Mathematical Techniques*, ed. by Goff Hill, 3rd ed (Amsterdam ; Boston: Focal Press, 2007), pp. 11–33.

[690] ITU, *Regulatory Incentives to Achieve Digital Opportunities*, Trends in Telecommunication Reform, 16.2016 (Geneva: ITU, 2016), p. 130.

[691] Larouche, p. 13.

[692] See for example in Larouche, pp. 34–35.

[693] PWC, 'Doing Business in Africa Focus on Tanzania and Uganda' (PWC, 2018), p. 29 <https://www.pwc.com/ug/en/assets/pdf/doing-business-in-africa-tz-ug.pdf> [accessed 18 September 2019].

A word of caution is necessary at this point. This research does not argue against the need to promote Tanzanians' participation in the sector. However, it argues that only fewer people with stable financial means can hold shares in telecom firms. Thus, only a handful may benefit from direct ownership of shares. After all, shares do not automatically translate into wealth. There is a question of profitability in order to attract dividends. Dividends are not guaranteed. Thus, the best way to serve the public is through a friendly and competitive regulatory environment that will significantly reduce communications costs, improve access, increase broadband penetration, and improve service quality. In this way, it will be possible to assess how the sector benefits the public, compared to dividends accrued to fewer shareholders as determined by the respective year's profit.

It is worth noting that the licensing framework may present an entry barrier and act as an instrument of facilitating dominance. For example, we have seen that three firms dominate the Tanzanian market. Only these, one can safely assume, will attract subscribers for 25 percent of their shares. Under normal circumstances, it is not expected that a firm with about 1 percent of market shares will attract a good number of investors like a firm with more than 35 percent. This requirement might push smaller firms out of the market, strengthening those already with significant market powers.

4.3.2 Access Regulation

The economics of telecom suggest that well-rooted firms in the market have competitive advantages above newcomers. For example, they already have an extensive infrastructure, which newcomers do not have. In the case of former monopolies, most of their infrastructure came from public monies. Such firms' investments commanded huge sunk costs over time and had to acquire necessary property rights such as access to laying cables over land, water, or air.

Now, in the absence of regulation to guarantee access, new firms have to replicate the same investment process. Although not impossible, it may be difficult because of the

enormous costs involved, or in some instances, because it is impractical.[694] At this point, it becomes necessary for new firms to gain access to the incumbent's network. However, access is not readily available. As the OECD notes,

> "It is hard to find a more controversial issue in industrial policy than that concerning the terms on which entrants can gain access to an incumbent firm's network. As a result of the waves of deregulation of the past two decades, the regulation of the terms and conditions under which competing firms have access to essential inputs provided by rivals has become the single biggest issue facing regulators of public utility industries. This issue is both theoretically complex and inherently controversial. Since the development of competition and the success of liberalization often depend on the access terms and conditions chosen, there is also a strong public policy interest in getting these terms and conditions "right." At the same time, new entrant firms and incumbents often have a substantial financial stake in the outcome and therefore a strong interest in negotiating aggressively."[695]

Because of the complicated nature of access, as the OECD rightly observes in the quote, access regulation becomes necessary.

4.3.2.1 Defining Access

Access is an act of one undertaking, making available its services or facilities to another undertaking for purposes of providing telecommunications services.[696] It may include simple aspects such as roaming and more complex undertakings such as procurement of unutilized network capacity or sharing the core network. The core system comprises the main network system and may include transmission systems, switching centers, billing platforms, value-added services, and many more.[697] The primary rationale of access, argues Ian Walden, is "to reduce barriers to market entry, so a new operator will not have to replicate every network element that the

---

[694] See Dkhil, p. 2; Martyn Taylor, 'Access Regulation versus Infrastructure Investment: Important Lessons from Australia', in *Regulation and the Evolution of the Global Telecommunications Industry*, ed. by Anastassios Gentzoglanis (Cheltenham: Elgar, 2010), pp. 63–82 (p. 64).
[695] OECD, *Access Pricing in Telecommunications* (Paris: OECD, 2004), p. 7.
[696] Kay Winkler and Glen Baumgarten, 'The Framework for Network Access and Interconnection', in *EC Competition and Telecommunications Law*, ed. by Christian Koenig, International Competition Law Series, v. 6, 2nd ed (Austin : Alphen aan den Rijn, The Netherlands : Frederick, MD: Wolters Kluwer Law & Business, 2009), pp. 421–69 (p. 422).
[697] Jose Marino Garcia and Tim Kelly, *The Economics and Policy Implications of Infrastructure Sharing and Mutualisation in Africa*, World Development Report (Washington, D.C: World Bank, 2015), p. 26.

incumbent has before being able to offer a competing end-to-end service."[698] Access has been described as "a key element in any strategy to develop competition for local access."[699] It is through access regulation that new firms can penetrate existing markets.

Tanzania's framework for access is governed by the Electronic and Postal Communications Act and the Communications (Access, Co-Location, and Infrastructure Sharing) Regulations of 2018.[700] Under Section 3 of the EPOCA, access refers to a firm making its infrastructure networks and services available for others to either establish and run their networks or to provide network services. Therefore, access is an extensive package. It includes other aspects such as co-location and sharing of infrastructure.

4.3.2.2 Sharing of Communication Infrastructure and Services

Infrastructure sharing is not an exceptional practice in the telecom sector.[701] In Tanzania, Section 28(1) and (b) of the EPOCA provide infrastructure sharing as a right. Every telecom firm has a right to apply for access to another firm's network facilities. The envisaged facilities include "any element, or combination of elements, of physical infrastructure used principally for, or in connection with, the provision of one or more network services or multiplex operations, but not including customer equipment." Under Section 3 of the EPOCA, the list of facilities includes lines, cables, towers, wires, pits, poles, holes, land, access roads, and intangible infrastructures such as agreements, arrangements, franchises, licenses, and right of way.

These facilities broadly fit into two groups. Firstly, there are active infrastructures essential for "transmission, reception, or transformation of telecommunication signals."[702] Such infrastructures are defined under Regulation 6(1) and the Second

---

[698] Ian Walden, 'Access and Interconnection', in *Telecommunications Law and Regulation*, ed. by Ian Walden, Fifth edition (Oxford: Oxford University Press, 2018), pp. 435–90 (p. 435).
[699] Nikolinakos, p. 614.
[700] *The Communications (Access, Co-Location and Infrastructure Sharing) Regulations*, *GN No. 59 of 2018*, 2018.
[701] See practices in several countries covered in Natalija Gelvanovska, Michel Rogy, and Carlo Maria Rossotto, *Broadband Networks in the Middle East and North Africa: Accelerating High-Speed Internet Access* (Washington, D.C: World Bank Publications, 2014), pp. 115–19; OECD, *OECD Review of Telecommunication Policy and Regulation in Colombia* (OECD Publishing, 2014), pp. 88–89.
[702] Garcia and Kelly, p. 8.

Schedule to Access, Co-location, and Infrastructure Regulations to include all electronic telecommunication infrastructures like core nodes, radio nodes, antenna, and transmission equipment. Secondly, there are passive infrastructures (civil structures and no-electronic elements), including towers, power, shelter, and security. They also include transmission infrastructures like optical fiber, copper cable, trenches, ducts, and poles. Besides, it is possible to include non-telecom facilities such as water and sanitary systems, gas and electrical pipes, or transporting channels in the category of passive infrastructure for sharing.[703]

4.3.2.3 Co-location of Infrastructure

Just as it is with sharing, co-location is also not an infrequent practice around the world.[704] Co-location provides two or more firms with an opportunity to place their infrastructure together. Regulation 3 of Access Regulations defines co-location as "the accommodation of two or more licensee's switches, antennas or other electronic communications equipment in, or on a single building, tower or other structure." For example, a new firm has a right to request the existing provider to place its infrastructure together with the existing firms. Co-location promotes the efficient use of land that is already scarce in Tanzania. Principally, Regulation 10(1) of Access Regulations requires every provider hosting another provider's facility to conclude a co-location agreement that stipulates the terms and conditions of such co-location.

4.3.2.4 Principles Governing Access Regulation

Much as sharing and co-location of infrastructure appear appealing and conceiving, not all firms may be open to it. Thus, *ex-ante* regulation is necessary to ensure the availability of access on reasonable terms and conditions. It is also necessary to avoid possible conflicts amongst telecom firms. It is for this reason that the law empowers the TCRA to regulate such transactions. The following principles apply:

---

[703] Gelvanovska, Rogy, and Rossotto, p. 116.

[704] For co-location practices on different parts of the world see Trevonne Clarke-Ferguson, 'Infrastructure Sharing -Towers & Poles (Co-Location Access Charge-Benchmarking Study) Towards the Development of Global Best Practices' (presented at the Regional Standardization Forum for Bridging the Standardization Gap (BSG), Hyatt Regency Trinidad, Port of Spain, Trinidad and Tobago, 2017), pp. 8–9.

1. Access is a matter of right as Section 28(1) of EPOCA and Regulation 4(1) and (10)(1) of Access Regulations put it in clear terms. No telecom firm may deny an access request in the absence of an excuse permitted by the law.
2. Under Regulation 4(3) of Access Regulations, access must be impartial and non-discriminatory. Regulation 20 requires the infrastructure provider to provide no less treatment to the access seeker than it would to its customers, subsidiaries, and affiliates. Regulation 4(2) requires the provision of access on a first-come-first-served basis to ensure this impartiality.
3. Access must be on a commercial basis. Regulation 14(1) of Access Regulation allows rejection of access requests if they are of no commercial benefit. Even though there is repeated use of the terms "commercial benefit," "commercial agreement," and the like, what exactly is "commercial" is not defined. However, the holistic reading of the Regulations indicates that a commercial agreement is one in which the access provider can realize material or monetary benefits.
4. Parties' negotiations take precedence. Sections 28(2), 29, and 30 of the EPOCA and Regulation 9(3) of Access Regulations give the Authority powers to oversee the negotiation process and approve the concluded agreements. As a general rule, this means that the Authority's role is to encourage parties to agree without intervening. However, Regulation 19 of the Access Regulation allows the Authority to intervene where parties cannot agree, or it considers it best for national interests.
5. Access Regulations apply to all firms symmetrically. Under Section 28(1) of the EPOCA and Regulation 4(1) of Access Regulations, both dominant and non-dominant firms have the same access obligations. However, particular infrastructures built before enacting EPOCA in 2010 are excluded from access regulation under Section 29(3).

4.3.2.5 Comments on the Access Framework

The terrain for access regulation, which sets a framework for infrastructure sharing and co-location, has not been adequately exploited in Tanzania. Apart from tower

sharing, not much has been recorded so far.[705] Future projections, nonetheless, indicate growing interests in sharing 3G (and possibly 4G infrastructure).[706] Once fully exploited, sharing and co-location may yield several advantages in the country. For example, if experience from other jurisdictions is anything to go with, access regulation can lead to cost reduction in the form of capital expenditure (CapEx) and operating expenditure (OpEx).[707]

Furthermore, access and sharing may prove useful to reach rural areas, as it has proved the case in Belgium, Bulgaria, Finland, and Latvia.[708] Access is also helpful to promote environment-friendly investments.[709] Sharing is further essential to address the challenges of deploying infrastructure due to urbanization and lack of space.[710] Thus, it all turns out that access improves efficiency, reduces investment costs, and promotes entry and competition, which benefits consumers and the economy at large.

However, there are some concerns about whether or not access regulation promotes investment. On the one hand, some argue that access regulation is likely to discourage new investments.[711] That through access regulation, risks are shifted from the new entrants to the incumbents while "entrants enjoy a risk-free option to lease infrastructure and exploit the regulatory arbitrage between wholesale and retail prices."[712] On the other hand, some argue that access regulation promotes new

---

[705] Steve Esselaar and Lishan Adam, *What Is Happening in ICT in Tanzania: A Supply- and Demand Side Analysis of the ICT Sector*, Policy Paper 11 (Cape Town: Research ICT Africa, 2013), p. 9.
[706] GSMA, *Mobile Infrastructure Sharing* (London: GSMA, 2012), p. 18.
[707] See BEREC (Body of European Regulators for Electronic Communications), *BEREC Report on Infrastructure Sharing* (BEREC, 14 June 2018), p. 15.
[708] See BEREC (Body of European Regulators for Electronic Communications), p. 15.
[709] BEREC (Body of European Regulators for Electronic Communications), p. 16.
[710] Garcia and Kelly, p. 25; GSMA, *Mobile Infrastructure Sharing*, pp. 12, 17–19.
[711] Michael Grajek and Lars-Hendrik Röller, 'Regulation and Investment in Network Industries: Evidence from European Telecoms', *The Journal of Law & Economics*, 55.1 (2012), 189–216 <https://doi.org/10.1086/661196>; Jihwan Kim and others, 'Access Regulation and Infrastructure Investment in the Mobile Telecommunications Industry', *Telecommunications Policy*, 35.11 (2011), 907–19 <https://doi.org/10.1016/j.telpol.2011.08.004>; Johannes M. Bauer, 'Regulation, Public Policy, and Investment in Communications Infrastructure', *Telecommunications Policy*, Balancing Competition and Regulation, 34.1 (2010), 65–79 <https://doi.org/10.1016/j.telpol.2009.11.011>; Leonard Waverman and others, *Access Regulation and Infrastructure Investment in the Telecommunications Sector: An Empirical Investigation* (London: LECG Ltd, 2007); Kaisa Kotakorpi, 'Access Price Regulation, Investment and Entry in Telecommunications', *International Journal of Industrial Organization*, 24.5 (2006), 1013–20 <https://doi.org/10.1016/j.ijindorg.2005.11.007>.
[712] Grajek and Röller, p. 194.

investments.[713] By having access, the argument goes, new entrants have a starting foot upon which they will have to proceed in growth.[714]

From the preceding arguments, the relevance of access to investment promotion, which is crucial for telecom services' growth, is mixed. It will largely depend on the economic circumstances of each sector. However, for purposes of promoting competition, this study argues that the access framework is indispensable. Simplifying entry, which access seeks to achieve, is a healthy decision for the growth of competition and consumer welfare. However, the study argues that it should not be a continuous process. Sometimes, after entry, new entrants must be able to stand on their feet. Thus, the best approach is to have access regulation for a limited time so that new entrants would have sufficient time to develop themselves.[715]

As for Tanzania, a pertinent question is perhaps the rationale for access regulation in the context of the country's peculiar environment. We noted that specific infrastructures constructed before the year 2010 are excluded from access regulation. Under Section 29(3) of the EPOCA, the laws exclude "towers, masts, ducts, poles, power systems, and cooling systems" constructed before EPOCA's commencement in 2010. This exception means that infrastructures owned by all major firms in the country (Vodacom, Airtel, and Tigo), together with TTCL, are not available for access. Thus, it is not surprising that tower sharing is the only area where active sharing occurs.[716]

If almost all infrastructures that would have been subject to access are unavailable for the same purpose, it does not make sense to have access regulation. By limiting access

---

[713] Martin Cave, 'Encouraging Infrastructure Competition via the Ladder of Investment', *Telecommunications Policy*, 30.3 (2006), 223–37 <https://doi.org/10.1016/j.telpol.2005.09.001>; Øystein Foros, 'Strategic Investments with Spillovers, Vertical Integration and Foreclosure in the Broadband Access Market', *International Journal of Industrial Organization*, 22.1 (2004), 1–24 <https://doi.org/10.1016/S0167-7187(03)00079-1>; Martin Cave and Ingo Vogelsang, 'How Access Pricing and Entry Interact', *Telecommunications Policy*, Access pricing investment and entry in telecommunications, 27.10 (2003), 717–27 <https://doi.org/10.1016/j.telpol.2003.08.004>.

[714] Cave, pp. 226–30.

[715] See further discussion at Fabio M. Manenti and Antonio Scialà, 'Access Regulation, Entry and Investments in Telecommunications', *Telecommunications Policy*, 37.6 (2013), 450–68 (p. 450) <https://doi.org/10.1016/j.telpol.2012.11.002>; Cave and Vogelsang, pp. 725–26; Michael Klein, *Competition in Network Industries* (Washington, D.C: The World Bank, Private Sector Development Department, 1996), p. 15.

[716] Esselaar and Adam, p. 9.

only to infrastructures built after 2010, the law creates an awkward regulatory environment. For example, new entrants like Halotel must make their infrastructures available for sharing even if they cannot access infrastructures owned by predecessors in the market. This asymmetrical treatment does not have any economic justification. However, it may have anti-competitive advantages as older firms in the market have access to new firms' infrastructure while vice versa is invalid. It might well serve as a disincentive for new investments.

4.3.3 Interconnection Regulation

Interconnection is another form of access. However, due to its importance, it warrants a separate discussion. We have already seen that national monopolies had dominated the telecom sector for a long time. Their shadows are far from fading away. They had owned not only all communication infrastructure but also the available customers. Having a monopoly without competition means monopoly firms gained profit with minimum efforts. Any new entrance, whose purpose is to challenge the existing incumbent's hegemony, would not receive a cheery welcome in such settings. Naturally, incumbents would want to protect their interests by complicating entry, whenever possible, not least to recoup their investments.

Besides the need to protect their interests, we now know that telecom economics suggests that a network's value depends on the number of its subscribers reachable in and off the network.[717] This economic perspective makes it likely for an incumbent to do all it can to amass a broader customer base while complicating the newcomers' same efforts. One of the techniques is to deny or complicate interconnection.

Interconnection is a vital aspect of telecommunications. Without it, the new firms' customers cannot reach subscribers outside their small network. This being the case, no customer will like to join a network with limited access to other networks. In other words, denying or complicating interconnection to a new firm means throwing it off the market. If not well regulated, interconnection is a prime barrier to entry and a sure method of eradicating competition in the market.

---

[717] Larouche, p. 33.

Complicating or denying interconnection altogether is not a hypothetical assumption. For dominant incumbents, every new firm in the market poses an existential threat. For this reason, such firms may complicate interconnection arrangements, for example, by discriminating against prices or by complicating the process by setting unreasonable terms and conditions.[718] In worst cases, as literature would prove in detail, the incumbent may deny interconnection altogether.[719] These practices are possible because incumbent dominant firms have competitive advantage and bargaining powers over others.[720]

At this point, it becomes necessary not only to regulate interconnection but also to ensure its availability on reasonable terms.[721] More importantly, interconnection becomes an indispensable tool for facilitating market entry and ensuring the effective utilization of existing infrastructures.[722] "If new entrants are given insufficient rights to acquire interconnection and access from incumbents," argues Walden, then "effectively competitive markets are unlikely to develop."[723] Mitchel and Vogelsang explain the justification for interconnection regulation when they say,

---

[718] See Ping Lin and Hiroshi Ohashi, 'Treatments of Monopolization in Japan and China', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol (New York: Oxford University Press, 2015), II, 188–233 (p. 227) <https://doi.org/10.1093/oxfordhb/9780199388592.013.0009>.

[719] See AT&T practice in Susan E. McMaster, *The Telecommunications Industry* (Westport, USA: Greenwood Publishing Group, 2002), pp. 105–6; See recent cases of outright denial of interconnection in Peru in Alberto Heimler and Kurtikumar Mehta, 'Monopolization in Developing Countries', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol (New York: Oxford University Press, 2015), II, 234–52 (p. 241) <https://doi.org/10.1093/oxfordhb/9780199388592.013.0009>; Or a recent case of Vodafon and Bhart Airtel rejecting interconnection to the new comer in the market. See Our Bureau, 'Interconnection to RJio: DoT Okays ₹3,050-Crore Penalty on Airtel, Voda Idea', *The Hindu Businessline*, 2019 <https://www.thehindubusinessline.com/info-tech/dcc-clears-imposing-penalty-on-airtel-voda-idea-seeks-trai-view-on-fine-amount/article27993124.ece> [accessed 9 March 2020].

[720] Lisa Correa, 'The Economics of Telecommunications Regulation', in *Telecommunications Law and Regulation*, ed. by Ian Walden, 5th edn (Oxford: Oxford University Press, 2018), pp. 27–100 (p. 63); It has also been observed that termination is a monopoly market which can be used by bigger firms to exclude the smaller ones from competition. See Christoph Stork, *Mobile Termination Benchmarking: The Case of Namibia*, Towards Evidence-Based ICT Policy and Regulation (Cape Town: Research ICT Africa, 2010), pp. 1–2 <https://pdfs.semanticscholar.org/4f89/43dec76941d20cbea8277eae2742546b8679.pdf> [accessed 19 September 2019].

[721] Correa, p. 63; Larouche, p. 33.

[722] See further details in Eli Noam, 'Interconnection Practices', in *Handbook of Telecommunications Economics*, ed. by Martin Cave, Sumit Kumar Majumdar, and Ingo Vogelsang, 1st ed (Amsterdam ; Boston: Elsevier, 2002), pp. 387–423 (pp. 389–95); Nicolas Curren and Dominique Bureau, 'Establishing Independent Regulators in France', in *Regulation of Network Utilities: The European Experience*, ed. by Claude Henry, Michel Matheu, and Alain Jeunemaître (New York: Oxford University Press, 2001), pp. 143–69 (p. 148).

[723] Ian Walden, p. 437.

> "The prototypical telecommunications market structure has been a vertically-integrated dominant operator (DO) that supplies a wholesale interconnection service and a variety of retail services. For the DO's retail competitors, interconnection is a bottleneck resource, and decisions about the pricing of interconnection, more than any other relationship between the DO and other operators, will profoundly affect the terms of telecommunications competition. Continued regulation is necessary to prevent the abuse of market power by the dominant provider and to ensure the supply of interconnection on equal terms to competitors."[724]

In principle, therefore, interconnection deals with network connectivity and interoperability of different service providers in which they connect their "network, equipment, and services to enable customers to have access to the customers, services, and networks of other service providers."[725]

4.3.3.1 Regulating Interconnection in the Sector

Tanzania law defines interconnection in Section 3 of the EPOCA as "the physical or logical linking of one public electronic communications network to another for allowing the persons using one of them to be able to communicate with users of the other network, or make use of services provided using the other one." Interconnection can either be one-way, in which one carrier connects to another to offer communications services, or two-way, where two or more carriers must connect their networks to enable customers of one carrier to call customers from another carrier.[726]

The power to regulate interconnection lies with the TCRA. Section 27 of the EPOCA empowers the Authority to:

> "**(a) regulate all interconnection arrangements between network service licensees where there is a market failure**; (b) issue interconnection negotiations procedure and guidance on approval or rejection of interconnection agreements; (c) place all interconnection

[724] Bridger Mitchel and Ingo Vogelsang, 'Markup Pricing For Interconnection: A Conceptual Framework', in *Opening Networks to Competition: The Regulation and Pricing of Access*, ed. by David Gabel and David F. Weiman, (New York: Springer Science+Business Media, 1998), pp. 31–48 (p.31).
[725] Eli Noam, p. 387.
[726] Blackman and Srivastava, p. 120.

agreements in the public register; and (d) arbitrate or appoint an arbitrator to arbitrate on interconnection disputes."

The presented provisions indicate that the Authority's powers to regulate interconnection are limited only to instances of market failures. However, in practice, the Authority always conducts inquiries and sets up interconnection rates applicable symmetrically to all firms. Vodacom Tanzania has challenged this practice twice unsuccessfully. The first instance was in 2007 in *Vodacom Tanzania Limited v Tanzania Communications Regulatory Authority & Six Telecommunications Company Limited.*[727] Among others, Vodacom opposed the Authority's decision to set termination rates. The FCT agreed that the Authority had no specific powers to set such rates. However, it maintained that the Authority could do so under its general regulatory powers when telecom firms have failed to agree on the termination terms.[728]

In the second case, Vodacom challenged the Authority's powers in 2018 in *Vodacom Tanzania Plc v Tanzania Communications Regulatory Authority.*[729] The challenge came after the Authority issued Interconnection Determination Number 5 of 2017, which drastically reduced termination rates.[730] At that time, Vodacom relied on Section 27(a) of the EPOCA, which gives the Authority powers to set interconnection rates when a market failure occurs. Vodacom argued that since there was no market failure, in its opinion, the Authority had no right to set such rates. The Tribunal agreed in principle that the Authority could set rates only in cases of market failure. However, it interpreted the firms' failure to agree on termination rates (telecom firms had not agreed on the new rates as the former Determination was about to expire) as amounting to market failure.[731] In its words, the Tribunal observed,

---

[727] Vodacom Tanzania Limited v Tanzania Communications Regulatory Authority & Six Telecommunications Company Limited, *Appeal No 2 of 2007, Fair Competition Tribunal (Unreported)*.
[728] *Vodacom Tanzania Limited v Tanzania Communications Regulatory Authority & Six Telecommunications Company Limited*, p. 60.
[729] Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority, *Appeal No 8 of 2018, Fair Competition Tribunal (Unreported)*, p. 1.
[730] TCRA, *The Tanzania Communications (Interconnection Rates Determinations)*, 2017, No 5 of 2017.
[731] *Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority*, p. 14.

> "In view of the foregoing, the Tribunal does subscribe to the definition of market failure as enlightened by the appellant. However, the correct state of affairs by the time the respondent issued the impugned Interconnection Determination was that the Network **Providers had failed to reach an agreement on interconnection rates. In that regard, there was a market failure in the interconnection market**."[732]

The appellant had previously introduced the definition to which the FCT subscribed. The appellant held that market failure means "a state of fact showing that the interconnection market has failed."[733] The FCT inadvertently defined market failure based on parties' conduct and not on the analysis of the termination market. Based on this understanding, the Tribunal concluded that there was a market failure. Thus, the Tribunal held, the Authority was justified to intervene by setting termination rates.

4.3.3.2 Principles Governing Interconnection Regulation in the sector

Section 27(1) of the EPOCA, together with Interconnection Regulations, empowers the TCRA to regulate interconnection in the sector.[734] Since interconnection has commercial interests, the law has set some principles to govern its regulation. They include the following:

1. Under Regulation 4(1) and (2) of Interconnection Regulations, interconnection is mandatory. Unless interconnection is not feasible for technical or commercial reasons, a telecom firm must negotiate an interconnection agreement upon receiving an interconnection request. Under Regulations 5(5)(a)-(d) of Interconnection Regulations, Commercial infeasibility means that such an agreement will not have any material benefit, while technical infeasibility means that infrastructure is incompatible, making any envisaged connection impossible
2. Under Regulation 4(1) of the Interconnection Regulation, interconnection is symmetrical. Interconnection obligations apply equally to dominant and non-dominant firms.

---

[732] *Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority*, p. 14.
[733] *Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority*, p. 11.
[734] *The Electronic and Postal Communications (Interconnection) Regulations*, GN No 25 of 2018.

3. Regulation 6 of Interconnection Regulations directs that interconnection agreements must be free, transparent, and in good faith. Some of the indications of bad faith as provided for in Regulation 17(5) of Interconnection Regulations include, for example, intentionally misleading or coercion, refusal or delay of information, and delaying or obstructing negotiations.
4. Under Regulation 14(1), interconnection agreements must be commercial. In other words, the agreement must have a material advantage for both parties. If a provider receives no economic benefit, it may refuse interconnection.
5. Under Regulation 4(6), interconnection negotiations must conform to the Authority's already established framework. Reg. 6(3) empowers the Authority to intervene and impose an agreement in case of failure to agree.
6. Under Regulation 9(1) and (2), the interconnection agreement must base on the Forwarding Looking-Long Run Incremental Costs (FL-LRIC) formula. The FL-LRIC is a method of recovering changing costs that a firm can foresee based on the changes in input level relevant to the costs to be recovered. [735]

4.3.3.3 Determination of Mobile Termination Rates (MTRs)

Even though the law, in theory, envisages negotiation amongst telecom firms, the practice suggests otherwise. What happens is that the Authority issues indicative rates after every five years. All firms must negotiate and enter into new interconnection agreements in conformity with the new interconnection determination. For example, Table 4.3-2 shows the interconnection rates from 2004 to 2022. Note that the Authority used to set interconnection rates in USD from 2004 to 2012. Only from 2013, it started using Tanzanian shillings in setting termination rates.

Table 4.3-2 Interconnections termination rates as determined by the Authority from 2004 to 2022

Determination	Year	Rates
Interconnection Determination No 1 of 2004 (Rates are in USD Cents)[736]	2004	10
	2007	6.9

[735] For a detailed definition see Reg. 3 of *The Electronic and Postal Communications (Interconnection) Regulations*, GN No 25 of 2018.
[736] TCRA, *The Tanzania Communications (Interconnection Rates Determinations)*, 2004, No 1 of 2004.

Interconnection Determination No 2 of 2007 (Rates are in USD Cents)[737]	2008	7.83
	2012	7.16
Interconnection Determination No 3 of 2013 (Rates are in Tanzania shillings)[738]	2013	34.92
	2017	26.96
Interconnection Determination No 4 of 2018 (Rates are in Tanzania shillings)[739]	2018	15.6
	2022	2.0

Source: Developed from Interconnection Determinations of 2004, 2007, 2012, and 2018

Table 4.3-2 shows a trend in which there is a reduction of termination rates. The last determination saw a sweeping reduction from Tanzanian shillings (Tsh) 15.6 in 2018 to just Tsh 2.0 in 2022. It is believed that such a reduction is likely to reduce communications costs.[740] Furthermore, it is expected that such reduction may have competitive advantages to smaller firms, which can now reduce their charges due to lower termination rates.

The Authority's lowering of the termination rates does not always receive a positive response from some telecommunication firms. The main opposition has always been from Vodacom. One must consider the sector's pattern to appreciate Vodacom's concerns. With the largest percentage of subscribers, it receives many off-net calls compared to others. As a result, it terminates many calls. The termination entitles it to a large share of termination payments.[741] Thus, a reduction of termination rates means a direct reduction of its revenue. It is not surprising that in 2008, it was the only firm to unsuccessfully challenge the Authority's determination in *Vodacom Tanzania Limited v Tanzania Communications Regulatory Authority & Six Telecommunications Company Limited.*[742]

---

[737] TCRA, *The Tanzania Communications (Interconnection Rates Determinations)*, 2007, No 2 of 2007.
[738] TCRA, *The Tanzania Communications (Interconnection Rates Determinations)*, 2013, No 3 of 2013.
[739] TCRA, No 5 of 2017, p. 2.
[740] The Guardian Reporter, 'Mobile Call Rates May Fall as Govt Plans to Slash Interconnect Fees' (Dar es Salaam, 2 December 2017), The Guardian edition <https://www.ippmedia.com/en/news/mobile-call-rates-may-fall-govt-plans-slash-interconnect-fees> [accessed 19 September 2019].
[741] See the way Vodacom laments over the reduction of these rates at Vodacom Tanzania, *Vodacom Tanzania Public Limited Company* (Dar es Salaam: Vodacom Tanzania, 12 July 2018), pp. 8, 9, 15 & 96.
[742] *Vodacom Tanzania Limited v Tanzania Communications Regulatory Authority & Six Telecommunications Company Limited*, p. 1.

Ten years later, Vodacom again moved to challenge the Authority's determination in *Vodacom Tanzania Plc v Tanzania Communications Regulatory Authority*.[743] In this second challenge, Vodacom raised several arguments, including that the new rates are below costs, and they are likely to impede competition, growth, and investment efforts in the sector. The FCT dismissed such urgings. It reasoned that except for Vodacom and Tigo (and Zantel, which is already part of Tigo), all other firms agreed to the new rates.[744] If the rates are acceptable to others, opined the Tribunal, they should be for Vodacom as well.[745]

4.3.3.4 Comments on Interconnection Regulation

One cannot overemphasize the role of interconnection and its regulation in facilitating entry and promoting competition. Effective competition remains to be a far reality without interconnection on reasonable terms. When properly regulated, interconnection goes beyond providing connectivity to improved consumer services. For example, in South Africa and other Sub-Saharan countries, reducing termination rates has lowered communications costs.[746] As for Tanzania, interconnection became vital in ensuring the smooth interoperability of services between different providers. In this way, it also was and still is vital to facilitate entry, thereby promoting competition.

The impact of interconnection regulation in reducing prices is yet to be seen in Tanzania. Some studies have found out that prices have been increasing despite the yearly reduction of termination rates.[747] Perhaps, the TCRA's recent substantial reduction of MTRs may bring more competitive advantages to the sector, and finally, to consumers. However, one should not expect such changes to happen automatically, only due to reduced termination rates. Studies indicate that several other factors are

---

[743] *Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority*, p. 1.
[744] *Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority*, p. 1.
[745] *Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority*, p. 1.
[746] Ryan Hawthorne, 'The Effects of Lower Mobile Termination Rates in South Africa', *Telecommunications Policy*, 42.5 (2018), 374–85 <https://doi.org/10.1016/j.telpol.2018.02.007>; Onkokame Mothobi, 'The Impact of Telecommunication Regulatory Policy on Mobile Retail Price in Sub-Saharan African Countries', *ERSA Working Paper 662*, 2017.
[747] Asinta Manyele and Deograsias Moyo, 'Impacts of the Tanzanian 2013 - 2017 Glide Path Implementation Phase on Telecom Voice Call Pricing', *International Journal of Scientific & Engineering Research*, 10.6 (2019), 1–5 (p. 4).

necessary for the eventual price reduction.[748] Therefore, while interconnection regulation is instrumental in determining communications rates, achieving better (lower) rates will depend on the sector's holistic approach to regulation.

Nevertheless, interconnection regulation is undoubtedly crucial to facilitate entry and promote competition. The vice versa is also true. Lack of effective interconnection regulation may result to direct foreclosure of competition.

4.3.4 Radiofrequency Spectrum Regulation

At the outset, this study notes that radiofrequency is a scientific term in the domain of physics. It can only be understood in its scientific context. The starting point is to understand what scientists call electromagnetic radiation. This term means "the flow of energy at the universal speed of light through free space or a material medium in the form of the electric and magnetic fields."[749] When distributed according to frequency or wavelength, such radiations are known as the electromagnetic spectrum.[750] Thus, frequencies describe different parts of the spectrum.[751] They are measured in Hertz after Heinrich Hertz, a German physicist who first proved radio waves' existence.[752]

Therefore, radio waves are just part of the entire electromagnetic spectrum.[753] They deliver a range of services, including broadcasting, maritime and air communications, mobile telephony, scientific research, health treatment, and even heating food at

---

[748] Steffen Hoernig and Tommaso Valletti, 'Mobile Telephony', in *The Oxford Handbook of the Digital Economy*, ed. by Martin Peitz and Joel Waldfogel (New York: Oxford University Press, 2012), pp. 136–60 (pp. 144–45); Stork, p. 1; OECD, *OECD Reviews of Regulatory Reform: France 2004 Charting a Clearer Way Forward* (OECD Publishing, 2004), p. 174.

[749] Hellmut Fritzsche and Melba Phillips, 'Electromagnetic Radiation', *Encyclopedia Britannica* (Encyclopædia Britannica, inc., 2017) <https://www.britannica.com/science/electromagnetic-radiation> [accessed 23 September 2019].

[750] The Editors of Encyclopaedia Britannica, 'Electromagnetic Spectrum', *Encyclopedia Britannica* (Encyclopædia Britannica, inc., 2019) <https://www.britannica.com/science/electromagnetic-spectrum> [accessed 23 September 2019].

[751] Martin Sims, Toby Youell, and Richard Womersley, *Understanding Spectrum Liberalisation* (Boca Rto: CRC Press, 2016), p. 23.

[752] Sims, Youell, and Womersley, p. 23.

[753] For technical details on radio waves see John Pahl, *Interference Analysis: Modelling Radio Systems for Spectrum Management* (Chichester, UK ; Hoboken, NJ: John Wiley & Sons, 2016), pp. 45–49; Willium Gosling, *Radio Spectrum Conservation* (Oxford ; Boston: Newnes, 2000), pp. 5–16.

home using a microwave oven.[754] Thus, the radio spectrum refers to sets of frequencies that are "suitable for technically feasible uses in wireless communications."[755]

Spectrum's role in wireless communication cannot be exaggerated. Although wireless technology gained prominence towards the end of the 20th century, it had already been in use as early as 1897.[756] A hundred years later, the world had a total population of 10 million cell phones using wireless technology.[757] As of 2015, wireless mobile phone subscriptions reached seven billion, an average worldwide penetration of 97 percent.[758] In other words, it is safe to say that in today's world, the use of wireless technology has become the order of the day.[759] It has been argued that no other resource is likely to be more critical to human development in the 21st century than the spectrum.[760]

Wireless technology has surged a demand for the spectrum, making it a scarce and valuable resource.[761] Furthermore, spectrum usage brings about negative externalities because two persons cannot use the same frequency without interferences.[762] Therefore, a more sophisticated, market-based approach is necessary to manage the radio frequency spectrum for effective, optimal, and economical use. Efficient spectrum management will "maximize the value that society gains from the radio

---

[754] Arturas Medeisis and Oliver Holland, 'State-of-the-Art in Policy and Regulation of Radio Spectrum', in *Cognitive Radio Policy and Regulation*, ed. by Arturas Medeisis and Oliver Holland (Cham: Springer International Publishing, 2014), pp. 1–48 (p. 2) <https://doi.org/10.1007/978-3-319-04022-6_1>.

[755] Margherita Colangelo, *Creating Property Rights: Law and Regulation of Secondary Trading in the European Union* (Martinus Nijhoff Publishers, 2012), p. 68.

[756] Early uses of wireless were seen in the wireless telegraphy. See David Tse and Pramod Viswanath, *Fundamentals of Wireless Communication* (Cambridge: Cambridge University Press, 2005), p. 2.

[757] T.S. Rappaport and others, 'Wireless Communications: Past Events and a Future Perspective', *IEEE Communications Magazine*, 40.5 (2002), 148–61 (p. 148) <https://doi.org/10.1109/MCOM.2002.1006984>.

[758] ITU, 'Statistics'.

[759] Colangelo, p. 67; Tse and Viswanath, p. 10.

[760] Thomas Winslow Hazlett, *The Political Spectrum: The Tumultuous Liberation of Wireless Technology, from Herbert Hoover to the Smartphone* (Yale University Press, 2017), p. 1.

[761] For details on the scarcity of spectrum see Anandakumar Haldorai and Umamaheswari Kandaswamy, *Intelligent Spectrum Handovers in Cognitive Radio Networks* (Switzerland: Springer Nature Switzerland AG, 2019), p. 9; Shweta Pandit and Ghanshyam Singh, *Spectrum Sharing in Cognitive Radio Networks: Medium Access Control Protocol Based Approach* (Cham: Springer International Publishing Imprint : Springer, 2017), p. 117; Changyan Yi and Jun Cai, *Market-Driven Spectrum Sharing in Cognitive Radio* (Cham: Springer, 2016), p. 5; Rohit Prasad, Varadharajan Sridhar, and Alison Bunel, 'An Institutional Analysis of Spectrum Management in India', *Journal of Information Policy*, 6 (2016), 252–93 (p. 269) <https://doi.org/10.5325/jinfopoli.6.2016.0252>; Harvey J. Levin, *The Invisible Resource: Use and Regulation of the Radio Spectrum* (Routledge, 2013), p. 16; Nacimiento, p. 569.

[762] Colangelo, p. 69.

spectrum by allowing as many efficient users as possible while ensuring that the interference between different users remains manageable."[763]

4.3.4.1 Global Spectrum Regulation

Radio frequencies are intangible properties, untouchable, unseen with naked eyes, and therefore, unconfined into specific geographical zones. These features mean that the chances of interferences are imminent. Therefore, some form of international regulation is indispensable. As one author noted,

> "all radio systems share the same electromagnetic spectrum. This means each radio receiver is detecting not just its wanted signal but all other signals transmitted at the same time anywhere – not just on this planet, but anywhere, even in space. If there are aliens out there using radio technology, their signals will also be added to the mix."[764]

The core feature of the radio spectrum is that interferences are bound to occur without proper regulation. This is why the International Telecommunications Union (ITU) comes in.[765] Through its Radio Communications Sector (ITU-R), ITU regulates the world radio frequencies through Radio Regulations that bind all ITU members, including Tanzania. The Regulations are regularly updated, especially after the World Radiocommunication Conference (WRC), which is convened after every three to five years, the last one being in 2019 in Egypt.[766] Hailed as "a fruit of international cooperation," the Regulations allow the ITU to divide radio spectrum into frequency bands for different uses to avoid interferences, as Table 4.3-3 indicates.[767] For example, the most attractive band for communication services is the 800MHz band because it covers a large area and long-distance at relatively low costs. They can also travel inside buildings and can accommodate broadband services.[768] There is an allocation of uses for each designated band at the global, regional, and national

---

[763] Martin Cave, Chris Doyle and William Webb (2007), *Essentials of Modern Spectrum Management,* Cambridge University Press, New York, 3.
[764] See Pahl, p. 1.
[765] See Pahl, p. 1.
[766] For the latest edition see ITU, *Radio Regulations Articles* (Geneva: ITU Publishing, 2020).
[767] *The Radio Spectrum: Managing a Strategic Resource*, ed. by Jean-Marc Chaduc and Gerard Pogorel (London : Hoboken, NJ: ISTE; Wiley, 2008), pp. 71 & 83.
[768] Peter Cramton and Axel Ockenfels, 'The German 4G Spectrum Auction: Design and Behaviour', *The Economic Journal*, 127.605 (2017), F305–24 (p. 308) <https://doi.org/10.1111/ecoj.12406>.

levels. Thus, it is expected that the national designation will correspond with the regional one, which, in turn, must correspond to the ITU designation.[769]

The idea here, as already pointed out, is to avoid interferences. Frequency band 9 (bolded in the Table), with frequency ranging from 300Mhz to 3000Mh, is said to be a sweet spot for wireless communications.[770] Thus, national authorities have to manage it effectively to ensure all prospective entrants have unhindered access.

Table 4.3-3 Frequencies Bands as Determined by the ITU

Band	Symbol	Frequency range (lower limit exclusive, upper limit inclusive)
4	VLF (Very Low Frequency)	3-30Khz
5	LF (Low Frequency)	30-300Khz
6	MF (Medium Frequency)	300-3000Khz
7	HF (High Frequency)	3-30Mhz
8	VHF (Very High Frequency)	30-300Mhz
9	**UHF (Ultra High Frequency)**	**300-3000Mhz**
10	SHF (Super High Frequency)	3-30Ghz
11	EHF (Extremely High Frequency)	30-300Ghz
12		300-3000Ghz

Source: ITU Frequency Bands. Note that the bolded band is ideal for wireless communications and is considered a wireless sweet spot.

4.3.4.2 National Spectrum Regulation

Legal rules for spectrum regulation are provided under the EPOCA and its Spectrum Regulations of 2018.[771] In principle, Sections 71 and 72 of EPOCA give the TCRA powers to regulate the spectrum, including to "allocate, reallocate, assign, reassign, issue, reissue, redistribute, retrieve, suspend, cancel, or otherwise modify the distribution amongst users or licensees of any radio communication frequencies or frequency channels." Therefore, any use of a spectrum is only possible under a license issued by the TCRA.[772] Under Section 74(1) of the EPOCA, it is an offense to use spectrum without a valid license. Punishment for such contravention may go up to

---

[769] See for example Electronic Communications Committee and European Conference of Postal and Telecommunications Administrations, *The European Table of Frequency Allocations and Applications in the Frequency Range 8.3kHz to 3000GHz (ECA Table)*, March 2019, pp. 5–199 <https://www.ecodocdb.dk/download/2ca5fcbd-4090/ERCREP025.pdf> [accessed 5 August 2020].

[770] Djafar K. Mynbaev and Lowell L. Scheiner, *Essentials of Modern Communication* (Hoboken, NJ, USA: John Wiley & Sons, 2020), pp. 49–50.

[771] *The Electronic and Postal Communications (Radio Communication and Frequency Spectrum) Regulations*, GN. No 24 OF 2018.

[772] For national allocation of frequency, see TCRA, 'National Frequency Allocation Table' (Tanzania Communications Regulatory Authority, 2020).

Tanzania shillings 2.5 billion (equivalent to about 1.2 mil USD) and 75 million (about 34,000 USD) for each day of continued violation.[773]

4.3.4.3 Objectives of National Spectrum Regulation

According to Sections 71&72 of the EPOCA, spectrum regulation in Tanzania seeks to ensure efficiency in its utilization. Efficient utilization is crucial as Tanzania has already acknowledged in Clause 1(2)(ii) of its National ICT Policy that in the past "there was an underutilization of deployed frequency spectrum and efficient management systems." With efficient spectrum management, there are high chances to "maximize the value that society gains from the radio spectrum by allowing as many efficient users as possible while ensuring that the interference between different users remains manageable."[774] Further studies indicate diverse economic advantages resulting from such efficient management.[775]

Like the international community, Clauses 2&3 of the National ICT Policy direct Tanzania to regulate spectrum to promote innovation, research, and development, foster competition, and attract foreign investment. Furthermore, spectrum regulation is necessary to protect national interests, including national safety and security, as Section 4(3)(b) of the EPOCA and Regulation 9 of Spectrum Regulations provide. This is possible by protecting individuals and sensitive communications systems such as those belonging to armies, air crafts, and ships against undue interferences.

4.3.4.4 Principles of Regulating National Spectrum

Certain principles exist to guide the spectrum's regulation due to its relevance in communication services:

1. Firstly, Section 72(1) of the EPOCA declares the spectrum as a national resource. The Government of Tanzania has the power to hold and control it on

[773] Exchange rate as of February 2020.
[774] Martin Cave, Christopher Doyle, and William Webb, *Essentials of Modern Spectrum Management* (Cambridge; New York: Cambridge University Press, 2007), p. 3.
[775] See for example ITU-R, *Economic Aspects of Spectrum Management* (Geneva, Switzerland: ITU, June 2016), pp. 30–44; Antonio García Zaballos and Nathalia Foditsch, *Spectrum Management The Key Lever for Achieving Universality* (Washington, D.C: Inter-American Development Bank, 2015), pp. 16–46.

behalf of the people. Theoretically, it means the government cannot use or allow the spectrum's use for purposes that contradict the public interests.

2. Secondly, spectrum being a public resource, its assignment must be on a competitive basis. Despite the presence of other methods of spectrum allocation such as administrative process (beauty contest), lottery, and first-come-first-served method), auctions appear to have received wider acceptance as the preferable competitive method of allocation. It has been argued that auctions may achieve allocative efficiency, consistency of rules, transparency of results, and legality and legitimacy of allocation. Nevertheless, there are also some arguments to the contrary. For instance, some argue that auctions make spectrum so expensive, causing customers to carry that burden.[776] In Tanzania, the assignment of the spectrum takes a hybrid tendering process.[777] Ideally, the Authority selects pre-qualified bidders who meet the Authority's criteria. The pre-qualified bidders go to the second round for an auction. With this competitive allocation, the government no longer has the monopoly to trade with it discretionally.
3. Thirdly, spectrum rights are not disposable. Section 73 of the EPOCA prohibits the transfer of spectrum rights for commercial purposes or otherwise. Thus, even though firms have to pay for spectrum rights, they have no right to dispose of them when it becomes necessary.

4.3.4.5 Comments on Spectrum Regulation

Spectrum's regulation is necessary to ensure its orderly and efficient utilization. Without regulation, chaos will likely follow. The regulation is even more critical because, without spectrum, it is impossible to provide wireless communications

---

[776] See GSMA, 'Using Auctions to Support Effective Pricing of Spectrum' (Nairobi, Kenya, 2017), p. 2 <https://www.gsma.com/spectrum/wp-content/uploads/2017/11/6-Day-1-Session-2-Using-auctions-to-support-effective-pricing-of-spectrum-Richard-Marsden.pdf> [accessed 20 February 2020]; Syed Atif Jilani, 'Spectrum Allocation Methods: Studying Allocation through Auctions', *Journal of Economics, Business and Management*, 3.7 (2015), 742–45 (p. 742) <https://doi.org/10.7763/JOEBM.2015.V3.278>; Peter Cramton and others, 'Using Spectrum Auctions to Enhance Competition in Wireless Services', *The Journal of Law & Economics*, 54.4 (2011), S167–88 (pp. 167–68) <https://doi.org/10.1086/661939>.

[777] See John Mpapalika, 'A Market Led Approach to Digital Dividend Review for Financing Digital Broadcasting Migration', in *9th Annual Digital Switchover Forum Africa* (presented at the 9th Annual Digital Switchover Forum Africa, Arusha, Tanzania, 2014), p. 18 <https://cto.int/media/events/pst-ev/2014/DBSF/Dr%20John%20Andrew%20Mpapalika.pdf> [accessed 23 September 2019].

services. In terms of promoting competition, spectrum rights provide an entry point. The absence of proper regulation to ensure easy availability of such rights would mean an erection of an entry barrier. Thus, it is very critical to ensure that its regulation is pro-competitive.

However, some concerns may render the framework uncompetitive. For example, the existing framework, which focuses on the firms' financial muscles, is not ideal for promoting entry and competition. This practice creates structural barriers, a fact observed by the TCRA, making it impossible for smaller firms to penetrate the market.[778] In other words, it is more likely for existing firms with sufficient financial resources to get more spectrum compared to newcomers.

Furthermore, the law restricts the disposition of spectrum rights. Apart from being against market principles, which promote freedom of contract, the restricted disposition may end up being uncompetitive. For example, if a small firm cannot acquire spectrum rights through auction, it could negotiate with those already possessing such rights. Transfer of spectrum rights is not a new phenomenon. Instead, it is encouraged as an efficient way to utilize the spectrum.[779]

By restricting the transfer of spectrum rights, the law blocks out potential competitors, who, even though not able to buy spectrum rights directly from the Authority, could gain entry by other means such as spectrum sharing or leasing. The best approach, it is argued, would be to allow transfer subject to the regulator's approval, which should not be unduly withheld.[780] Beyond being uncompetitive, the restricted disposition of spectrum rights creates unnecessary financial burdens.

It is surprising that even when one firm acquires another firm with spectrum rights, the acquiring firm cannot use the targeted firm's spectrum rights. What happens is that the Authority cancels the targeted firm's spectrum rights. It is upon the new firm

---

[778] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 22,26,31 & 43.
[779] See Martin Cave and William Webb, *Spectrum Management: Using the Airwaves for Maximum Social and Economic Benefit* (United Kingdom: Cambridge University Press, 2015), p. 116; Sudharman K. Jayaweera, *Signal Processing for Cognitive Radios* (Hoboken, N.J: John Wiley & Sons, 2014), p. 54.
[780] See Ofcom, *Trading Guidance Notes* (London: Ofcom, 2018), pp. 8–11 <https://www.ofcom.org.uk/__data/assets/pdf_file/0029/88337/Trading-guidance-notes.pdf> [accessed 20 February 2018]; OECD and IDB, pp. 77–79.

to apply for such new rights if it so wishes. Vodacom's acquisition of Share Network Tanzania Limited is a good example. In this case, the targeted company had 900-MegaHertz (MHz) spectrum for usage in rural areas.[781] After the acquisition was complete, Vodacom learned from the Authority that it could not acquire the spectrums' rights. It had to repurchase them.

A similar case happened to Tigo after it acquired Zantel.[782] One of Zantel's subsidiaries, Telesis, had spectrum rights for 4G services.[783] After the acquisition, the Authority canceled the Telesis' spectrum rights, which Millicom estimated to have a value of 8 million USD. Tigo had to repurchase the spectrum rights, now at 12 million USD.[784] All these bring financial burdens to telecom firms, which in practice are shifted to consumers. The impact is that consumers will not quickly see and enjoy fruits of competition through reduced prices, for example.

4.3.5 Tariff Regulation, Quality of Service and Consumer Protection

4.3.5.1 Tariff Regulation

Although the Tanzania telecommunication sector is now fully liberalized, the Authority still has powers to regulate tariffs under the TCRA Act, the EPOCA, and the Tariff Regulations of 2018 (Tariff Regulations).[785] Regulation 3 of the Tariff Regulations defines tariffs as charges, prices, levies, and associated terms and conditions imposed by telecom firms. In practice, the regulation of tariffs is asymmetrical. As for firms with significant market powers, Regulations 5(5) and 12(1) & (2) of Tariff Regulations direct the Authority to take an *ex-ante* approach by approving their tariffs before they are operative. Thus, dominant firms cannot charge unapproved tariffs. As for firms without significant market powers, the law under Regulation 5 of Tariff Regulations requires the regulator to ensure that tariffs are within the established rules. Such rules include, for example, a requirement to file tariffs with the regulator quarterly, a requirement not to charge rates different from

[781] Vodacom Tanzania, p. 61.
[782] Millicom, *2019 Millicom Integrated Report*, p. 195.
[783] Millicom, *2019 Millicom Integrated Report*, p. 195.
[784] Millicom, *2019 Millicom Integrated Report*, p. 195.
[785] *The Electronic and Postal Communications (Tariff) Regulations*, GN. No 22 of 2018.

what has been filed, and a requirement to inform the public through widely circulating media of their applicable rates and charges.

In order to ensure fairness to the consumers, the law sets principles to govern tariff regulation. For example, Regulation 4(1) of Tariff Regulations requires telecommunication companies to charge just and reasonable tariffs. Just and reasonable tariffs are defined by Regulation 3 to mean: "tariffs that enable a licensee to maintain its financial viability, attract capital, operate efficiently and promote fair competition in the supply and demand for communication services." Furthermore, Regulation 4(2) requires tariffs to be clear to end-users. There must be a sufficient description of services, the amount payable, and means of payment. Furthermore, tariffs must be non-discriminatory. Regulation 3 defines "non-discriminatory tariff" as "an application of equal tariff for similar services or products amongst providers."

Tariff regulation in the sector has two primary objectives. Firstly, it seeks to control against abuse by firms with significant market powers. It is for this reason that such firms must first seek the Authority's approval. Secondly, the regulation seeks to exercise control on pricing methods, even for firms with no market powers. This approach, it may be argued, is an unnecessary complication in the liberalized sector. Trying to adopt a uniform pricing approach for all firms does not serve any legitimate regulatory objectives. Instead of setting *ex-ante* regulatory frameworks, the Authority should strengthen its ability to monitor and enforce competition rules on an *ex-post* basis.

It may further be argued that tariff regulation is unnecessary since, in their absence, firms can still set competitive prices based on market demands. If a dominant firm sets too high prices, it will fall victim to abuse of dominance. Alternatively, if at all possible, setting low prices will likely not be sustainable as a firm in question will force itself out of the market for failure to make a profit unless there are other anti-competitive concerns, for example, cross-subsidization or margin squeezing. If there are right enforcement strategies, such practices will also be addressed on an *ex-post* basis. The bottom line here is that pricing is one of the crucial tools for competition in any market. Unless there are justifications based on monopolies' presence, the market should be left alone to set prices. Then, *ex-ante* regulation becomes unnecessary.

4.3.5.2 Quality of Service (QoS)

Since consumers pay for communication services, it is logical that such services should be of quality commensurate to the price charged. However, studies indicate the opposite in Tanzania, where service provision is usually unsatisfactory, characterized by anomalies such as network unavailability or weak connection.[786] These anomalies are one of the reasons that make regulation of the quality of service necessary. The TCRA has such duty through the Quality of Service Regulations of 2018 (QoS Regulations).[787] According to Regulation 4 of the QoS Regulations, the objectives of Quality of Services Regulations include ensuring customer satisfaction, guarantee the quality of delivered services, and protecting consumers.

The Quality of Service Regulations prescribe minimum standards of quality of service for each service offered in the sector. For example, from Part III of the Regulations, network availability for mobile services should not be less than 99 percent. The call connection failure rate must be less than 2 percent. As for the call setup time, it should be less than 10 seconds. Regulation 5(1) (a) and (b) and Regulation 6(a) of QoS Regulation impose self-regulation obligations to telecom firms. All licensees must meet prescribed quality standards, adopt an individual quality measurement system, and regularly monitor the quality of their services.

The law empowers the Authority to investigate the quality of services and penalize telecom firms in cases of non-compliances. For example, in 2016, it conducted a study on service compliance quality in Arusha, Mwanza, and Dar es Salaam regions. It found that almost all licensees were not providing satisfactory mobile communications services and penalized them accordingly. The Authority fined all

[786] TCRA, *Quality of Service Report for Cellular Mobile Operators for Arusha, Dar Es Salaam and Mwanza Service Areas for The Period of January March 2016* (Dar es Salaam: TCRA, 2016); Eliamani Sedoyeka, 'Quality of Service Perception in Telecom Business in Tanzania', *International Journal of Computing and ICT Research,* 9.2 (2015), 9–20; Adam B. Mtaho and Fredrick Romanus Ishengoma, 'Factors Affecting QoS in Tanzania Cellular Networks', *International Journal of Computer Science and Network Solutions*, 2.4 (2014), 29–36.

[787] *The Electronic and Postal Communications (Quality of Service) Regulations*, GN. No 201 of 2018.

companies Tanzania shillings six hundred and ninety-five million (about 264, 718 USD).[788]

4.3.5.3 Consumer Protection

Consumer protection is a vital aspect of the provision of telecommunications services. Some authors argue that if consumers need to enjoy the benefits of competitive markets, they must understand

> "at least most of the features – especially price, quality, and contractual terms – of products and services available in the market and should be willing and able to make rational buying decisions."[789]

The very nature of telecommunications services demands protective mechanisms for the safety and interests of consumers.[790] In the absence of such protection, it is possible to have demand-sided market failure evidenced by customers' inability to switch, information asymmetries, and failure to make rational decisions.[791]

Tanzania's consumer protection framework centers on service providers' obligations when dealing with consumers' affairs.[792] Detail of the protection framework is under the Electronic and Postal Communications (Consumer Protection) Regulations, GN. No. 61 of 2018. The Regulations cover several aspects. For example, in Part II of the Regulations, there are rules regarding providing timely, complete, accurate, and up-to-date information to consumers. There are also requirements to ensure the terms and conditions of all contractual relationships are made clear to consumers. In line with the preceding requirement, Regulation 5(7) of the Consumer Protection Regulations has standardized terms and conditions of consumers' contracts to include all crucial aspects. Furthermore, there are frameworks for handling consumers' data

---

[788] See TCRA, *Quality of Service Report for Cellular Mobile Operators for Arusha, Dar Es Salaam and Mwanza Service Areas for The Period of January March 2016*, p. 2.
[789] Hilda Jacob Mwakatumbula, Goodiel Charles Moshi, and Hitoshi Mitomo, 'Consumer Protection in the Telecommunication Sector: A Comparative Institutional Analysis of Five African Countries', *Telecommunications Policy*, 43.7 (2019), 1–8 (p. 1) <https://doi.org/10.1016/j.telpol.2019.02.002>.
[790] See details in OECD, *Enhancing Competition in Telecommunications: Protecting and Empowering Consumers*.
[791] Mwakatumbula, Moshi, and Mitomo, p. 2.
[792] *The Electronic and Postal Communications (Consumer Protection) Regulations*, GN. No. 61 of 2018.

under Regulation 6, handling the billing process under Regulation 9, and settling disputes under Part III.

The framework for consumer protection is as necessary today as ever. Consumers may be victims of unfair telecom transactions in a country with significant information asymmetries (information failure) and rapid technological advancements.[793] Consumers lack perfect knowledge, while telecom services providers are loaded with useful market information. As a result, unbalanced information ensues, which affects consumers' reasoning in decision-making. Thus, the regulator needs to bridge the gap. Where damages have happened, it should rectify them.

It is also important to note that measures included in the consumer protection framework may promote competition. For example, by addressing information gaps, the Authority ensures that firms do not use it as an instrument of monopolization. The same applies to unfair advertising or promotional activities, which seek to exploit consumers' ignorance. Thus, consumer protection regulation is useful not only for consumers but also for the market and its operations. When properly utilized, it is a tool sufficient to promote competition.

4.4 Other Regulated Matters

Apart from matters already mentioned, TCRA regulates several other issues. For example, it regulates tele-trafficking under the Tele-traffic Regulations of 2018.[794] Through these Regulations, the Authority can install monitoring systems in the telecom's premises, regulate billing systems, monitor mobile money transactions, establish tele-traffic systems, and collect revenue from incoming international tele-traffic.[795] The Authority also regulates telecom's accounting systems under the Accounting Regulations of 2018.[796] For example, each telecom firm must prepare separate accounts for wholesale, retail, and other services and a separate account for

[793] For more on information failure see George Higson, *Markets and Market Failures* (United Kingdom: Economics Online, 2011), p. 143; Buckley, *Telecommunications Regulation*, pp. 28–29.
[794] *The Electronic and Postal Communications (Tele-Traffic) Regulations*, GN. No 14 of 2018.
[795] See Reg. 4(2) and 6(1) of *The Electronic and Postal Communications (Tele-Traffic) Regulations*, GN. No 14 of 2018.
[796] *The Electronic and Postal Communications (Accounting Separation) Regulations*, GN No 23 of 2018.

universal obligations services.[797] Furthermore, it regulates numbering resources,[798] number portability[799] and registration, and standardization of electronic equipment.[800] All these indicate that nothing in the sector escapes the Authority's hands.

4.5 The Institutional Framework

At the policy level, the Government of Tanzania recognizes the significance of an adequate institutional framework for optimal results in the communications sector. For example, the telecommunication policies accentuate the need to have institutions that will spearhead rapid development in the sector. It is these institutions that will deliver the established policy objectives in the sector. For instance, as we have already seen, the National Telecommunications Policy's overall objective is to have a sector where services are provided in a liberalized and competitive manner.[801] Achieving such an objective is possible with an adequate institutional framework in place. For these reasons, the Government of Tanzania has committed itself to "ensure that there are an appropriate institutional capacity and supportive legal framework for the development of ICT industry that promotes competition under the principle of technology and service neutrality."[802]

As a result of this commitment, several institutions exist to regulate the sector. The institutions broadly fall into two categories; core institutions and other institutions. The core institutions are directly involved in the regular regulation of communications services. They include the TCRA, the Minister for communications, and the Fair Competition Tribunal. Other institutions do not regulate the sector regularly, or they regulate incidental matters relating to communications services. They comprise the Fair Competition Commission and the Bank of Tanzania. This section examines these institutions.

---

[797] See Reg. 4 of *The Electronic and Postal Communications (Accounting Separation) Regulations*, GN No 23 of 2018.
[798] *The Electronic and Postal Communications (Electronic Communication Numbering and Address) Regulations*, GN. No 62 of 2018.
[799] *The Electronic and Postal Communications (Mobile Number Portability) Regulations*, GN. No 20 of 2018.
[800] *The Electronic and Postal Communications (Central Equipment Identification Register) Regulations*, GN. No 55 of 2018; *The Electronic and Postal Communications (Electronic Communications Equipment Standards) Regulations*, GN. No 19 of 2018.
[801] *National Telecommunications Policy*, p. 2.
[802] See Policy Statement No 3.6.1.2. (ii), *National Information and Communications Technology Policy*.

4.5.1 The Tanzania Communications Regulatory Authority (TCRA)

The TCRA is the primary institution responsible for regulating the telecommunications sector in the country. It was established in 2003 under Section 4 of the TCRA Act as a body corporate. We may recall here that the TCRA replaced both the Tanzania Communications Commission and Tanzania Broadcasting Commission. The two commissions were established in 1993 during the early years of liberalization of the communications sector. Now, the TCRA becomes a converged regulator for communication and broadcasting services.

The TCRA's mission is "to be a world-class Communications Regulator creating a level playing field among Communication Service Providers, and promoting environmentally friendly, accessible, and affordable services to consumers."[803] It is a sector regulator regulating broadcasting, telecommunications, postal, internet, and related activities. Specifically, it has exclusive jurisprudence on competition law enforcement in the sector, contrary to practices in many jurisdictions in which enforcement of competition law is done either by a national competition authority or concurrently between the national competition authorities and the telecom regulators.[804]

4.5.1.1 TCRA's Governance

The TCRA's governance is by the Board of Directors, the Authority's supreme decision-making body. Among others, it oversees and reviews the Authority's performance as well as operations.[805] It also makes strategic plans, corporate decisions, and operational decisions.[806] The board under Section 7(1) of the TCRA Act comprises seven persons: the chairperson and vice-chairperson (non-executive directors appointed by the president) and five other members appointed by the

---

[803] TCRA, 'TCRA Profile' <https://www.tcra.go.tz/index.php/about-tcra/tcra-profile> [accessed 6 September 2019].
[804] See for example Julia Woodward-Carlton and Adam Collinson, 'The Sectoral Regulation', in *UK Competition Law: The New Framework*, ed. by Ros Kellaway, Rhodri Thompson, and Christopher Brown (Oxford, New York: Oxford University Press, 2015), pp. 139–74 (pp. 142–45 & 164–67); Competition and Markets Authority, *Guidance on Concurrent Application of Competition Law to Regulated Industries* (Competition and Markets Authority, 2014), p. 10.
[805] TCRA, *Annual Report for the Year Ended 30th June 2011* (Dar es Salaam: TCRA, 2012), pp. 10 & 11.
[806] TCRA, *Annual Report for the Year Ended 30th June 2011*, pp. 10 & 11.

Minister responsible for communications. The daily Authority's operations are under the Director-General, who is also part of the Board. It is the Minister who appoints the Director-General and sets the terms and conditions of his or her engagement. The Director-General, however, must meet the minimum qualifications set for the Authority's board members. As per Clause 1(2) of the Schedule to the TCRA Act, a prospective board member must be a graduate of a recognized university with experience in the fields of "management, law, economics, finance, engineering, broadcasting or information, and communications technology."

4.5.1.2 Powers and Jurisdiction

The TCRA has broad powers in regulating telecommunications in the country. These powers primarily come from the TCRA Act and the EPOCA, together with their several Regulations. Table 4.5-1 provides details of the TCRA's jurisdiction and competencies only in the telecommunications sector, that is, excluding broadcasting and postal services. The table shows that TCRA covers almost everything in the sector. Its functions range from monitoring of the sector to economic, technical, and social regulation. It also deals with enforcement issues under its various mandate provided in different legislations. The bottom line here is that there is almost nothing that can escape the TCRA's hands.

Table 4.5-1: Jurisdiction and Competencies of the TCRA in the telecom sector.

Jurisdiction	**Source**	**Some Remarks**
Licensing regulation	S. 6(1)(b)(i) of TCRA Act and Licensing Regulations of 2018	Granting radio frequency licenses. Granting licenses for operating electronic communication. Supervising compliance with licensing conditions.
Access regulation	S. 27-31 of the EPOCA	Regulate access to infrastructure and networks and interconnection.
Technical regulation	S. 71-75 and 82-90 of the EPOCA	Management and allocation of numbering plans and schemes, regulate spectrum and control and authorization of importation, transportation, installation and use of electronic equipment.
Investigating, prosecuting, adjudicating and enforcement	S. 19(2), 40 and Part VIII of the TCRA Act, S. 16, 18 and 34 of the Second Schedule to the TCRA Act and S 114 of the EPOCA	Powers to address all disputes arising in the sector. This means it has the power to allege the violation of regulatory rules, proceed to investigate, prosecute, and pass a decision. And then, it has

	S. 17 of the TCRA Act The 2nd Schedule of the EPOCA	powers to enforce its own decision. Powers to obtain all information, documents, and other evidence it deems necessary in the discharge of its functions. To collect data and information on the market and its operations.
Competition Regulation	S. 19 of the TCRA Act and Part IV (a) and (b) of the EPOCA	General responsibility to enforce competition in the sector.
Consumer Protection	Consumer Protection Regulations of 2018	Establish a framework to address the concerns of electronic services consumers.
Administrative Oversight of the regulated firms	S. 6(1)(c) of the TCRA Act	Monitor sector's operation to promote compliance to the law.
Tariff Regulation	S. 16 of the TCRA Act	May regulate, set, and publish tariffs in the sector.
Content Regulation	Online Contents Regulation of 2020	The Authority determines what may or may not be allowed online, including on social media.
Cyberspace Regulation	Cybercrimes Act of 2015	Control the use of cyberspace, provide cybersecurity, and be involved in the prevention and detection of cybercrimes.
Universal Services Regulation	Universal Communications Services Access Act of 2006	To ensure availability of communication services to all through the Universal Communications Services Access Fund (UCSAF).
Policy Formulation and Industry Development	2nd Schedule to the TCRA Act	Researching and reporting on innovative technologies, keeping the government appraised of obligations under international electronic communications treaties. Cooperating technically with the government and to define strategic policy. Proposing national technological development programs, plans, and schemes. Proposing international electronic communications policy to the government. Preparing policies for the development of national technology.
Public Awareness	2nd Schedule to the TCRA Act	Raising public awareness of the structure and regulation of electronic communications. Informing the public of reports, studies, and regulations as and when published.
Corporate Administration	2nd Schedule to the TCRA Act	Efficient utilization of the Authority's assets. Contracting powers for the efficient functioning of the Authority.

Source: Compiled by the researcher from different legislation

4.5.2 The Minister Responsible for Communications

Generally, there are concerns over the extent of political officials' involvement in the regulation process. For example, on the one hand, literature shows that politicians (in most cases, ministers) have, in certain instances, interfered with regulatory processes.[807] They have sometimes even dictated how regulation should take place.[808] On the other hand, evidence indicates that political officials provide essential links and facilitation in the regulatory agenda.[809] Thus, it would appear, the role of politicians, especially Ministers responsible for communications, depends much on the extent of power bestowed upon them and on the presence of control mechanisms against regulatory capture.

In Tanzania, the Minister responsible for telecommunications services (the Minister) has certain powers, which, when exercised, affect and shape the whole regulatory framework. Table 4.5-2 shows some of the ministerial powers in the sector's regulation. As the table shows, the Minister maintains considerable powers. Although not as detailed as in the 1993 framework, such powers give the Minister some control over the regulatory process. The Minister can shape the regulatory course by issuing general or specific regulatory directives.

Table 4.5-2 Ministerial Powers in the sector's regulation

Power	Source of Power	Some Remarks
Issuance of general or specific directives	S. 6(4) and 18 of the TCRA Act	General powers to issue orders and directives to the regulator. There are not limited directions on how the regulator should act in certain aspects and powers to assess the Authority's

[807] Paulo Correa and others, 'Political Interference and Regulatory Resilience in Brazil', *Regulation & Governance*, 2019, 1–21 (p. 7) <https://doi.org/10.1111/rego.12274>; OECD, *OECD Review of Telecommunication Policy and Regulation in Colombia*, p. 56; Dominik Böllhoff, 'Developments in Regulatory Regimes: Comparison of Telecommunications, Energy and Rail', in *Refining Regulatory Regimes: Utilities in Europe*, ed. by David Coen and Adrienne Windhoff-Héritier (Cheltenham, UK ; Northampton, MA: E. Elgar, 2005), pp. 15–52; Mustafa, Laidlaw, and Brand, *Telecommunications Policies for Sub-Saharan Africa*, p. 68; Stewart-Smith, pp. 36–38.

[808] Correa and others, p. 7; OECD, *OECD Review of Telecommunication Policy and Regulation in Colombia*, p. 56; Böllhoff; Mustafa, Laidlaw, and Brand, *Telecommunications Policies for Sub-Saharan Africa*, p. 68; Stewart-Smith, pp. 36–38.

[809] Uchenna Jerome Orji, *Telecommunications Law and Regulation in Nigeria* (Cambridge Scholars Publishing, 2018), p. 152; OECD, *Regulatory Policy and Governance: Supporting Economic Growth and Serving the Public Interest* (Paris: OECD Publishing, 2011), pp. 74–77 <https://doi.org/10.1787/9789264116573-en>; OECD, *Regulatory Institutions: A Blueprint for the Russian Federation* (Paris: OECD, 2008) <https://doi.org/10.1787/241530366501>.

		and take some measures, whether necessary. [810] Powers to order the Authority to carry general or specific inquiries.
Approval of some regulatory decisions	S. 6(3) of the TCRA Act, S. 70(1) of the EPOCA	Powers to approve issuance or cancellation of licenses for five years old or more or any license with universal services obligations. Powers to approve regulatory forbearance for some or all operators in the sector.
Appointing of regulatory officials	S. 7(6) and S. 13(1) of the TCRA Act	Appoint the Authority's board members apart from the chairperson and the vice-chairperson. Appoint the Authority's Director-General. Also determines the terms and conditions of the DG and other board members.
Supervisory powers	S. 18(3) and S. 52 of the TCRA Act	Inquire into the functioning of the Authority. May order inquiry and audit of the regulator's performance.
Making laws	S. 47(1) of the TCRA Act and S. 26(1) and 103(1) of the EPOCA	Powers to make laws through subsidiary legislation. These laws shape the sector because they detail what is to be regulated and the extent of regulation.
Budget approval	S. 54(1) and (2) of the TCRA Act	The Authority cannot proceed with its budget without informing the Minister.

Source: Compiled by the researcher from different legislation

4.5.3 The Fair Competition Tribunal

The Fair Competition Tribunal (FCT) is an independent, specialized quasi-judicial body established under Section 83 (1) of the Fair Competition Act. It determines appeals made against the decisions from the TCRA (and other sector regulators as well). According to Section 83(2) & (3) of the FCA, the Tribunal comprises seven members. All members, including the chairperson, serve on a part-time basis. After consulting with the Chief Justice, the President appoints the chairperson, a sitting judge of the High Court of Tanzania. The President also appoints the remaining members after consultation with the Attorney General.

[810] Benedict Liwenga, 'Wakurungenzi Wa TCRA Wasimamishwa', *HabariLeo Newspapers* (Dar es Salaam, 19 February 2016).

4.5.3.1 Nature of the Proceedings

The tribunal's proceedings are provided for in Sections 85 and 90 of the FCA and the Tribunal Rules.[811] Of importance is that its proceedings follow the adversarial system. Each party has a right to appear in person or through representation by an advocate. Furthermore, Rule 4 of the Tribunal Rules makes every authority (i.e., the FCC or sector regulator), whose decisions are challenged, a party to the Tribunal's proceedings. The Tribunal justified this position in *Ntully Huggins v MIC Tanzania Limited and Tanzania Communication Regulatory Authority*.[812] It held that regulators are joined as parties to the appeal "so that they can defend their own decisions by advancing arguments and making submissions on how they have arrived at a certain decision."[813]

4.5.3.2 Jurisdiction on Telecom Matters

Even though its name suggests that it deals with competition matters, the Tribunal also has powers over all regulators' decisions. Regarding telecom matters, Section 85(1)(c) of the Fair Competition Act empowers the Tribunal to carry all functions as the TCRA Act provides. Section 36(1) of the TCRA Act provides that appeals against the Authority's decision shall lie with the Tribunal. The Tribunal is the highest judicial organ in solving telecommunications disputes. Thus, it has powers customarily enjoyed by the highest courts of the land. Typically, such powers include the power to confirm, reverse, or vary the Authority's decision. It may remit the decision to the Authority with specific instructions, say, a fresh examination of witnesses. Furthermore, the Tribunal may order fresh proceedings. Moreover, it has the liberty to issue other necessary, incidental, or consequential orders.

4.5.3.3 The Finality of the Tribunal's Decisions

Section 61(8) of the Fair Competition Act and Section 36(3) of the TCRA unambiguously declare the FCT's decisions to be final. The effect of these provisions is to exclude ordinary courts from enforcing competition in the sector and the entire

[811] *Fair Competition Tribunal Rules*, 2012, GN. 219 OF 2012.
[812] Ntully Huggins v MIC Tanzania Limited and Tanzania Communication Regulatory Authority, p. 3.
[813] *Ntully Huggins v MIC Tanzania Limited and Tanzania Communication Regulatory Authority*, p. 3.

country at large. On the one hand, having such a Tribunal is acceptable because it brings a highly professional approach to addressing competition and regulatory issues. On the other hand, however, some concerns arise. For example, there are concerns that specialized courts are more prone to capture.[814]

Beyond capture concerns, specialized courts may limit levels of access to judicial recourse, especially on matters that demand appeals or reviews. For example, only one level of appeal is available to a party aggrieved by the TCRA's decision. As a result, it becomes impossible to judicially test competition and regulatory rules, a fact that would lead to their growth and maturity.

On a separate note, one must note that the adopted enforcement approach contradicts Article 107 of the Constitution. Article 107 requires the judiciary to be the final body in the administration of justice in the country. It is worthy to note that other tribunal systems (for example, land, taxes, and labor tribunals) allow appeals to the Judiciary up to the highest court in the land, the Court of Appeal. It is unclear, both in law and practice, why it should be different for competition and regulatory matters.

4.5.4 The Fair Competition Commission

The Fair Competition Commission (FCC) is established by Section 62(1) of the Fair Competition Act (the FC Act). Under Section 62(2) of the FC Act, it is a body corporate with a specific mandate to operate independently and discharge its functions impartially without fear or favor. As provided under Section 62(6) and (7) of the FC Act, its composition constitutes five members. They include the non-executive chairperson appointed by the President, three other non-executive members appointed by the Minister for commerce, and the Director-General, who is also appointed by the Minister for commerce. The Act under Section 96(1)-(3) limits the FCC's role in the telecommunication sector only to regulating mergers and acquisitions. Since mergers, especially between telecom firms, are infrequent, the FCC's role in this sector remains minimal.

---

[814] J. Jonas Anderson, 'Court Capture', *Boston College Law Review*, Vol. 59.5 (2018), 1543–94 (pp. 1550 & 1565).

4.5.5 The Bank of Tanzania

The Bank of Tanzania (BoT) is established under Section 4 of the Bank of Tanzania (BoT Act) Act of 2006. It is the central bank of Tanzania.[815] In exercising the functions of a central bank, Section 5(1) of the BoT Act empowers the Bank "to formulate, implement and be responsible for monetary policy" and "to regulate and supervise banks and financial institutions." Furthermore, regarding specific regulation of clearance and settlement system, the Bank is empowered by Section 6(1) and (2) to

> "regulate, monitor, and supervise the payment, clearing, and settlement system including all products and services thereof; and to conduct oversight functions on the payment, clearing, and settlement systems in any bank, financial institution, or infrastructure service provider or company."

The Bank derives its mandate to regulate mobile money transactions from Section 6(1) and (2) above.[816]

The early days of mobile money transactions did not see strict regulatory requirements.[817] Telecom firms needed only to apply for and receive a letter of no objection from the Bank.[818] The letter cleared the mobile network operators (MNO) to offer mobile money services. This simple authorization system lasted until 2015, when the government enacted the National Payment Systems Act, which introduced a regulatory framework for all electronic money services providers, including telecom firms.[819] Then, to intensify regulation even further, the Bank issued two Regulations; the Electronic Money Regulations[820] and the Licensing and Approval Regulations.[821]

The new framework brings in new and complex rules. For example, each MNOs must now have independent units to run mobile money services.[822] Instead of the

---

[815] *Bank of Tanzania Act*, ACT NO 5 OF 2006.
[816] Clara Mramba and Nicholas Nditi, 'Legal Regulation of Mobile Money Transfer Service in Tanzania', *Eastern Africa Law Review*, 42.2 (2015), p. 97.
[817] Max Mattern and Claudia McKay, 'Building Inclusive Payment Ecosystems in Tanzania and Ghana', *Focus Note*, 110 (2018), 1–36 (p. 4).
[818] Mattern and McKay, p. 4.
[819] *National Payment Systems*, 2015, ACT NO 4 OF 2015.
[820] *Payment Systems (Electronic Money) Regulations*, 2015.
[821] *Payment Systems (Licensing and Approval) Regulations*, 2015.
[822] Reg 12 of *Payment Systems (Electronic Money) Regulations*.

authorizations, which existed until then, it is now mandatory to apply for a license.[823] Several other regulatory requirements exist, apart from licensing.[824] Note that failure to observe these regulations has penal consequences. For example, operating mobile money without a valid license has a minimum fine of Tanzanian shillings five hundred million (about 220,000 USD).[825]

The integration of the mobile money system has also brought in the sector some aspects of financial regulation. The Bank of Tanzania, which a few years ago had nothing to regulate in the telecom sector, now forms part of the broader regulatory framework. The BoT has the final say regarding the mobile money system, even though other regulatory concerns fall under the TCRA. For example, while the BoT regulates electronic money services, complaints arising from using mobile money services or other competitive concerns ought to be handled by the TCRA.[826]

4.5.6 The Judiciary

Article 107A of the Constitution establishes the Judiciary as an "authority with the final decision in the dispensation of justice in the United Republic of Tanzania." According to the Constitution and the Magistrates Courts Act, Tanzania's judicial hierarchy has four courts. In ascending orders, these are the Primary Courts, the District and Resident Magistrates Act (they have concurrent jurisdiction), the High Court of Tanzania, and the Court of Appeal of Tanzania, the highest court in the country. Apart from these courts, various laws have established specialized tribunals to deal with specific matters such as employment and labor cases, tax matters, insurance, and matters arising from regulated sectors.

The Judiciary of Tanzania has no jurisdiction on matters arising from the telecommunications sector. Part II, III, and VII of the Tanzania Communications Regulatory Act empower the TCRA to entertain disputes arising from the industry as a tribunal of the first instance. Section 42 of the TCRA Act directs that appeals from the Authority's decision shall lie with the Fair Competition Tribunal. According to Section

[823] Reg 13 of *Payment Systems (Electronic Money) Regulations*.
[824] See for example Regulations 23, 34, and 36 of *Payment Systems (Electronic Money) Regulations*.
[825] S.14(b) of *National Payment Systems*, ACT NO 4 OF 2015.
[826] See several TCRA annual reports.

61(8) and 84(1) of the Fair Competition Act, the Tribunal acts as an appellate court whose decision is final. These provisions have ousted powers of the Judiciary in matters arising from the sector. No appeals may lie from the Tribunal to the High Court or Court of Appeal of Tanzania.

It has been noted that the Minister has significant powers in the whole regulatory agenda. In this section, the relevant question is whether courts of law have powers over the Minister's decisions. The TCRA Act does not provide whether the Minister's decisions may be appealed or reviewed by another superior authority. However, as Tanzania falls under the common law tradition, decisions of administrative bodies may be challenged by way of a judicial review. As a general rule, whoever is affected by a decision of administrative bodies, including Ministers, may apply for the review of such decisions.

This review is not an appeal against the decision. It is a request to courts of law, usually the High Court of Tanzania, to ascertain the decision's legality, procedural fairness, or rationality. The reviewing court can only overturn such a decision if it contravenes those three grounds. The same review process can be applied against the TCRA's and the Tribunal's decisions. Common practical examples where an application for a judicial review may succeed include where the respondent was not given the right to be heard, when the deciding authority was impartial, or when the deciding body acted ultra vires.

Thus, it can be argued that the judicial oversight over the TCRA's and Minster's decision is limited only to the extent accepted under the principles of judicial review. It is not possible to challenge the outcome of the Tribunal or Minister's decision by appeal to the superior court.

4.6 The East African Community Framework

Unlike the European Union's framework on competition regulation, East Africa's framework is relatively new and underdeveloped. A desire to have a regional competition authority came to a climax in 2006 when the Community passed the East

African Competition Act.[827] As per the Act's long title, the Act seeks "to promote and protect fair competition in the Community, to provide for consumer welfare, to establish the East African Community Competition Authority and for related matters."

The object of the Act as provided in Section 3 is to "enhance the welfare of the people in the Community" through various measures such as protecting the freedom to compete, guarding against states' barriers on interstate trade and economic transactions, and guaranteeing equal opportunity to all market actors in the community markets. Further, the Act seeks to provide a level playing field for all markets participants from all the Partner States and contribute to the integration agenda through enhanced competitiveness and promoting incentives to investment. The Act, as Section 4 provides, applies to "all economic activities and sectors having cross-border effect." It binds acts of individual persons, collective industrial bargains, and sovereign acts of the Partner States.

Regarding substantive provisions, Parts II-IV of the Act have rules on restrictive trade practices, abuse of dominance, and regulation of mergers and acquisitions. Parts V&VII have rules that address state actions, such as state subsidies and public procurement. The Act has included under Part VIII consumer protection on the broader competition framework. As for enforcement matters, Part IX of the Act establishes the East African Community Competition Authority as an enforcing body. Apart from the general enforcement provisions in the Act, the Community adopted the Competition Regulations of 2010 to provide further details on the enforcement approaches.

Despite having a regional competition framework, this research did not address the regional dimensions because its operation started just a few years ago with no existing jurisprudence so far. It took ten years since enacting the EAC Competition Act before the first commissioners were sworn in in October 2016.[828] The official operations of the East African Community Competition Authority commenced one

---

[827] *The East African Community Competition Act, 2006.*, ACT NO 2 OF 2006.

[828] EACA, 'Five Commissioners of the EAC Competition Authority Sworn in at the EAC', 2016 <https://www.eacompetition.org/resources/view/five-commissioners-of-the-eac-competition-authority-sworn-in-at-the-eac> [accessed 20 August 2021].

year later, in October 2017.[829] Even then, the findings of this research revealed that most of the Authority's activities have so far been directed to internal organizational issues such as developing strategic plans and operational rules than actual market monitoring, evaluation, or competition enforcement. As a result, when concluding this research, the Authority had no existing jurisprudence to be included in this work. Thus, the overall framework for regulation and competition enforcement in the sector remains under the TCRA. It remains to be seen what the EAC dimension is likely to bring in after it has become fully operational.

4.7 Concluding Remarks

This chapter's objective was to introduce the legal and institutional frameworks that regulate the telecommunication sector in Tanzania. It has shown that regulation aims, among other things, to promote efficiency, attract new investments, promote competition and universal services, and protect consumers. To achieve all these, the government established several institutions and enacted many regulatory rules. To a large extent, Tanzania's regulatory record is impressive. Over forty million Tanzanians are now connected to telecommunication services.[830] Over twenty-two million Tanzanians can access the internet.[831] Besides, 4G services are now available in some major cities and towns.[832] Switching between networks is now possible, even though complications still abound. Connection coverage has increased, thanks to the Universal Access Communication Services Fund, in addition to several other regulatory initiatives. Moreover, there are rules to promote competition, ensure the quality of the delivered services, protect consumers, and address disputes in the sector.

However, regardless of realized accomplishments so far, one would notice some concerns worth reconsideration. The most obvious one is overregulation. Nothing in the sector escapes the regulator's attention. In other words, regulation has almost

---

[829] EACCA, 'East African Competition Authority Begins Operations to Check on Malpractices', *East African Community Competition Authority*, 2017 <https://www.eacompetition.org/resources/view/east-african-competition-authority-begins-operations-to-check-on-malpractices> [accessed 20 August 2021].
[830] TCRA, *Quarterly Communications Statistics: October-December 2019*, p. 1.
[831] TCRA, *Quarterly Communications Statistics: October-December 2019*, p. 1.
[832] TCRA, *Quarterly Communications Statistics: October-December 2019*, p. 3.

replaced market mechanisms because everything depends first on what the regulator directs. Furthermore, in an attempt to regulate everything, regulation has extended beyond the traditional justifications of market failure. It has undoubtedly become a prominent governance tool, a consistent government's eye on the sector with some powers, albeit in varying degrees, to dictate what should or should not happen. It is as if the government gave up a command economy with one big hand during liberalization, only to maintain some control with one small but mighty hand called regulation. Whereas during the command economy, the government used to dictate terms of the telecom market directly, it now achieves the same but through the back door called regulation.

As for the institutional setup, the chapter has shown that Tanzania appreciates the role of appropriate institutional frameworks. For this reason, it has separated regulatory activities from the ministerial portfolio and placed them under the sector regulator. The regulator is expected to act effectively and professionally to ensure the sector's growth and development. Specifically, it has to promote competition by setting up rules that guarantee fair play. This has partly been possible, for example, by setting rules to facilitate entry. The converged licensing framework, access framework, competitive spectrum regulation, and interconnection regulation serve as good examples.

Tanzania's economic needs demand a robust telecom sector that is innovative and competitive enough to be a powerful engine to boost all other sectors.[833] Therefore, further improvements in the regulatory framework are necessary. Such improvements must ensure that regulation does not replace the concept of free transactions in the market. Instead, regulation must exist only when it is necessary to mimic market conditions. Put differently, regulation should only bridge those gaps rendering the market dysfunctional. It could be through remedying those failures caused by, for example, the presence of monopolistic features.

[833] It has elsewhere been argued that telecommunications is "the glue that binds together firms and market participants. See Rodine-Hardy, *Global Markets and Government Regulation in Telecommunications*, p. 2.

Regulation should be only temporary, as an enabling hand for competitive markets. Even in natural monopolies, it should establish 'as-if-competition,' or, where possible, open markets to competition.[834] In other words, it is essential to ensure that regulatory frameworks exist only to create and ensure a level playing field in the sector.

To this end, a review of the whole regulatory framework to render it highly competitive becomes necessary. For example, it may be necessary to scrap individual licenses in favor of single general authorizations. Instead of multiple licenses and procedures, a single license with less bureaucratic procedures is a good idea. Decisions, which affect firms' corporate structures and financial positions, should be carefully deliberated before implementations and, if not necessary, discarded.

Availability of spectrum as a crucial input of wireless communications should also be simplified and guaranteed to all firms, regardless of financial muscles. Its disposition must certainly be possible, even if that means some limitations from the regulators are justified. The bottom line is that each regulatory framework, decision, and directive must only be necessary for the efficient functioning market, per market principles, and which does not foreclose but fosters competition.

[834] Podszun, 'State-Related Restraints of Competition and Supranational Antitrust Law: How a Harmonised Regional Competition Framework Can Shape a More Market- Oriented Economy', p. 293.

Chapter 5: Regulation of Competition

> *"Competition, in theory if not always in practice, is nothing short of a miracle. Each firm tries to make as much profit as possible without regard (at least directly) for social welfare. Each consumer maximizes his own utility, ignoring others. Yet the result is that social welfare, in the Pareto sense, becomes as great as possible."*[835]

5.1 Introductory Remarks

The content of this chapter's epigraph could not capture more the relevance of competition in any economy. It is a fundamental tool in the market economy. Michal Gal once noted that "from the time of Adam Smith until today, competition has been viewed as an important tool for achieving social welfare as well as other social goals."[836] Indeed, studies indicate that competitive markets have socio-economic benefits, including improved services, extensive choices, reduced prices, and better quality, among many others.[837] It is through competition that consumers may enjoy the benefits of free markets. As Kenneth Train puts it in better terms, through competition, the "existence of the 'invisible hand' molds privately motivated actions into socially desirable outcomes—serves as the rationale for a 'free market.'"[838]

The above paragraph implies that in an ideal functioning market, firms will be competing and not cooperating.[839] Indeed, if competition is beneficial, one would expect business firms to advocate for more competition. This assumption, however, is

[835] Train, p. 1.
[836] Michal Gal, Competition Policy for Small Market Economies, 14.
[837] See UNCTAD Secretariat, 'The Benefit of Competition Policy for Consumers', in *United Nations Conference on Trade and Development* (presented at the Intergovernmental Group of Experts on Competition Law and Policy Fourteenth session, Geneva: UNCTAD, 2014), pp. 2–13 <https://unctad.org/meetings/en/SessionalDocuments/ciclpd27_en.pdf> [accessed 19 October 2019]; European Commission, 'Benefits of Competition Policy – European Commission', 2012 <https://ec.europa.eu/competition/consumers/why_en.html> [accessed 19 November 2019]; Katalin J. Cseres, *Competition Law and Consumer Protection*, European Monographs, 49 (The Hague: Kluwer Law International, 2005), p. 93; Massimo Motta and Fabrizio Onida, 'Trade Policy and Competition Policy', *Giornale Degli Economisti e Annali Di Economia*, 56 (Anno 110).1/2 (1997), 67–97 (pp. 83–94).
[838] Train, p. 1.
[839] Whish and Bailey, *Competition Law*, p. 513.

fallacious. In many cases, the contrary appears to be accurate. Many firms have continually coordinated their practices, direct or otherwise, to reap more profit from markets. As Adam Smith noted over three hundred years ago, "people of the same trade seldom meet together, even for merriment or diversion, but the conversation ends in a conspiracy against the public or in some contrivance to raise prices."[840] Over three centuries down the line, it would appear, the "incentive to coordinate behaviors to increase profit remains a powerful one."[841]

It is for such reasons that it is necessary to have rules in place to ensure free competition. Such rules, in principle, must seek to protect competition and its process. They must not, however, protect competitors. This position is what the FCT held in *Tanga Fresh v FCC*.[842] The US Supreme Court also held a similar view in *Spectrum Sports, Inc. v. McQuillan* when it held that,

> "the purpose of the Act [the Sherman Act that laid down competition rules] **is not to protect businesses from the working of the market; it is to protect the public from the failure of the market**. **The law directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself. It does so not out of solicitude for private concerns but out of concern for the public interest**."[843]

Thus, this chapter introduces rules of competition in the Tanzania telecom sector. The objective is to understand the extent to which the law addresses anti-competitive practices, including how enforcement takes place. Whereas the previous chapter focused on the *ex-ante* aspects of sector regulation, this chapter, except for mergers and acquisitions, focuses on competition's *ex-post* regulation. The chapter addresses two main points. It addresses the specific aspects of competition policy, including rules on abuse of dominance, collusive practices, and the regulation of mergers and acquisitions. It then examines enforcement frameworks.

---

[840] Jurgita Bruneckienė and others, *The Impact of Cartels on National Economy and Competitiveness: A Lithuanian Case Study* (Switzerland: Springer International Publishing, 2015), p. 1.
[841] Margaret C. Levenstein and Valerie Y. Suslow, 'Cartels and Collusion: Economic Theory and Experimental Economics', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 442–63 (p. 463).
[842] Tanga Fresh v FCC, *Appeal No 5 of 2014, Fair Competition Tribunal (Unreported)*, p. 52.
[843] Spectrum Sports, Inc. v. McQuillan, *U.S*, (1993) 506 US 447 (UNITED STATES SUPREME COURT)., p. 458.

5.2 Prohibition of Anti-Competitive Conduct

When Tanzania enacted the EPOCA in 2010, it already had competition rules under the Fair Competition Act of 2003. However, the lawmakers found it wise to have separate rules addressing the same question but limited to the telecom sector. Thus, EPOCA establishes two sets of rules, those addressing abuse of dominance and those addressing collusive practices.

5.2.1 Abuse of Dominance

5.2.1.1 Defining Dominance

The starting point to understand the abuse of dominance is by defining dominance. Dominance relates to firms' grasp of market powers. It means that a firm has significant market powers "to maintain the price at which it sells its product at a level that is significantly above its average (unit) costs." [844] In this context, costs have an economic definition. They include "a competitive return on the investment that has been made in the enterprise."[845] When dominant, a firm can behave independently of other firms in the market. If, for example, it chooses to raise prices excessively, there will be no sufficient competitive restraints from other players in the same market. The European Court of Justice has captured this fact very well in the case of *Hoffmann-La Roche v Commission*.[846] In this case, the ECJ defined dominance as

> "a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of the consumers."[847]

The *Hoffmann-La Roche* definition appears to have received wide acceptance from competition authors,[848] even though criticism abounds.[849] Several jurisdictions, such as

---

[844] Lawrence White, 'Monopoly and Dominant Firms: Antitrust Economics and Policy Approaches', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York, NY: Oxford University Press, 2015), I, 313–44 (p. 313).
[845] White, I, p. 313.
[846] Hoffmann-La Roche v Commission, *[1979] European Court of Justice, Case 85/76.*
[847] *Hoffmann-La Roche v Commission*, p. 520.
[848] For literatures in which Hoffmann-La Roche has been referred to see Peter Behrens, 'The Ordoliberal Concept of "Abuse" of a Dominant Position and Its Impact on Article 102 TFEU', in *Abusive Practices in Competition Law*, ed. by Fabiana Di Porto and Rupprecht Podszun, ASCOLA Competition Law (Cheltenham,

the Republic of Moldova, the Netherlands, Bulgaria, Belgium, and Switzerland, have also adopted this definition in their national laws.[850]

Dominance is a question of fact. It requires a detailed market analysis. Generally, the starting point is on market shares. Together with market definition, argues Mario Monti (the former EU Commissioner for Competition), market shares "are easily available proxy for the measurement of the market power enjoyed by firms."[851] In the EU, for example, there is generally a strong presumption of dominance when shares exceed 70 percent.[852] A weaker presumption exists when market shares range between 50 percent and 70 percent, while market shares between 40 and 50 percent will require close examination.[853] Those below 40 percent need not raise the dominance assumption under normal circumstances.[854]

In Germany, the Act against Restraints of Competition has set elaborate criteria to determine dominance.[855] Section 18(2) (1)-(3) of the Act provides that

> "an undertaking is dominant where, as a supplier or purchaser of a certain type of goods or commercial services on the relevant product and geographic market, has no

---

UK ; Northampton, MA, USA: Edward Elgar Publishing, 2018), pp. 5–25 (p. 13); Vasiliki Brisimi, *The Interface between Competition and the Internal Market: Market Separation under Article 102 TFEU* (Bloomsbury Publishing, 2014), p. 71; Whish and Bailey, *Competition Law*, p. 198; Albertina Albors-Llorens, *EC Competition Law and Policy* (Portland, Oregon: Willan Pub, 2002), pp. 88–89; Hedvig K. S. Schmidt, 'Private Enforcement – Is Article 82 EC Special?', in *Abuse of Dominant Position: New Interpretation¸ New Enforcement Mechanisms?*, ed. by Mark-Oliver Mackenrodt, Beatriz Conde Gallego, and Stefan Enchelmaier (Springer Science & Business Media, 2008), pp. 137–63 (p. 151).

[849] For criticisms on the definition see Whish and Bailey, *Competition Law*, p. 198; Damien Geradin and others, *The Concept of Dominance in EC Competition Law* (Rochester, NY: Social Science Research Network, 1 July 2005) <https://papers.ssrn.com/abstract=770144> [accessed 24 September 2019]; Emanuela Arezzo, 'Is There a Role for Market Definition and Dominance in an Effects-Based Approach?', in *Abuse of Dominant Position: New Interpretation¸ New Enforcement Mechanisms?*, ed. by Mark-Oliver Mackenrodt, Beatriz Conde Gallego, and Stefan Enchelmaier (New York: Springer, 2008), pp. 21–54 (pp. 25–26); Giorgio Monti, 'The Concept of Dominance in Article 82', *European Competition Journal*, 2.sup1 (2006), 31–52 <https://doi.org/10.5235/ecj.v2n1s.31>.

[850] Pınar Akman, 'International Report', in *Abuse of Dominant Position and Globalization &Protection and Disclosure of Trade Secrets and Know-How*, ed. by Pranvera Këllezi, Bruce Kilpatrick, and Pierre Kobel, LIDC Contributions on Antitrust Law, Intellectual Property and Unfair Competition (Cham: Springer Verlag, 2017), pp. 3–26 (p. 8).

[851] O'Donoghue and Padilla, p. 143.

[852] O'Donoghue and Padilla, p. 147.

[853] O'Donoghue and Padilla, p. 147.

[854] O'Donoghue and Padilla, p. 147.

[855] Act against Restraints of Competition in the version published on 26 June 2013 (Bundesgesetzblatt (Federal Law Gazette) I, 2013, p. 1750, 3245), as last amended by Article 1 of the Act of 18 January 2021 (Federal Law Gazette I, p. 2)

> competitors, is not exposed to any substantial competition, or has a paramount market position in relation to its competitors."

Section 18(3) of the Act further guides how one may assess the market position. The guiding factors are broad and cover as many scenarios as possible to arrive at an accurate analysis. Such factors include, for example, the undertaking's market share, its financial strength, its access to data relevant for competition, and its access to supply or sales markets. They also include "the undertaking's links with other undertakings," "the presence of legal or factual barriers to the market entry of other undertakings," the presence of "actual or potential competition from undertakings domiciled within or outside the area of application of this Act," the undertaking's "ability to shift its supply or demand to other goods or commercial services," and "the possibility for the opposite market side to switch to other undertakings." These factors are modern enough to embrace the dynamics of the current economic developments where big firms trade on assets such as data that were once not at the core of the market analysis.

The Act is also specific when focusing on markets with peculiar features such as multi-sided markets and networks. A new set of criteria for analyzing market power is added in such markets, where telecommunications services fall. Section 3(a) of the Act provides that in such market, an assessment of the market position of an undertaking will also consider the "direct and indirect network effects," "the parallel use of several services and the switching costs for users," "the undertaking's economies of scale arising in connection with network effects," "the undertaking's access to data relevant for competition," and "competitive pressure driven by innovation."

By including the factors mentioned above, it is now possible to assess the market position of giant tech and telecom companies who, as mentioned already, survive on their powers to access data or speed of rolling out new innovative technologies. A general rule, Section 4 of the Act set a threshold of at least 40% for an undertaking to be considered dominant. It may be argued that the Germany Act brings modern approaches and contemporary perspectives in defining and understanding the abuse

of dominance. It is helpful in understanding abuse in the modern era of big tech companies that have been causing anti-competitive concerns recently.

5.2.1.2 Abuse of Dominance

Abuse of dominance refers to dominant firms' behaviors and actions that are likely to affect undistorted competition. It refers to how a dominant firm uses its powers unfairly or illegally to suppress competition to reap more profits from the markets (the US Sherman Act in Section 2 calls this practice 'monopolization').[856] As some authors describe it, abuse of dominance may constitute, among others, dominant firms' behaviors "which harm competition,"[857] "which impair undistorted competition,"[858] or which "deviate from 'normal' or 'fair' or 'undistorted' competition."[859] It is the illegal use of dominance in the market to restrict or distort competition.

5.2.1.3 Material Issues in Abuse of Dominance

At the outset, it is essential to note that being dominant is not in itself illegal.[860] Firms may grow into dominance for several reasons, such as efficiencies in production and marketing, quality of products, or even competitive prices and other techniques.[861] Thus, it would naturally follow that success in business is what every firm aspires, and punishing firms for such achievement is, of course, senseless. As Senator George Hoar put it while discussing the Sherman's Act,

> "I suppose, therefore, that the courts of the United States would say in the case put by the senator from West Virginia that a man who merely by superior knowledge and intelligence, a breeder of horses or raiser of cattle, or manufacturer, or artisan of any kind, got the whole business because nobody could do it as well as he could,

---

[856] Eleanor Fox, 'Monopolization and Abuse of Dominance: Why Europe Is Different', *Antitrust Bulletin*, 59.1 (2014), 129–52 (pp. 142–43).
[857] Monti, *EC Competition Law*, p. 160.
[858] Whish and Bailey, *Competition Law*, p. 190.
[859] Whish and Bailey, *Competition Law*, p. 192.
[860] For evidence in literature see George Raitt, *The Metaphysics of Market Power: The Zero-Sum Competition and Market Manipulation Approach* (Oxford: Bloomsbury Publishing, 2019), p. 9; Robert Schütze, *European Union Law* (California: Cambridge University Press, 2018), p. 704; Ky P. Ewing, *Competition Rules for the 21st Century: Principles from America's Experience*, International Competition Law Series, v. 9, 2nd ed (Alphen aan den Rijn: Frederick, Md: Kluwer Law International, 2006), p. 56.
[861] Steven D. Anderman and Hedvig Schmidt, 'EC Competition Policy and IPRs', in *The Interface Between Intellectual Property Rights and Competition Policy*, ed. by Steven D. Anderman (Cambridge: Cambridge University Press, 2007), pp. 37–124 (p. 40) <https://doi.org/10.1017/CBO9780511495205.003>.

was not a monopolist, but that it involved something like the means which made it impossible for other persons to engage in fair competition, like engrossing, buying up of all other persons engaged in the same business."[862]

Senator Hoar rightly held that competition law does not intend to prohibit business firms from growing and expanding due to proper business strategies. Such firms are entitled to grow and become dominant, if possible. In principle, dominant firms have the right to compete on merit.[863] The problem comes when they abuse such dominance, for example, through the adoption of means that make it impossible for others to compete fairly. At this junction, a competition concern arises.

Thus, what competition law seeks to prohibit is an abuse of such dominance. It follows that dominant firms have a responsibility not to allow their conduct to "impair genuine and undistorted competition."[864] The European Court of Justice has once held that dominant firms have "a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market."[865] Thus, rather than embarking on unfair and uncompetitive practices, dominant firms ought to play fairly by relying on innovation, quality, and affordability as the key to success.

5.2.1.4 Many Faces of Abuse of Dominance

Much as abuse of dominance forms part of almost every competition regime, its application, however, has turned out to be one of the controversial areas on competition enforcement.[866] The root of the controversy lies in the fact that what amounts to an abuse of dominance is not an exact science. It has always been

---

[862] United States Congress, *Bills and Debates in Congress Relating to Trusts: Fiftieth Congress to Fifty-Seventh Congress, First Session, Inclusive* (Washington, D.C: U.S. Government Printing Office, 1902), p. 279.
[863] Ruwantissa Abeyratne, *Rulemaking in Air Transport: A Deconstructive Analysis* (Switzerland: Springer Nature Switzerland AG, 2016), p. 135.
[864] Beata Mäihäniemi, *Competition Law and Big Data: Imposing Access to Information in Digital Markets*, New Horizons in Competition Law and Economics (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2020), p. 28.
[865] See Para 57 Michelin V Commission, *[1983] European Court of Justice, Case 322/81.*, p. 3511.
[866] See what the OECD says regarding the controversial nature of abuse of dominance in 'Abuse of Dominance and Monopolisation - OECD' <http://www.oecd.org/daf/competition/abuse/> [accessed 24 September 2019].

challenging to determine when a "firm's behavior is an abuse of market power instead of competitive action."[867]

There is even one more point that complicates the understanding of abuse of dominance. It has been observed that what amounts to an abuse of dominance in one jurisdiction is not necessarily true in another. For example, while some jurisdictions such as the US, Mexico, and Australia do not condemn excessive pricing as an act of abuse of dominance,[868] the same is prohibited under Article 102 of TFEU.[869]

Similar differences also exist concerning margin squeezing.[870] In the US, the Supreme Court had established its position in this question in *Triko's* case where it held that,

> **"The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices at least for a short period is what attracts business acumen in the first place**; it induces risk-taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anti-competitive conduct."[871]

---

[867] OECD, 'Abuse of Dominance and Monopolisation', 2020 <http://www.oecd.org/competition/abuse/> [accessed 3 June 2020].

[868] See Frederic Jenny, 'Abuse of Dominance by Firms Charging Excessive or Unfair Prices: An Assessment', in *Excessive Pricing and Competition Law Enforcement*, ed. by Yannis Katsoulacos and Frédéric Jenny (Cham: Springer International Publishing, 2018), pp. 5–70 (pp. 7–9); Eleanor M. Fox, 'Abuse of Dominance and Monopolisation: How to Protect Competition Without Protecting Competitors', in *What Is an Abuse of a Dominant Position?*, ed. by Claus-Dieter Ehlermann and Isabela Atanasiu, European Competition Law Annual, 8.2003 (Oxford: Hart Publishing, 2006), pp. 69–78 (pp. 70–71).

[869] See for example Arezzo, p. 21; Eleanor M. Fox, pp. 70–71; Some authors have criticised the EU's adoption of formalistic approach than effects-based approach. This approach, some argue, benefits competitors and not competition. See O'Donoghue and Padilla, p. 67; As a result, there is a debate for a more economic approach in which analysis of abuse conduct will be based on its economic effects. This will ensure that the rules protect competition and not competitors. See Liza Lovdahl Gormsen, *A Principled Approach to Abuse of Dominance in European Competition Law* (United Kingdom: Cambridge University Press, 2010), pp. 15–16; Wolfgang Wurmnest, 'Predatory Pricing: From Price/Cost Comparisons to Post-Chicago Thinking', in *Structure and Effects in EU Competition Law: Studies on Exclusionary Conduct and State Aid*, ed. by Jürgen Basedow and Wolfgang Wurmnest, International Competition Law Series, vol. 47 (Alphen aan den Rijn : Frederick, MD: Kluwer Law International ; Sold and distributed in North, Central, and South America by Aspen Publishers, 2011), pp. 1–2; Rupprecht Podszun, 'Introduction', in *Competition Policy and the Economic Approach: Foundations and Limitations*, ed. by Josef Drexl, Wolfgang Kerber, and Rupprecht Podszun (Cheltenham Northampton, MA: Edward Elgar, 2011), pp. 1–10 (pp. 2–3).

[870] Germain Gaudin and Despoina Mantzari, *Margin Squeeze: An Above-Cost Predatory Pricing Approach* (Düsseldorf, Germany: Düsseldorf University Press, 2016), pp. 2–4 <http://hdl.handle.net/10419/125793> [accessed 17 March 2020].

[871] Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP, *(2004) 540 US 398 (United States Supreme Court)*., p. 547.

Whereas the US holds that excessive pricing is "an important element of the free-market system," its European counterparts have a different view. In the *United Brands v Commission,* the European Court of Justice discussed excessive prices by United brands in one geographical market, which would sometimes be as much as 100 percent than the prices charged to customers in other markets such as Ireland.[872] One of the questions the Court had to determine was whether United Brands abused its dominance by charging such excessive prices. The Court observed,

> "It is advisable, therefore, to ascertain whether the dominant undertaking has made use of the opportunities arising out of its dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition. **In this case, charging a price that is excessive because it has no reasonable relation to the economic value of the product supplied would be such an abuse."**[873]

The two observations show how the definition of abuse of dominance and its content varies with jurisdictions. Whereas in one jurisdiction, abuse of dominance includes excessive prices that do not have a reasonable relationship to the product's economic value, other jurisdictions will not condemn such practices at all. Thus, what exactly amounts to an abuse of dominance depends on the laws of specific jurisdiction.

5.2.1.5 Dominance in Tanzania

The telecommunications laws in Tanzania do not define the term 'dominance.' However, its meaning can be inferred from other legal provisions, for example, those defining abuse of dominance. Section 3 of the EPOCA defines abuse of dominance as an act whereby,

> "a firm holds a position of such economic strength that allows it to operate in a market without being significantly affected by competition, and it engages in conduct that is likely to impede the development or maintenance of effective competition."

---

[872] See for example, Para 239 United Brands v Commission, [1978] EUROPEAN COURT OF JUSTICE, CASE 27/76., p. 300.
[873] See Para 249-250 of the *United Brands v Commission*, [1978] EUROPEAN COURT OF JUSTICE, CASE 27/76., p. 301.

From this definition, a dominant firm is a firm that holds a position of economic strength in the market such that it can operate without being significantly affected by competition. As Section 62(2) of the EPOCA clarifies, a dominant firm "can profitably and materially restrain or reduces competition in the telecom market" and must possess at least 35 percent of market shares. As a general rule, no presumption of dominance exists for a firm with less than 35 percent of the market share.

It is important to note that dominance is not automatic unless the Authority declares so. Section 66(2) of the EPOCA and Regulation 14 of Competition Regulations empower the Authority to carry informed inquiries before concluding on a firm's dominance. In so doing, the law lists factors for consideration. From the Act and the Regulations, it is clear that determining a dominant firm is not an easy task. It calls for an objective analysis of the industry by factoring in diverse issues such as economic and market powers, technological aspects and developments, and the varying powers, including demand from the consumers' side. Specifically, the Authority will consider the following factors before declaring a service provider dominant:

1. Firstly, it will look at the economic strength of the respective firm in the market. Under Section 66(2)(a) and (c) and Regulation 14(a) of Competition Regulations, the Authority will consider factors such as the extent of the market shares, revenues, number of subscribers, traffic of calls and messages, and sales volume.
2. Secondly, Regulation 14(b) directs the Authority to consider economic dimensions, such as its size compared to others, and its command of the economies of scope and scale, as these two have the potential to create anti-competitive effects.
3. Thirdly, the Authority will consider the control of essential facilities. Regulation 14(c) of the Competition Regulations provides that a firm with such control has the potential to abuse it at the expense of the competitors.
4. Fourthly, the Authority will also consider the nature of consumers' side to understand the extent and degree of consumers' involvement in the sector's activities. Under Regulation 14(d), the Authority will consider factors such as

weak buying and bargaining powers, complicated switching costs, and information asymmetries.

5. Fifthly, the Authority will consider the market's overall competitive state, such as how easy or difficult it is to enter or exit the market. According to the Regulation 14 (e) of the Competition Regulations, the presence of entry or exit barriers is likely to strengthen the dominance, and therefore, features in the analysis of a firm's dominance.
6. Lastly, Regulation 14(6) directs the Authority to consider the sector's technological developments and advancements because they may give the respective firm powers over others.

Both the Act and the Regulations use the word "may" in setting these criteria. Using the word "may" gives the Authority the liberty to choose which factor it considers necessary in defining dominance. However, the Authority's studies on assessing dominance are rare as there are no *ex-post* enforcement cases that would have provided a better opportunity for such assessment.

Nevertheless, there is one recent study of 2018 in which the Authority assessed the sector's competitiveness.[874] The Authority used market shares, Herfindahl–Hirschman Index (HHI), and other factors. The HHI is an index used to measure the market concentration of an industry where a highly concentrated market will be one with only a few players that hold a large percentage of the market. The opposite means a lower degree of concentration, indicating that the market is closer to perfect competition.[875] Market shares and HHI were calculated based on subscription, traffic volumes, and revenues.[876] The Authority also considered other factors such as the ownership of essential facilities, advertisement and branding powers, vertical and horizontal integration, and pricing behaviors. In so doing, the Authority retains some flexibility by including several factors to get the right picture on the state of market concentration.

---

[874] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, pp. 13–18.
[875] The HHI is a technical index. For details see Eva Lütkebohmert, *Concentration Risk in Credit Portfolios*, EAA Lecture Notes (Berlin; London: Springer, 2009), p. 72.
[876] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, pp. 13–18.

5.2.1.6 Acts of Abuse of Dominance

We have already seen that abuse of dominance is a question of fact. A detailed market analysis is necessary to establish if dominance exists. Then, it is also necessary to prove if that dominance has been abused. In order to do so, there must be in place some legal guidance. In Tanzania, Section 3(i) and Section 60(1) of the Electronic and Postal Communications Act, together with the Competition Regulations, state what may amount to an abuse of dominance. They include exclusionary practices, exploitative practices, tying and bundling as well as unfair methods of competition.

5.2.1.6.1 Exclusionary Practices.

Exclusionary practices include all conducts, the very nature of which is to exclude rivals in the market.[877] Such practices, as Regulation 6 (a) of Competition Regulations provides, include predatory pricing, price (margin) squeezing, price (cross) subsidization, and price discrimination.[878] As their names suggest, all these practices include the use of pricing to reap more from consumers. As a result, they exclude competitors from the market.

Price predation or undercutting is a straightforward practice by dominant firms. Its theory is interesting. Here, a dominant firm deliberately cuts its price (below the marginal costs), i.e., deliberately making losses to gain more market shares. The gain is not out of efficiency but due to practices that make it difficult for competitors to survive, forcing them to exit the market.[879] For price predation to make any sense, the dominant firm must regain the incurred loss in the future. Thus, predatory pricing is always a short-term strategy.

Price (margin) squeezing is a practice by a vertically integrated dominant firm in which it supplies upstream goods or services to a rival at such a high price that the

[877] Akman, p. 13.
[878] *The Electronic and Postal Communications (Competition) Regulations*, GN. No 26 of 2018.
[879] See Kenneth G. Elzinga and David E. Mills, 'Predatory Pricing', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 40–61; Nicola Giocoli, *Predatory Pricing in Antitrust Law and Economics: A Historical Perspective*, The Economics of Legal Relationships, 20 (Milton Park, Abingdon, Oxon ; New York, NY: Routledge, 2014), pp. 1–10; Wurmnest, 'Predatory Pricing: From Price/Cost Comparisons to Post-Chicago Thinking', pp. 109–14.

competitor cannot trade profitably at the downstream market.[880] Literature indicates about five conditions for a margin squeezing abuse. Firstly, the market in question must be vertically integrated. Secondly, the input in question must be essential for competition. Thirdly, the supplied input must constitute a high and fixed proportion of downstream costs. Fourthly, specific aspects of abuse must be identified. For instance, it must be established if downstream firms cannot profitably trade under the dominant firm's pricing arrangements. Lastly, it must be established whether there is any other justification for the squeezing arrangement apart from a mere intent to exclude rivals from the market.[881]

As for cross-subsidization, it refers to a dominant firm's practice of charging low prices below costs in one of its markets or products only to recover the loss in another product or market.[882] The whole idea of cross-subsidization is deliberate loss-making in one product or market, which can be compensated by profits from another product or market.[883] In so doing, a dominant firm allocates products or markets' costs in which it is dominant to other products or markets. The result is to offer below-cost prices, making it impossible for competitors to survive. This practice develops not because of efficiency or performance but because of internal subsidization methods (artificial cost allocation).[884]

Lastly, price discrimination happens when the same supplier charges different prices to different customers on the same goods or services. Price difference techniques may include charging the maximum price the customer is willing to pay, segregating customers into various groups, charging different prices on different geographical

---

[880] See Alison Jones, 'Identifying an Unlawful Margin Squeeze: The Recent Judgments of the Court of Justice in Deutsche Telekom and TeliaSonera', *Cambridge Yearbook of European Legal Studies*, 13 (2011), 161–93 <https://doi.org/10.5235/152888712801752942>; Barak Orbach and Raphael Avraham, 'Squeezing Claims: Refusal to Deal, Essential Facilities, and Price Squeezes', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 120–31.

[881] Damien Geradin and Robert O'Donoghue, 'The Concurrent Application of Competition Law and Regulation: The Case of Margin Squeeze Abuses in the Telecommunications Sector', *Journal of Competition Law & Economics*, 1.2 (2005), 355–425 (pp. 358–60) <https://doi.org/10.1093/joclec/nhi009>.

[882] See Ritter and Braun, p. 458.

[883] Zhijun Chen and Patrick Rey, 'Competitive Cross-Subsidization', *The RAND Journal of Economics*, 50.3 (2019), 645–65 (p. 1) <https://doi.org/10.1111/1756-2171.12293>.

[884] Ritter and Braun, p. 383.

markets, or pricing according to the volume of goods or services procured.[885] Price discrimination includes using different methods such as coupons, discounts, premium services, loyalties rebates, and many more. [886]

5.2.1.6.2 Exploitative practices

Exploitative practices include dominant firms' practices that directly or indirectly disadvantage consumers to gain more profit to solidify their dominance. Regulation 6(b) and (c) of Competition Regulations give a few examples of exploitative conduct. They include excessively high prices, discriminatory prices, unfair contractual terms (for example, locking in contracts), and refusal or limiting of supply, markets, and technology.

Exploitative practices such as excessively high prices are subject to debate amongst competition authors because they do not amount to an abuse of competition in all jurisdictions.[887] Furthermore, complications arise because it is difficult to ascertain the extent to which prices are exactly exploitative.[888] However, the EU's position is that excessive prices may be determined through price/cost comparison, geographical comparison of prices, analysis of product/service's economic value, and a comparison between dominant firm's prices and prices in other competitive markets.[889] However, what is essential is that the idea behind prohibiting exploitative practices is that a

---

[885] See S. P. S. Chauhan, *Microeconomics: Theory And Applications Part Ii* (New Delhi: PHI Learning Pvt. Ltd., 2009), pp. 11–15; Luc Peeperkorn, 'Price Discrimination and Exploitation', in *International Antitrust Law & Policy: Fordham Competition Law 2008*, ed. by Barry E. Hawk (New York: Juris Publishing, Inc., 2009), pp. 611–34 (p. 628); Phillip Louis Landolt, *Modernised EC Competition Law in International Arbitration* (The Netherlands: Kluwer Law International, 2006), p. 79; Roger Sherman, *The Regulation of Monopoly* (Cambridge: Cambridge University Press, 1989), pp. 65–66.

[886] See Chauhan, pp. 11–15; Peeperkorn, p. 628; Landolt, p. 79; Sherman, pp. 65–66.

[887] Michael Gal, 'Abuse of Dominance- Exploitative Abuses', in *Handbook on European Competition Law. Enforcement and Procedure*, ed. by Ioannis Lianos and Damien Geradin (Cheltenham, UK: Edward Elgar, 2013), pp. 385–422 (pp. 385–86).

[888] A lot has been written on this topic. See, for example, Talya Solomon and Iris Achmon, 'Excessive Pricing in Israel—How to Deal with A "Hot Potato"?', *Journal of European Competition Law & Practice*, 8.10 (2017), 660–67 (p. 666) <https://doi.org/10.1093/jeclap/lpx066>; Pinar Akman and Luke Garrod, 'When Are Excessive Prices Unfair?', *Journal of Competition Law and Economics*, 7.2 (2011), 403–26 (pp. 404–24) <https://doi.org/10.1093/joclec/nhq024>; Simon Roberts, 'Assessing Excessive Pricing: The Case of Flat Steel in South Africa', *Journal of Competition Law and Economics*, 4.3 (2008), 871–91 (pp. 873–75) <https://doi.org/10.1093/joclec/nhn005>; David S. Evans and A. Jorge Padilla, 'Excessive Prices: Using Economics to Define Administrable Legal Rules', *Journal of Competition Law & Economics*, 1.1 (2005), 97–122 (pp. 100–110) <https://doi.org/10.1093/joclec/nhi002>.

[889] Geradin and O'Donoghue, p. 365.

dominant firm ought not to use its market powers to exploit other competitors or consumers.

Discriminatory practices also amount to exploitative practices.[890] Such practices may include pricing based on customers' willingness to pay (first-degree discrimination), pricing based on discounts after a certain quota is reached (second-degree discrimination), and group pricing (third-degree discrimination).[891] In Tanzania, Section 60(2) of the EPOCA prohibits dominant firms to "discriminate between persons who acquire or make use of electronic communication service in the market in which it operates." Prohibition of discrimination extends beyond prices to other aspects of the sector, such as quality of service, access, and interconnection. Thus, it not only applies to end customers but also to the relationship between telecom firms.

5.2.1.6.3 Tying and Bundling

Even though tying and bundling are part of dominant firms' exclusionary practices, Tanzania's law differentiates them from other abusive practices. Section 65 of the EPOCA prohibits all types of tying and bundling, whether done by dominant firms or not. Tying involves a practice in which a firm makes it a condition to a customer who buys one product (the tying product) to buy another product (the tied product).[892] For example, the EU held that Microsoft selling of windows operating system with window media player amount to tying.[893]

Bundling, on the other hand, is selling two products or services as one.[894] Bundling may be pure, in which a firm sells two products jointly at a fixed price, or mixed, where a firm sells two products differently, but they are cheaper when bought together.[895] In either case, the objective of dominant's firm tying and bundling is to force customers to buy its products, hence excluding others. In Tanzania, however,

---

[890] Marco Botta and Klaus Wiedemann, 'Exploitative Conducts in Digital Markets: Time for a Discussion after the Facebook Decision', *Journal of European Competition Law & Practice*, 10.8 (2019), 465–78 (p. 466) <https://doi.org/10.1093/jeclap/lpz064>.
[891] Botta and Wiedemann, pp. 467–68.
[892] Lorenz, p. 224.
[893] European Commission Court of Justice, Microsoft v the Commission, *[2007] European Court of First Instance, Case T-201/04.*, p. 601 (p. 601).
[894] Lorenz, p. 225.
[895] Damien Geradin, Anne Layne-Farrar, and Nicolas Petit, *EU Competition Law and Economics* (Oxford, New York: Oxford University Press, 2012), p. 231.

tying and bundling are prohibited, regardless of whether the firm in question is dominant or not.

5.2.1.6.4 Unfair Methods of Competition.

The law also prohibits the dominant's firm from unfair competition methods that may improperly deter entry or restrict competition. Some prohibited practices in this category include predatory logical or physical network alteration to negatively impact other competitors without any legitimate business, technical or operational justifications. This may include physical or logical alteration of the dominant firm's network such that interconnected licensees incur additional operational costs. Under Reg. 6(f) of the Interconnection Regulation, such alteration must be without legitimate business, operational or technical justification. Unjustifiable limitation of products, services, markets, or technical developments to the detriment of consumers is another prohibited method of unfair competition.[896] Furthermore, the practices include refusal to interconnect, supply, or grant access to communication facilities.[897] Other practices include false or misleading claims, the provision of misleading or false information to competitors, and all acts that interfere with end-user or supplier relationships.[898]

5.2.1.7 TCRA and the Regulation of Abuse of Dominance

The documentary review and interviews conducted in this research revealed that the TCRA does not monitor markets to establish acts of abuse of dominance, if any. Intensive market studies that focus on assessing the state of competition are rare, the only ones being of 2012 and 2018. In all these studies, the authority's focus was on understanding the market structure to come up with regulatory remedies. It did not assess the markets' competitive aspects from an *ex-post* enforcement perspective.

The TCRA's study of 2018, for example, indicated the markets to be concentrated, with Vodacom and Tigo commanding dominance in some markets. These firms had some practices, which, if well investigated, could have revealed possible abuse of

[896] Reg. 6(c) of *The Electronic and Postal Communications (Competition) Regulations*, GN. No 26 of 2018.
[897] Reg. 6(h) of *The Electronic and Postal Communications (Competition) Regulations*, GN. No 26 of 2018.
[898] Reg. 6(i) of *The Electronic and Postal Communications (Competition) Regulations*, GN. No 26 of 2018.

dominance. For example, the findings of this research indicated that it is not unusual for them to run low promotional prices, sometimes with zero tariffs, for a considerable amount of time. It was also found that similar conduct has been experienced in which prices are considerably reduced, sometimes to zero tariffs in some geographical areas, whereas others continue to pay the standard or heightened tariffs. Furthermore, the integration of telephony and mobile money service was observed to have fortified the dominance of Vodacom and raised the possibility of cross-subsidization, especially with the increase of associated charges. These are not matters that the TCRA investigated in the light of abuse of dominance.

Further findings of this research noted similar concerns relating to internet charges in which the leading supplier, the TTCL, is also active in the downstream markets. There have been concerns from other telecom firms that the TTCL supplies the internet at a higher rate, making it difficult for them to offer competitive practices at the downstream market. These concerns do not indicate the presence or absence of an abuse of dominance. This is a question that only the TCRA can answer. It would then be expected that the Authority would go a step further to investigate and address possible acts of abuse of dominance. As chapter six shows, it has not done so because it is not designed to do so.

5.2.1.8 Comments on the Regulation of Abuse of Dominance

The regulation of abuse of dominance in Tanzania is just like other competition rules in its nascent stage. They provide a theoretical framework that defines dominance and instances of its abuse. However, their relevance and practicality remain abstract paperwork that has not been tested by real markets scenarios. Thus, unfortunately, we do not have judicial precedents that demonstrate these rules' applicability, especially those that introduce some unconventional elements in the abuse of dominance concept. This fact stems from the TCRA's design as it does not afford sufficient opportunities and possibilities for *ex-post* competition enforcement.

5.2.2 Collusive Practices

Collusion (also referred to as cartels) is the "joint determination of output, prices, or other terms of trade by ostensibly independent firms to elevate their profits."[899] Collusive practices may deal with determining output level, allocation of markets or customers, or even coordination to win contracts.[900] Collusion may either be express or tacit.[901] Express collusion means clear stipulations of coordinated practices.[902] Here, firms deliberately take joint measures to restrict competition, for example, through sharing information, joint pricing decisions, market divisions, and restricting production, among others.

Tacit collusion means coordinated efforts due to informal communication and on a non-verbal basis.[903] The whole idea here is that firms need not reach a formal agreement. Thus, tacit collusion may result from market behaviors, for example, by following what leading firms do. A joint increase in price and aggressive advertising are some of the few examples. What is even more important is that the effects of tacit and express collusion are the same.

Some authors have considered collusive practices the worst form of anti-competitive conduct because they rarely offer any economic or social justifications.[904] Collusive practices have continued to grow despite legal reactions around the world. For example, a century has passed since the US criminalized them by making price-fixing a felony.[905] In Europe, Germany was the first country to pass the law against cartels in

[899] Michal S. Gal, p. 157; Bruneckienė and others, pp. 2–3.
[900] Antoine Colombani, Jindrich Kloub, and Ewoud Sakkers, 'Cartels', in *Faull & Nikpay: The EU Law of Competition*, ed. by Jonathan Faull, Ali Nikpay, and Deirdre Taylor, Third edition (Oxford, United Kingdom: Oxford University Press, 2014), pp. 1023–1362 (p. 1024).
[901] For detailed technical differences between the two concepts see Miguel A. Fonseca and Hans-Theo Normann, 'Explicit vs. Tacit Collusion – The Impact of Communication in Oligopoly Experiments' (Düsseldorf Institute for Competition Economics (DICE), 2012).
[902] Jones and Sufrin, pp. 660 & 672; Michal S. Gal, p. 157; Barry J. Rodger and Angus MacCulloch, *Competition Law and Policy in the EC and UK*, 4. ed (London: Routledge-Cavendish, 2009), pp. 175–78; John Lipczynski and John Wilson, *The Economics of Business Strategy* (England: Pearson Education, 2004), p. 111.
[903] Jones and Sufrin, pp. 660 & 672; Michal S. Gal, p. 157; Rodger and MacCulloch, pp. 175–78; Lipczynski and Wilson, p. 111.
[904] Kamala Dawar and Peter Holmes, 'Trade and Competition Policy', in *The Ashgate Research Companion to International Trade Policy*, ed. by Kenneth Heydon (New York: Routledge, 2016), pp. 225–44 (p. 229).
[905] Levenstein and Suslow, p. 443.

1958.[906] About two decades ago, the literature reveals, "the United States, the European Commission, and competition authorities around the world reached consensus that hard core cartels would not be tolerated."[907] Such reaction notwithstanding, cartels have continued to grow. As Margaret Levenstein and Valerie Suslow observe, cartels "form in local markets with relatively small firms, and they form in highly concentrated global markets dominated by multiproduct multinationals."[908]

Impacts of collusive practices on competition, efficiency, innovation, and consumers are considered similar to monopolies.[909] "If a single firm can damage the market and produce unwelcome welfare effects," it has been argued, "then so too can a group of firms which act together *as if* they were one."[910] It is not astonishing that some describe collusive practices as the "cancer on the open market"[911] or "the supreme evil of antitrust."[912]

5.2.2.1 Collusive Practices in Telecom Sector

Because of their oligopolistic nature, collusive practices are more likely to happen in telecom markets.[913] Green, Marshal, and Marx, for example, argue that

> "firms in an oligopoly can be expected to recognize their mutual interdependence in the market. Each firm realizes that its profits depend not only on its own actions but also on the actions of its rivals. It is possible that firms, each possessing this insight and understanding that its competitors all possess it, might be able to succeed in the

---

[906] Justus Haucap, Ulrich Heimeshoff, and Luis Manuel Schultz, *Legal and Illegal Cartels in Germany between 1954 and 2004*, 2010, p. 1 <https://nbn-resolving.org/urn:nbn:de:101:1-20110104150> [accessed 20 August 2021].
[907] Levenstein and Suslow, p. 443.
[908] Levenstein and Suslow, p. 443.
[909] Decker, *Economics and the Enforcement of European Competition Law*, p. 16.
[910] Sandra Marco Colino, p. 143.
[911] Whish and Bailey, *Competition Law*, p. 514.
[912] *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, p. 408.
[913] Jay Pil Choi and Heiko Gerlach, 'Cartels and Collusion: Economic Theory and Experimental Economics', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 415–41 (p. 418); Edward J. Green, Leslie M. Marx, and Robert C. Marshall, 'Cartels and Collusion: Economic Theory and Experimental Economics', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 464–98 (p. 465); Nicolas Petit, 'THe Oligopoly Problem in EU Competition Law', in *Handbook on European Competition Law: Substantive Aspects*, ed. by Ioannis Lianos and Damien Geradin (Edward Elgar Publishing, 2013), pp. 259–349 (p. 284); Femi Alese, *Federal Antitrust and EC Competition Law Analysis* (England: Ashgate Publishing, Ltd., 2008), p. 55.

> implementation or even the establishment of a collusive agreement without communication."[914]

Furthermore, observing the likelihood of collusive practices in concentrated markets, Kovacic and others make this vital observation,

> "In markets characterized by interdependence, each firm realizes that the effect of its actions depends on the responses of its rivals. **In highly concentrated markets, the recognition of interdependence can lead firms to coordinate their conduct simply by observing and reacting to their competitors' moves. In some instances, such oligopolistic coordination yields parallel behavior (e.g., parallel price movements) that approaches the results that one might associate with a traditional agreement to set prices, output levels, or other conditions of trade."**[915]

The effect of collusive or coordinated practices is to replace market forces. Market factors such as demand, marketing strategies, and quality of products and services do not determine prices in such an environment. Instead, coordination between firms becomes the decisive factor. For this reason, many jurisdictions treat collusions as illegal *per see,* meaning one does not need to prove any resulting harm.[916]

5.2.2.2 Prohibition of Collusive Practices in Tanzania

The law in Tanzania prohibits all collusive practices, whether done by a dominant firm or not. Section 64 of the EPOCA reads,

> "A licensee shall not enter into any understanding, agreement, or arrangement, whether legally enforceable or not, which provides for – (a) rate fixing; (b) market sharing; (c) boycott of a supplier of apparatus; or (d) boycott of another competitor."

The law does not define the terms "price-fixing, "market sharing," and "boycotting," as used in Section 64 of the EPOCA. However, it is argued that they have a similar

---

[914] Green, Marx, and Marshall, p. 465.
[915] William E Kovacic and others, 'Plus Factors and Agreement in Antitrust Law', *Michigan Law Review*, 110 (2011), 393–436 (p. 405); See also S. 1 of *Sherman Act*, 15 U.S.C 1-38; See Art 101 of 'Consolidated Version of the Treaty on the Functioning of the European Union', *Official Journal of the European Union*, C326, 2012, 47.
[916] Choi and Gerlach, p. 415.

meaning as typically applied in law and economics. Price fixing includes any technique designed to interfere with the market's pricing mechanism.[917] It is immaterial whether such techniques are intended to interfere with maximum or minimum prices or stabilize prices.[918] Market sharing includes practices between two or more firms that agree on customers' apportioning, for example, by refraining from entering each other's territories.[919] Boycotting of suppliers' or competitors' products refers to a deliberate refusal by two or more firms on dealing with another competitor.[920]

In defining collusive practices, Section 64 of the EPOCA uses different terms such as "understanding, agreement, or arrangement." By their very nature, these terms are broad enough to include both explicit and implicit collusion. Thus, both formal and informal collusive practices are prohibited. It is unnecessary to have a legal agreement in place to prove collusion.

5.2.2.3 Regulatory Powers over Collusive Agreements

In general, Section 23(1) of Tanzania's Law of Contract Act makes illegal any contract with an unlawful object or unlawful consideration.[921] Consequently, since the law already prohibits collusive practices, any agreement to such effect is unlawful. The legal effect of such agreement is, as Section 24 of the Law of Contract Act provides, void. No court of law may give effect to such agreements.

Apart from this void effect of collusive agreements, the telecommunications laws empower the TCRA to take further steps. Thus, Regulation 11 of Competition Regulations authorizes the TCRA to review all licensees' agreements to ensure the absence of collusion. These are extensive powers without any specific conditions on

---

[917] Seplaki, p. 335.For a detailed discussion on price-fixing see Louis Kaplow, *Competition Policy and Price Fixing* (Princeton, New Jersey: Princeton University Press, 2013), pp. 21–60; John M Connor, *Global Price Fixing* (Berlin: Springer, 2008), pp. 17–52; Keith N Hylton, *Antitrust Law: Economic Theory and Common Law Evolution* (Cambridge, UK; New York: Cambridge University Press, 2003), pp. 113–31.

[918] Seplaki, p. 335.For a detailed discussion on price-fixing see Kaplow, pp. 21–60; Connor, pp. 17–52; Hylton, pp. 113–31.

[919] Paul Belleflamme and Francis Bloch, 'Market Sharing Agreements and Collusive Networks', *International Economic Review*, 45.2 (2004), 387–411 (p. 387); Mark Furse and Susan Nash, *The Cartel Offence* (Oregon: Hart Publishing, 2004), p. 140.

[920] For further details see Timothy J. Brennan, 'Refusing to Cooperate with Competitors: A Theory of Boycotts', *The Journal of Law & Economics*, 35.2 (1992), 247–64.

[921] *The Law of Contract Act*, CAP 345 [R.E 2019].

how the Authority may exercise them. Therefore, the Authority has the right to demand and review any agreement between licensees, irrespective of the subject matter. If the Authority proves collusion, it has powers to issue necessary directives or remedies, if any.

5.3 Substantial Lessening of Competition

In an attempt to be as thorough as possible, Regulation 8 (a)–(i) of Competition Regulations introduces another set of prohibitions known as 'acts that lessen competition substantially.' The prohibitions relate to acts that may not necessarily be uncompetitive, but they may lessen competition. Moreover, the prohibitions are somewhat unconventional compared to standard competition rules, which seek to protect competition and not competitors. The Regulations read that "subject to a licensee demonstrating otherwise in the course of any inquiry or other procedure conducted by the Authority, the following conducts or practices shall be deemed to result in a substantial lessening of competition." The Regulations then list several conducts that may reduce competition substantially in the sector, which this subsection discusses.

5.3.1 Refusal to Deal Regarding Essential Services

Regulation 8(a) of Competition Regulations provides that a firm's refusal regarding interconnection or access to essential facilities amounts to acts that lessen competition. The law in Tanzania does not define an essential facility. However, according to literature, an essential facility refers to an essential input owned by a dominant firm and which its refusal for access may affect or foreclose competition.[922] For example, the EU defines it as a "facility or infrastructure, without access to which competitors cannot provide services to their customers."[923] In principle, essential facility doctrine applies under the following conditions: (1) the facility in question is

[922] See Alemu, p. 146; Stoyanova, pp. 97–98; Andrea Renda, 'Competition–Regulation Interface in Telecommunications: What's Left of the Essential Facility Doctrine', *Telecommunications Policy*, 34.1–2 (2010), 23–35 (pp. 24–33) <https://doi.org/10.1016/j.telpol.2009.11.005>; Jean Tirole, 'Telecommunications and Competition', in *The Economics of Antitrust and Regulation in Telecommunications: Perspectives for the New European Regulatory Framework*, ed. by Pierre-André Buigues and Patrick Rey (Cheltenham, UK ; Northampton, MA: Edward Elgar, 2004), pp. 260–65 (pp. 261–62).

[923] See Para 66 of European Commission, Sea Containers v. Stena Sealink, *[1993] European Commission, Case IV/34.689.*, p. 16.

under control of a dominant firm, (2) competitors cannot reproduce the facility, (3) competing firms are denied access, and (4) a dominant firm can provide access to such a facility (i.e., there is no objective justification for the refusal).[924] Unless there is a justified reason, a dominant firm should not refuse access to an essential facility.

The law in Tanzania does not define what an essential facility is. However, unlike its applicability in Tanzania, we learn from the literature that essential facility doctrine refers to an essential input owned by a dominant firm and which its refusal may affect or foreclose competition. Essential facilities must be ones that cannot be easily duplicated. In principle, a dominant firm should not refuse access to an essential facility unless there is a justified reason.[925]

In Tanzania, this rule extends to all firms regardless of their market powers. Both dominant and non-dominant firms should interconnect. Furthermore, regardless of market powers, a firm must grant access if the Authority determines that it owns an essential facility. The rationale for this generalization is unclear. However, the effect is to subject smaller firms to the mandatory sharing of their facilities.

5.3.2 Discrimination on Interconnection, Communications Services or Facilities

Regulation 8 (b) states that any discrimination regarding the provision of interconnection or other communication services and facilities (regardless of whether they are essential or not) amounts to a lessening of competition. This prohibition applies to all firms regardless of their market powers. The Regulation allows discrimination only where there is an objective justification, for example, due to differences in supply costs. In the same manner, Regulation 8(d) provides that offering one competitor more favorable terms than others amount to a lessening of competition.

This Regulation envisages that each firm should treat all other firms on the same terms and conditions, regardless of market position. *Prima facie,* this might appear to be a good approach aiming at reducing entry barriers. However, a closer look reveals

[924] Mats A. Bergman, 'The Role of the Essential Facilities Doctrine', *The Antitrust Bulletin*, 46.2 (2001), 403–34 (pp. 407–8) <https://doi.org/10.1177/0003603X0104600206>.
[925] See Alemu, p. 146; Stoyanova, pp. 97–98.

that having such a provision that does not consider the market position forces equal treatment amongst unequal firms and may affect competition. For example, big firms with considerable market powers may still demand access to services or facilities offered by small competing firms. According to this Regulation, such services need not be essential. Thus, a smaller firm cannot refuse its competitor access to such services or facilities nor provide it on different terms and conditions unless only when the refusal is justified on supply conditions such as service delivery costs.

It is argued, this provision does not provide a specific room for smaller firms to grow and offer meaningful competition. It may also be a disincentive to invest. The right approach would be to restrict this Regulation to those firms with significant market powers to facilitate entry. Maintaining this provision contradicts what competition policy seeks to achieve.

5.3.3 Exclusionary or Exploitative Conduct

Exclusionary or exploitative conduct present yet another controversial aspect of competition regulation in the sector. The Regulations extend the prohibition of exclusionary or exploitative acts, which generally apply to dominant firms, to all other firms. For instance, Regulation 8 (e) makes predatory pricing amount to acts lessening competition. It is immaterial whether a dominant or non-dominant firm did it. The same is true for cross-subsidization under Regulation 8(f) and margin squeezing under Regulation 8(h)(i).

How these rules apply to all firms remains to be seen in practice since the rules are relatively new. They were enacted in 2018. There is, however, one area where the practice has shown the effects of these rules. A non-dominant firm may not charge lower prices than those approved by the Authority, even if that is its only business strategy for expansion. Smart's internet charges can provide a good example.

Smart had established itself as a fast internet service provider in Dar es Salaam and other cities. It has no significant voice shares (less than 1%). For a long time, one would pay Tsh. 70,000/= (about 30USD) to get an unlimited monthly internet connection. However, since 2018, the TCRA directed Smart to limit its unlimited internet service because it was below the Authority's threshold price set for 1

Gigabyte (GB).[926] In other words, the Authority meant that Smart violated competition principles by charging internet service too cheap (undercutting). As per the Authority's directives, Smile had to raise its prices like other big firms such a Vodacom and Tigo.

Such a decision has no advantage to consumers or small firms like Smart. Contrary to what competition seeks to deliver, consumers do not benefit because they now have to pay more. The disappointing fact is that they pay more not because of market demand but because of the regulatory intervention. This scenario is one of the many that shows how regulatory intervention may affect markets' smooth operation. Regulation has replaced market powers of demand and supply.

Furthermore, such a decision narrows down smaller firms' opportunities to compete with those already well-established in the market. Specifically, for Smart, that decision meant that a firm with less than 1% of the market shares is forced to compete with more prominent firms like Tigo or Vodacom using the same techniques. It is unclear why the regulator would promote "equality" or "uniformity" between firms because this is not the objective of competition. However, it is clear that this decision will make it difficult for small firms to compete with those already having scales and scope. The small firms will exit the markets. And this is what happened to Smart. It closed its shop in 2019.[927]

5.3.4 Refusal to Deal or Supply

The Regulations have designated individual acts, whose effects amount to a refusal to deal or supply, as lessening competition in the sector. For example, Regulation 8(h)(ii) provides that any act that requires or induces a supplier to refrain from selling to competitors lessens competition in the sector. Similarly, under Regulation 8(h)(iii), adopting technical specifications without objective justification to complicate interoperability amounts to a refusal to deal and, therefore, lessens competition. Furthermore, under Regulation 8(h) (iv), failure to timely provide a

[926] Information obtained during field research.
[927] Alfred Zacharia, "'Smart" Quits Tanzania Market', *The Citizen* (Dar es Salaam, 7 October 2019) <https://www.thecitizen.co.tz/news/1840340-5301700-9r90ua/index.html> [accessed 17 June 2020].

competitor with technical specifications or information on essential facilities, or other necessary pieces of commercial information to compete lessens competition.

Again, as with other previous rules, these rules apply symmetrically even though some usually apply to dominant firms. For example, it is generally accepted that unless a firm is dominant, and only in instances of essential facilities, all firms have or must have the freedom to choose with whom to deal with, to share commercial information, or to enter into business relationships.[928] Firms, even those dominant in the market, do not have an obligation to deal.[929] Thus, under normal circumstances, refusal to deal is not illegal per see unless the deterring of competition comes out as an apparent effect of such a refusal.[930] In the US, for example, as it was held in *Trinko's* case,

> "Compelling such firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities. **Enforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing—a role for which they are ill-suited. Moreover, compelling negotiation between competitors may facilitate the supreme evil of antitrust: collusion. Thus, as a general matter, the Sherman Act "does not restrict the long-recognized right of [a] trader or manufacturer engaged in entirely private business, freely to**

[928] Tiancheng Jiang, *China and EU Antitrust Review of Refusal to License IPR*, Maklu Competition Series, 3 (Antwerpen; Portland: Maklu, 2015), p. 224; François Lévêque, 'Innovation, Leveraging and Essential Facilities: Interoperability Licensing in the EU Microsoft Case', in *Antitrust, Patents, and Copyright: EU and US Perspectives*, ed. by François Lévêque and Howard A. Shelanski, New Horizons in Competition Law and Economics (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2005), p. 103; Penelope Kent, *Law of the European Union*, Frameworks, 3. ed (England: Pearson Education Limited, 2001), p. 258; OECD, *Refusal to Deal* (Paris: OECD Publishing, 2009), p. 9; Estelle Derclaye, 'Abuse of a Dominant Position and Intellectual Property Rights: A Suggestion to Reconcile the Community Courts' Case Law', in *Competition, Regulation, and the New Economy*, ed. by Cosmo Graham and Fiona Smith (Oxford; Portland: Hart Pub, 2004), pp. 55–76 (pp. 59–61).

[929] Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches*, New Horizons in Competition Law and Economics (Cheltenham, U.K; Northampton, Mass: Edward Elgar, 2009), p. 14.

[930] Alison Jones, 'A Dominant Firm's Duty to Deal: EC and US Antitrust Law Compared', in *Handbook of Research in Trans-Atlantic Antitrust*, ed. by Philip Marsden, Elgar Original Reference (Cheltenham, UK: Elgar, 2006), pp. 236–86 (pp. 245–46).

> **exercise his own independent discretion as to parties with whom he will deal.**"[931]

In the EU, Courts have limited an obligation to deal as an exception only when the result is to foreclose competition altogether. For example, in the *Commercial Solvent case* (regarding a refusal to supply essential raw materials), the European Court of Justice held that a dominant firm is liable for abuse of its dominance "if it acts in a manner that risks eliminating all competition" [in the market].[932] Putting it in detail, the Court noted,

> "it follows that an undertaking which has a dominant position in the market in raw materials and which, with the object of reserving such raw material for manufacturing its own derivatives, refuses to supply a customer, which is itself a manufacturer of these derivatives, and therefore risks eliminating all competition on the part of this customer, is abusing its dominant position within the meaning of Article 86."[933]

Similar observations were also made in the *United Brands case.*[934] Perhaps, it was the *Bronner case* that succeeded in advancing criteria upon which refusal to deal may amount to an abuse of dominance.[935] The criteria include, firstly, where such refusal eliminates all competition in the market, secondly, where the refusal is not objectively justified, and where the refused service is indispensable for the latter's carrying of business.[936]

Apart from Bronner's case, *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG,* is another case decided by the European Court of Justice that explains circumstances under which refusal to supply, in this case, intellectual property rights (IPR), may amount to an abuse of dominance.[937] IMS Health had developed a system in the pharmaceutical industry in Germany by providing sales data on pharmaceutical

---

[931] *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, p. 408.
[932] Commercial Solvents v Commission, *[1974] European Court of Justice, Joint Cases 6 & 7/73.*, p. 251.
[933] Para 25 *Commercial Solvents v Commission*, p. 251.
[934] See specifically para 182-3 *United Brands v Commission*, [1978] EUROPEAN COURT OF JUSTICE, CASE 27/76., p. 292.
[935] Bronner v Mediaprint, *[1998] European Court of Justice, Case C-7/97.*
[936] See Para 41 *Bronner v Mediaprint*, p. 7831.
[937] IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG, *[2004] European Court of Justice, Case C-418/01*.

products. It had organized the system in 1860 bricks corresponding to geographical areas in the country. This system became *de facto* in the industry. Later on, the respondent started to use a system similar to the brick system raising IPR issues. The matter landed in the German regional court, *Landgericht Frankfurt am Main*. The German court had to refer the matter to the European Court of Justice to ascertain whether, by refusing to grant a license based on IPR reasons, a dominant firm commits abuse of dominance under Art 82 EC, now Article. 102 of the Treaty on the Functioning of the European Union. Answering this question in the affirmative, the court went a step further to provide circumstances under which such refusal may amount to an abuse of dominance. The court held:

> "…the refusal by an undertaking which holds a dominant position and owns an intellectual property right in a brick structure indispensable to the presentation of regional sales data on pharmaceutical products in a Member State to grant a licence to use that structure to another undertaking which also wishes to provide such data in the same Member State, constitutes an abuse of a dominant position within the meaning of Article 82 EC where the following conditions are fulfilled:
>
> — the undertaking which requested the licence intends to offer, on the market for the supply of the data in question, new products or services not offered by the owner of the intellectual property right and for which there is a potential consumer demand;
>
> — the refusal is not justified by objective considerations;
>
> — the refusal is such as to reserve to the owner of the intellectual property right the market for the supply of data on sales of pharmaceutical products in the Member State concerned by eliminating all competition on that market."[938]

The position in Tanzania is different. It would appear that any refusal to deal, even by firms with no significant powers in the market, may amount to acts that lessen competition.

[938] See para 52 of *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG,* p. I–5080.

5.3.5 Comments on Acts that Lessen Competition

It may be argued that the introduction of these rules is unnecessary as they add no value to the whole architecture of competition regulation in the sector. They certainly add pointless complications because they go beyond the general objective of protecting competition. If they are implemented, one can see nothing but confusion in compliance, as firms will be required to comply with some of the rules that have no competition value and contradict the principles of market operations. Even more critical is their redundant nature, for most of what they cover could very well be addressed by the rules of abuse of dominance or collusive practices.

5.4 Merger Regulation

A merger happens when "two or more formerly independent entities unite."[939] It is a common way in which businesses expand or address other organizational issues. Literature indicates at least three common types of mergers: horizontal, vertical, and conglomerate mergers.[940] Regarding horizontal mergers, they involve firms operating on the same market level, for example, two telecom firms. Such mergers are of the most concern in competition regulation as they increase market concentration.[941] Vertical mergers happen when two firms at a different level in the production and distribution chain merge, for example, manufacturer and suppliers of telecom devices.[942] Vertical mergers can also be of concern, especially if they end up foreclosing competition.[943] Conglomerate mergers involve firms with no vertical or horizontal effects.[944] Motives for conglomerate mergers, apart from the general

[939] Jones, Sufrin, and Dunne, p. 1059.
[940] See for example Richard Whish and David Bailey, *Competition Law*, Ninth edition (Oxford, United Kingdom: Oxford University Press, 2018), pp. 830–31; Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management*, 13th edn (Mason, USA: South-Western Cengage Learning, 2012), p. 712; Alese, p. 409.
[941] Ariel Ezrachi, *EU Competition Law: An Analytical Guide to the Leading Cases*, Sixth edition (Oxford: Hart Publishing, 2018), p. 417.
[942] Ezrachi, *EU Competition Law*, p. 418.
[943] See Steven Salop, 'Economic Analysis of Exclusionary Vertical Conduct: Where Chicago Has Overshoot the Mark', in *How the Chicago School Overshot the Mark: The Efect of Conservative Economic Analysis on U.S. Antitrust*, ed. by Robert Pitofsky (New York: Oxford University Press, 2008), pp. 114–55 (p. 149); Sarkis J. Khoury, *Transnational Mergers and Acquisitions in the United States* (Washington, D.C: Beard Books, 2002), p. 112.
[944] Jones, Sufrin, and Dunne, p. 1064.

assumption on risk reduction, are unknown.[945] Conglomerate mergers are considered of little impact in competition law.[946] However, if they are likely to bring any anti-competitive effects, merger regulation will still step in.

5.4.1 Objectives of Merger Regulation in the Sector

Generally, not all mergers and acquisitions are bad for competition. Mergers and acquisitions have been argued to facilitate firms' growth and hence, obtain a range of benefits to include economies of scale and scope and relevant trading inputs such as access to information, licenses, patents, or even a broader base of customers.[947] It will not be surprising when literature proves that mergers bring benefits to markets and consumers, including reduced prices, improved quality, increased choices, and improved efficiency.[948]

However, certain mergers may have the effect of creating monopolies and hence, harm competition and the economy at large. For example, in horizontal mergers, the likely impact of concentration is huge because, after the mergers, two firms are reduced to one with even more significant market shares than before.[949] It is when it comes to this stage that mergers of such anti-competitive effects are prohibited. In other words, a merger with no anti-competitive effects will face no objection from competition authorities.

Merger regulation in Tanzania is under the Fair Competition Commission's jurisdiction. The legal mandate comes from Sections 11 to 14 of the Fair Competition Act and Part V of the Competition Rules of 2018. In principle, Section 11(1) of the FCA prohibits a merger only "if it creates or strengthens a position of dominance in a market." The FCC will not block any merger that does not strengthen a position of

---

[945] Whish and Bailey, *Competition Law*, pp. 831 & 840; Yokov Amihud and Baruch Lev, 'Risk Reduction as a Managerial Motive for Conglomerate Mergers', in *Mergers and Acquisitions: Motivaton*, ed. by Simon Peck and Paul Temple (London: Routledge, 2002), pp. 228–42 (p. 228).
[946] Whish and Bailey, *Competition Law*, pp. 831 & 840; Amihud and Lev, p. 228.
[947] Ezrachi, *EU Competition Law*, p. 412.
[948] See for example Jones, Sufrin, and Dunne, p. 1060; Paul Healy, 'The Effect of Changes in Corporate Control of Firms Perfomance', in *Transforming Organizations*, ed. by Thomas A. Kochan and Michael Useem (New York: Oxford University Press, 1992), pp. 61–79 (pp. 41–42); Donald F. Turner, 'Conglomerate Mergers and Section 7 of the Clayton Act', *Harvard Law Review*, 78.7 (1965), 1313–95 (p. 1317) <https://doi.org/10.2307/1338906>.
[949] Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and Its Practice*, 5th edn (USA: West Group, 2016), p. 668.

dominance. As the FCT held in *Tanga Fresh v FCC*, the general policy objective for merger regulation is to protect competition "so that mergers do not harm consumers."[950]

Because not every proposed merger will have anti-competitive effects, the FCC must carry a sound economic analysis to evaluate the proposed merger's effects. It usually does this through a factual analysis comparing the likely effects of competition with and without the proposed merger in question. This approach is known in the EU merger regulation framework as counterfactual analysis, and it is well documented in the EU merger regulations.[951] When no anti-competitive effects are likely to arise from the proposed merger, the FCC will clear it.

5.4.2 Notification Requirement

There is a mandatory notification requirement for all prospective mergers, the failure of which is in itself a violation of the merger Regulations. Section 11(2) allows the FCC to set a threshold for notification. The latest limit is Tanzanian shillings 3.5 billion (around 1.5 mil USD).[952] The threshold calculation relies on the "combined market value of assets or turnover of the merging firms."[953] The notification requirement is necessary as it allows authorities to scrutinize every envisaged merger and its probable effects on competition. Stressing on this point, the FCT observed the following in the *Tanga Fresh* case:

> "Notification of a merger, we would say, is a **standstill obligation under our law.** The validity of a transaction carried in contravention of the standstill obligation is, as a general rule, **dependent on clearance or approval by the Fair Competition Commission.** The respondent [the FCC] retains the powers to review such mergers/concentrations. Where a merger is implemented in violation of the standstill obligation (as the merger in questions) (the so-called "gun-jumping"), the Competition Authority should take **measures** with a view to **ensuring that any negative impact on effective competition in the market arising from the**

[950] *Tanga Fresh v FCC*, p. 52.
[951] See Emily. F. Clark and Cecilia. E. Foss, 'When the Failing Firm Defence Fails', *Journal of European Competition Law & Practice*, 3.4 (2012), 317–31 (p. 317) <https://doi.org/10.1093/jeclap/lps023>.
[952] *The Fair Competition (Threshold for Notification of a Merger (Amendment) Order*, 2017, GN. 222OF 2017.
[953] See Reg 2 of *The Fair Competition (Threshold for Notification of a Merger (Amendment) Order*, GN. 222OF 2017.

implemented transaction are allayed to the extent possible and in the event are **not protracted or rather prolonged."**[954]

5.4.3 Initial Investigation (First Stage Investigation)

Once prospective merging firms have notified the Commission of their merging intention, the law under Section 11(3) of the Fair Competition Act grants the Commission fourteen days to decide whether or not that merger requires further examination. Within this time, the Commission carries its initial analysis of the competitive effects of the proposed merger. During that time, the proposed merger is automatically blocked. Should the Commission find it necessary to carry further examination, it will have another ninety days in which the proposed merger continues to remain blocked unless Commission's decision comes earlier. If not, and should the Commission need more time, 30 more days are possible under Section 11(4)(a) of the Fair Competition Act. Furthermore, if more delays result from parties' inactions, further extensions are possible under Section 11(4)(b) of the Act. In all this time, the prospective merger remains blocked.

During the ninety days (or in that time as it may be extended), the Commission's Director responsible for mergers is tasked under Regulation 38(1) & (2) and 39(1) of Competition Rules to carry out analysis of the proposed mergers to determine whether it is likely to harm competition. The law directs specifically under Regulation 39(1) of Competition Rules that the investigation is to be carried together with the Commission's lawyers and economists. Regulation 39(4) of Competition Rules directs the Director responsible for mergers to give a "no objection" finding to the parties if the investigation concludes that "there is little or no possibility that the relevant merger is likely to harm competition."

5.4.4 Further Investigation (Second Stage Investigation)

If the initial investigation concludes that the proposed merger is likely to harm competition, Regulation 39(5) of the Competition Rules directs further investigation

[954] *Tanga Fresh v FCC*, p. 49 emphasis originally from the judgment.

known as the second stage investigations. This stage is intended to explore the proposed merger in detail. Several things happen at this point.

1. Firstly, Regulation 41(1) of Competition Rules allows any interested third party to make its submission to the Commission. The door for interested third parties is wide. It includes suppliers, competitors, customers (who can either be legal or natural persons), and consumers' organizations.[955]
2. Secondly, under Regulation 41(3), parties may argue why the merger should be exempted.
3. Thirdly, the Director responsible for mergers is allowed under Regulation 41(4) of the Rules to make rounds of hearings with all interested parties.
4. Fourthly, upon conclusion of the hearings, the Director must prepare a technical report to be presented before the Commission (here, the commissioners sit as judges). Regulation 42(1) of the Rules directs the report to be technical with legal and economic reasoning explaining why the proposed merger poses a danger to the competition. Furthermore, the report should also explain, where applicable, whether or not such a merger amounts to an exemption under Section 13 of the Fair Competition Act.

5.4.5 Hearing and Decision

Unlike in the first stage, where the Director makes a decision, the Commission decides in the second stage. Thus, the Director acts as a 'prosecutor' by presenting the findings to the Commission. Regulation 42(5) of the Rules empowers the Commission to carry a full hearing. Thus, each party, including the Director, gets an opportunity to defend its case. Under Regulation 42(8) to (10) of the Rules, the Commission will analyze all submitted arguments and finally decide.

The Commission can make three decisions as Regulation 42(3) of the Rules provides. It may approve the merger, approve it with conditions, or prohibit it altogether. This decision is followed by a certificate of merger clearance or prohibition, as the case may be. Further, Regulation 42(14) of the Rules entitles parties to receive a copy of

[955] See Reg. 49 of FCC, *Competition Rules*, *GN. 344 of 2018*, 2018.

the Commission's reasoned decision. Also, the Commission must publish a notice of its decision in the Government Gazette or on its official website.

5.4.6 Exceptions

Some exceptions allow clearing of mergers, which would have otherwise been blocked. Section 13(1)(b) of the Fair Competition Act stipulates those exceptions. They can mainly be defined to four: efficiency, technical or economic reasons, failing firm defense, and other relevant considerations, for example, environmental reasons. It must be noted that these exceptions, as Section 13(1)(b)(vi) of the Fair Competition Act provides, stand only when the benefits of such a merger to the public outweigh their adverse anti-competitive effects. Put differently, a merger falling under the exceptions below will nevertheless not be cleared if the public benefits are few compared to anti-competitive effects of increased dominance.

5.4.6.1 Efficiency

Under Section 13(1)(b) (i) and (iii) of the Fair Competition, a merger would be allowed if it leads to greater efficiency in production, distribution of goods or services, or allocation of resources. A good example is where a merger leads to increased employment opportunities or boosts smaller firms' capacity to produce or deliver goods and services. The preceding is the view of the Fair Competition Tribunal in the case of *Tanga Fresh v FCC.*[956] In this case, Tanga Fresh, a significant producer of dairy products in the Tanga region, had acquired small farmers' businesses with a view of improving their productivity. The FCC vehemently opposed such a move.

On appeal, the FCT opined that this was the case in which a merger would have been cleared under efficiency considerations. The FCT opined the merger in question increased efficiency by increasing and improving dairy products' production and distribution.[957] It further held that the merger was in agreement with national policies

[956] *Tanga Fresh v FCC*, pp. 57–59; See also Assimakis Komninos and Jan Jeram, 'Changing Mind in Changed Circumstances: Aegean/Olympic II and the Failing Firm Defence', *Journal of European Competition Law & Practice*, 5.9 (2014), 605–15 (pp. 162–67) <https://doi.org/10.1093/jeclap/lpu040>.
[957] See *Tanga Fresh v FCC*, pp. 57–59.

of expanding the industrial sector.[958] However, since no party raised efficiency or public interest as a defense, the FCT upheld the FCC's objections.

5.4.6.2 Technical or Economic Reasons

Section 13(I)(b)(ii) of the Fair Competition Act allows a merger's clearance even though it may have anti-competitive effects if it otherwise contributes to technical or economic progress. This exception affords Tanzania, a small growing economy, to utilize possible economic and technical benefits of new investments, which may only be realized through mergers with existing firms. This is what the judges stressed in the *Tanga Fresh case* that if a merger contributes to the economy's growth by providing new employment opportunities, technology, and innovation, they will clear it.[959]

5.4.6.3 Failing Firm Defense

Failing firm defense is another exception that Section 13(1)(c) of the Fair Competition Act provides. The failing firm defense (or doctrine) allows clearing of a merger, which would have otherwise been prohibited, if in its absence, the business in question faces actual or imminent danger of collapse and that the proposed merger is the only last option.[960] Literature shows at least two conditions must exist before courts accept the defense: that the targeted firm faces imminent danger of failure and that there is no other purchaser with lesser anti-competitive effects.[961] It has also been argued that the targeted firm's failure of successful reorganization or the possibility

---

[958] See *Tanga Fresh v FCC*, pp. 57–59.
[959] *Tanga Fresh v FCC*, pp. 47–49.
[960] For further details on the failing firm defence (doctrine) see Joshua R. Wueller, 'Mergers of Majors: Applying the Failing Firm Doctrine in the Recorded Music Industry', *Brooklyn Journal of Corporate, Financial & Commercial Law*, 7.2 (2013), 589–612 (pp. 590–93); Alistair Lindsay and Alison Berridge, *The EU Merger Regulation: Substantive Issues* (London: Sweet & Maxwell, 2012), pp. 556–72; Robert S. Schlossberg, *Mergers and Acquisitions: Understanding the Antitrust Issues* (USA: American Bar Association, 2008), pp. 275–79; OECD, *The Failing Firm Defence* (Paris: OECD, 2009), pp. 19–46; Ritter and Braun, pp. 594–96.
[961] Jan Bouckaert and Peter M. Kort, 'Merger Incentives and the Failing Firm Defense: Merger Incentives and the Failing Firm Defense', *The Journal of Industrial Economics*, 62.3 (2014), 436–66 (p. 436) <https://doi.org/10.1111/joie.12053>; Schlossberg, *Mergers and Acquisitions*, p. 275; Antonio Bavasso and Alistair Lindsay, 'Causation in EC Merger Control', *Journal of Competition Law & Economics*, 3.2 (2007), 181–202 (pp. 185–93) <https://doi.org/10.1093/joclec/nhm004>; Lars Persson, 'The Failing Firm Defense', *Journal of Industrial Economics*, 53.2 (2005), 175–201 (pp. 175–76) <https://doi.org/10.1111/j.0022-1821.2005.00251.x>.

that the target firm's asset may exit the market may also qualify under this defense.[962] The rationale for the last criterion lies in the argument that if "the relevant assets would otherwise leave the market, customers are no worse off after the merger than they would have been had the merger been prevented."[963] Thus, the law allows clearing a merger if that is the only way to save a firm that would otherwise collapse.

5.4.6.4 Other Relevant Considerations

It is also possible to have a merger cleared for other considerations, for example, environmental reasons, as Section 13(I)(b)(iv) of the Fair Competition Act provides. One scenario may include the clearance of a merger that intends to invest in research and development to find new and environmentally friendly means of production. Some authors even argue that environmental considerations increase efficiency as they improve customer protection and satisfaction.[964] They also improve the means of production and distribution.[965] Thus, it is right if authorities consider environmental factors when deliberating firms' exclusion from strict rules of merger regulation.

There are a few scenarios where merger exemption on environmental considerations makes much sense. A merger that provides clean energy may fall into this exception. So are those that seek to improve the environment or address environmental problems such as those associated with climate change. Furthermore, as for the telecom sector, a merger that leads to better management of e-waste, efficient usage of communication resources, or leads to few visibilities of communication infrastructure in urban areas may be a good example. The law allows authorities to consider all these concerns when deciding on merger exemptions.

---

[962] Schlossberg, *Mergers and Acquisitions*, p. 275; Bouckaert and Kort, p. 436; Application of the failing firm defense to protect assets of the target firm is well acknowledged in the EU framework. See para 90 of European Union, *Guidelines on the Assessment of Horizontal Mergers under the Council Regulation on the Control of Concentrations between Undertakings*, *(2004/C 31/03)*, 2004; See also, especially from para 804-833 Aegean/Olympic II, *[2013] European Commission, Case COMP/M.6796.*, pp. 162–67; Giorgio Castaldo and Aleko Bogdanov, 'The Nynas Case: The Interplay Between the Failing Firm Defence and the Counterfactual Method', *Journal of European Competition Law & Practice*, 6.5 (2015), 324–26 (p. 325) <https://doi.org/10.1093/jeclap/lpu120>.

[963] Helder Vasconcelos, 'Can the Failing Firm Defence Rule Be Counterproductive?', *Oxford Economic Papers*, 65.2 (2013), 567–93 (p. 567) <https://doi.org/10.1093/oep/gps034>.

[964] Simon Holmes, 'Climate Change, Sustainability and Competition Law-Climate Change Is an Existential Threat: Competition Law Must Be Part of the Solution and Not Part of the Problem', 2019, p. 23 <https://www.law.ox.ac.uk/sites/files/oxlaw/simon_holmes.pdf> [accessed 2 June 2020].

[965] Holmes, p. 23.

It has to be known that the exceptions discussed in this chapter will only apply if they prove a broad range of benefits to the public. As a result, merger analysis takes a case-to-case approach as there is no no-one-size-fit-all solution. In this way, the authorities will know the particular circumstances of each firm. Only then can they conclude whether or not a merger, if exempted, will significantly lessen competition.

Furthermore, to guide against possible abuse, exceptions granted are not infinite. As a general rule, Section 13(2) allows an exception for one year. After that, a review is possible if there is any change of circumstances. Moreover, as Section 13(4) of the Act provides, a review is possible at any time if the Commission later discovers to have granted an exception based on false, misleading, or incomplete information. The overall observation here is that exemptions receive conservative treatment from the authorities. Mechanisms are in place to ensure their granting only when it is necessary.

5.4.7 Merger Examples

Mergers, especially between network services providers (horizontal mergers), are not common in Tanzania. The only big recorded merger is that of Tigo acquiring Zantel. Firstly, Tigo moved to acquire 85 percent of Zantel in 2015.[966] In 2019, Tigo notified the FCC of its intention to acquire the remaining 15 percent.[967] On the 4th of November 2019, Tigo announced to have finally acquired Zantel.[968] There is another merger in 2016 in which Vodacom acquired Share Network Tanzania Limited, a company that had a 900Mhz spectrum for usage in rural areas.[969] It appeared that Vodacom had intended to acquire the company to exploit its frequency license only to learn that it is not transferable.[970]

---

[966] Samuel Kamndaya, 'Tigo Finally Acquires Zantel - The Citizen', *The Citizen* (Dar es Salaam, 6 June 2015) <https://www.thecitizen.co.tz/news/Tigo-finally-acquires-Zantel/1840340-2742156-9lywaf/index.html> [accessed 7 October 2019].
[967] FCC, 'In the Matter of the Merger Notification by Mic Tanzania Limited to Acquire Entire Shares in Zanzibar Telecommunication PLC and Telesis Tanzania Limited: Public Notice' (Fair Competition Commission, 2019).
[968] Tigo Tanzania, 'Tigo Announces Combination with Zantel', *Tigo Tanzania*, 2019 <https://www.tigo.co.tz/news/tigo-announces-combination-with-zantel> [accessed 7 November 2019].
[969] Vodacom Tanzania, p. 61.
[970] Vodacom Tanzania, p. 61.

Others are non-horizontal mergers with vertical effects or those belonging to different markets. For example, the most common one concerned tower companies acquiring towers from telecom firms. The leading player is HTT Infraco's (the biggest tower operator in the country), acquiring telecommunications towers from telecom operators. The recent acquisitions are those of Vodacom Tanzania (2013), Zantel and Benson Informatics (2017), and Viettel Tanzania Ltd (2019).[971] These acquisitions received unconditional clearance, even though they gave HTT Infraco dominance in the tower services market.

5.5 Competition Concerns in the Telecom Sector

This chapter has so far examined rules that regulate competition in the sector. However, despite the presence of those rules, some concerns that may adversely affect competition in the sector exist. This section looks briefly at those concerns.

5.5.1 The Role of TTCL

Ideally, the telecom markets' competition regulation is centered around the incumbent telecom firm's position *vis-à-vis* newcomers. The idea here is simple: since the incumbent had a monopoly over telecommunication services, including infrastructures and customers, new rules are necessary to create an environment for competitive operation.[972] It was for this reason that early regulatory initiatives focused on access and interconnection regulation. For Tanzania, however, the situation is a bit different. As seen in the previous section, the former monopolist does not command a significant market share.[973]

Despite this insignificant influence, research findings revealed that the former monopolist still has some powers and privileges, which may have some anti-

[971] Fair Competition Commission, 'Merger Applications Approved by the Commission from April to July 2017' (Fair Competition Commission, 2017), p. 2; Fair Competition Commission, 'Merger Applications Approved by the Commission from 1st July 2016 to 2nd March 2017' (Fair Competition Commission, 2017), p. 5.
[972] See for example Thomas K. Cheng, *Competition Law in Developing Countries* (United Kingdom: Oxford University Press, 2020), pp. 73–76; Björn Wellenius and David Townsend, 'Telecommunications and Economic Development', in *Technology Evolution and the Internet*, ed. by Sumit Kumar Majumdar, Ingo Vogelsang, and Martin Cave, Handbook of Telecommunications Economics, Vol. 2, 3. ed (The Netherlands: Elsevier, 2008), pp. 557–621 (pp. 564–71).
[973] TCRA, *Quarterly Communication Statistics: January to March 2020*.

competitive concerns. These concerns became even highly pronounced when the government, through the Tanzania Telecommunication Corporation Act, changed the TTCL status from the national telecom company to the national telecom corporation.[974] The effects of these changes are to have the TTCL run under the Public Corporations Act.[975] This new structure elevates the TTCL's position in the sector and raises some competition concerns, which this section highlights.

5.5.1.1 TTCL's Regulatory Powers

The recent changes give the TTCL status equivalent to that of a sector regulator. For example, Section 6(1)(a) of the Tanzania Telecommunications Corporation Act (the TTCA) directs the corporation to "enhance safety, security, the economic and commercial viability of national telecommunications services and telecommunications infrastructure." The TTCL may discharge such duties through several initiatives, including the "promotion effective management and operations of telecommunications services" and "development, maintenance, promotion and management of telecommunications services." Furthermore, it is the function of the TTCL "to promote local and foreign investments in telecommunications services" under Section 6(1)(k) of the Act.

These functions are certainly beyond the undertakings of a typical telecom operator. Moreover, the law calls for the corporation to go a step further by issuing policy guidelines and directives in the sector. Thus, the corporation will also have certain powers over other telecom providers. How exactly will this framework work, and how will it interact with the TCRA and other operators remain to be seen. However, inevitably, the TTCL will no longer trade on the same footing with other telecom firms. It does not only benefit from sharing the same table with the law and policymakers. It becomes one of them.

---

[974] See Section 4(1) of the *Tanzania Postal and Telecommunication Corporation*, ACT NO 15 OF 1977.
[975] See Section 5(1) and (2) of the Tanzania Telecommunication Corporation Act 2017 (Act No 12 of 2017); read together with Part III to IV of Public Corporations Act 1992 (Act No 2 of 1992).

5.5.1.2 Monopoly Powers over Strategic Infrastructure

Beyond being a telecom firm, the law gives TTCL powers over strategic infrastructure. Specifically, Section 6(1)(b) TTCA directs the TTCL to "plan, build, operate and maintain the strategic telecommunications infrastructure as determined by the Government." What exactly amounts to strategic infrastructure is uncertain, but under Section 3 TTCA, it includes "transport core infrastructure, datacenter, and such other telecommunications infrastructure." Already, the TTCL has a monopoly over the National ICT Broadband Backbone (NICTBB), a network of broadband internet distribution in the country. The NICTBB connects Tanzania to the world. Thus, all other telecom firms must contract the TTCL for broadband connectivity. The same is true for the national data center in which the government directs all firms to establish either primary or secondary data centers with it.

Therefore, it is clear that TTCL will now own and control the strategic infrastructure necessary for communication services. However, no detailed framework exists to guarantee access by other firms. The existing rules on access apply between telecom operators. It is unclear whether they will also bind the TTCL, which is now a public corporation. The only existing provision regarding access is Section 20 TTCA, which puts the corporation under liberty to offer access on a contractual basis to telecom operators. The totality of this framework is to give the corporation an unfair competitive advantage over other operators. Since this is the new arrangement, practice is yet to give a full picture of ensuing consequences.

5.5.1.3 State Support and Related Favors

Being a state-owned enterprise, the TTCL now qualifies for budgetary and other financial support from the government (state aid). For example, even though the law directs it to operate on sound commercial principles, the first source of its income under Section 21(1)(a) TTCA is monies appropriated by the Parliament. Also, TTCL qualifies for financial subsidies or guarantees from the government. For instance, the

company has recently requested the State to support it by providing it with 1.7 trillion Tanzanian shillings (about 750 million USD).[976]

Apart from monetary support, the TTCL, as a public corporation, is entitled to other benefits and preferential treatments from the state. For instance, the President has directed all public bodies and employees who receive communication allowance from the government to procure such service only from TTCL.[977] Furthermore, it was revealed during the field study that the government has commissioned TTCL to establish and run systems that would have otherwise been offered on a competitive basis. The running of the data center, national payment systems, and similar systems are a few examples. This support and preferential treatment give TTCL an unfair benefit over other operators. It leads to an imbalanced competitive environment.

5.5.1.4 Immunities and Protection from the Government

Since the TTCL is now a public corporation, the Attorney General (AG) has powers under Section 4(3) TTCA to intervene in any suit initiated for or against the corporation. This provision gives the Attorney General the right (but not an obligation) to intervene in such suits. Noteworthy is Section 4(5) of the TTCA that directs the TTCL to notify the Attorney General of impending suits by or against the TTCL. Here, the intention is clear that the AG must be informed of all legal developments in order to decide whether to join or not. Should the Attorney General choose to join any case for or against the corporation, then the nature of the whole case changes altogether.

Under Section 4(4) TTCA, the suit to which the AG has joined will change its status. It will now become a suit for or against the government. Consequently, the provisions of the Government Proceedings Act will apply. These provisions bring about confusion in the interpretation and application. One of them is whether the procedure under the Government Proceedings Act, which requires a 90 days' notice before the

[976] Alfred Zacharia, 'Why State-Run Telco Needs Sh1.7 Trillion', *The Citizen* (Dar es Salaam, 22 May 2019) <https://www.thecitizen.co.tz/news/1840340-5126040-8pexdm/index.html> [accessed 17 June 2020].
[977] Anna Mwikola, 'TTCL Yavuna Wateja 300,000, Wamo Watumishi Wa Umma' (Dar es Salaam, 8 November 2019) <https://habarileo.co.tz/habari/2019-11-085dc5219985f7e.aspx> [accessed 15 May 2020].

suit's institution, shall apply. This issue is not made clear in the TTCA. The TTCA does not provide for issues of notice. Neither does it require a party to join the Attorney General automatically. It only gives the Attorney General the right to intervene. Furthermore, the TTCA does not provide limits to the right of the Attorney General to intervene. It appears that he may intervene at any time during the proceedings.

Assuming that the 90 days notice is needed, any pending suit is likely to be rendered incompetent when the Attorney General decides to exercise his right of intervention. Because under Section 6 of the Government Proceedings Act, no case may be filed against the government unless and until a party gives the government a 90 days' notice.[978] Thus, the suit will involve the Attorney General's office and not the corporate counsels. All of these sections, technical as they might appear, end up protecting the corporation against legal proceedings. It is worth noting that TTCL's competitors do not enjoy such protection.

The Attorney General's intervention also has implications on the execution of a decree or award against TTCL. Thus, where the corporation loses the case, executing a decree or an award becomes complicated because no attachment is possible against government properties under Section 16(3) of the Government Proceedings Act. In other words, the corporation creditors cannot enforce court decisions against the corporation's properties even though the corporation can certainly do so under Section 16(4) of the same Act. Again, this is protection, which the TTCL enjoys, but its competitors do not.

Besides, there is one more crucial point of concern. It is unclear what will happen if the AG has opted not to exercise his right of intervention. The reasonable assumption is that TTCL's corporate counsels will be involved in the suit. However, the main question is whether it is possible to execute a decree or an award against the corporation. The answer is likely to be yes, as Section 4(2) TTCA gives the TTCL corporate personality. That would mean that TTCL assets are not government assets. However, some facts point to the contrary.

---

[978] For a discussion on the joining of AG under the Government Proceedings Act see Peter Ng'omango v. Gerson Mwangwa and AG, *[1993] TLR 77 (High Court of Tanzania)*.

For example, it is the government that wholly owns the TTCL. It is the president who appoints its Director-General and the Chairperson of its board.[979] It is the Minister who appoints board members and makes its regulations. Furthermore, the Treasury Registrar has powers to issue general or specific directives to TTC. All these indicate that the TTCL is more of a government body than an independent corporate person. It is likely to enjoy immunities, protection, and privileges from the government even when the AG does not join as a party in a case involving the corporation.

Thus, the corporation takes a superior position over other telecom firms in Tanzania by these privileges and immunities. As the owner and manager of strategic infrastructures and with powers similar to those of the regulator, one would expect specific provisions to ensure fairness in providing communication services. Instead, it is even protected when it comes to liability arising from contractual and similar responsibilities.

5.5.2 Entry and Expansion Barriers

Like in any other market, each entry of a new firm in the telecom sector is likely to challenge the concentration of powers by bringing in more options that may promote efficiency in production and distribution.[980] Entry may take several forms and include new investments (both local and foreign), joint ventures, trading licenses, acquisitions, and strategic alliances, among many others.[981] Thus, the easier it is to get into markets, the higher the chances of improving competition. Nonetheless, entry is not always an easy task, as entry barriers always characterize the telecom sector.

5.5.2.1 Defining Barriers

There is no universal definition of an entry barrier, and, as a result, several definitions exist.[982] Although, in different words, the definitions suggest that entry barriers are

---

[979] See Section 7(2) and 14(1) of *Tanzania Postal and Telecommunication Corporation*, ACT NO 15 OF 1977.
[980] Clemens H. M. Lutz, Ron G. M. Kemp, and S. Gerhard Dijkstra, 'Perceptions Regarding Strategic and Structural Entry Barriers', *Small Business Economics*, 35.1 (2010), 19–33 (p. 19) <https://doi.org/10.1007/s11187-008-9159-1>.
[981] Panagiotis Kotsios, 'Regulatory Barriers to Entry in Industrial Sectors', in *International Conference in International Business*, 2010, p. 1 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1737250> [accessed 18 May 2020].
[982] See for example Gregorio Impavido, Esperanza Lasagabaster and Manuel Garcia-Huitron, *New Policies for Mandatory Defined Contribution Pensions: Industrial Organization Models and Investment Products*

costs that new firms must incur for entry but which the incumbent did not or does not have to bear. Entry barriers may also mean factors that make entry difficult only for newcomers since incumbents continue to trade and profit without facing the same. Regardless of the adopted definition, entry barriers present a challenge to the competition process.

5.5.2.2 Structural Barriers

Structural barriers relate to existing industry conditions such as costs, technology, and demands, which a new firm must incur for a successful entry.[983] Such barriers may take several forms as peculiar economic characteristics of markets determine. For example, they may include access to distribution or selling expenses, access to labor or skills, advertising, capital requirements, sales volume, economies of scale, switching costs, and sunk costs.[984] Field visits to the TCRA, together with a review of TCRA operational reports, revealed the presence of structural barriers in the sector, including substantial investment costs and economies of scale.[985] Also, it has been noted that the incumbents have invested immensely in advertisement and branding, while newcomers may be unable to do so.[986] These factors, it is argued, make it difficult for young firms to enter the market.

5.5.2.3 Regulatory Barriers

Regulatory barriers are not barriers resulting from market conditions but rather from legislative or administrative measures.[987] Again, field visits to the TCRA and a review of its operational reports unveiled such barriers in the sector. It was noted that the complicated licensing procedures and limited spectrum availability are the leading barriers in this category. For example, using auctions to acquire spectrum rights

---

(World Bank Publications 2010) 20; R Preston McAfee, Hugo M Mialon and Michael A Williams, 'What Is a Barrier to Entry?' (2004) 94 The American Economic Review 461, 463; Robert S Schlossberg, *Mergers and Acquisitions: Understanding the Antitrust Issues* (American Bar Association 2004) 147; Bergh and Camesasca (n 325) 46; William J Baumol and Robert D Willig, 'Fixed Costs, Sunk Costs, Entry Barriers, and Sustainability of Monopoly' (1981) 96 The Quarterly Journal of Economics 405, 408; RE Caves and ME Porter, 'From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition' (1977) 91 The Quarterly Journal of Economics 241, 242.

[983] OECD, 'Competition and Barriers to Entry', *Policy Brief*, 2007, 1–6 (p. 3).

[984] Lutz, Kemp, and Gerhard Dijkstra, p. 23.

[985] TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 22.

[986] See TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 23.

[987] Stoyanova, p. 14.

already favors incumbent firms with a stable financial position. In this case, newcomers are unable to compete with these firms. They are left out of the market.[988] It is argued that the market patterns we have seen in chapter three, in which only three firms have dominated the market for over twenty years, result from these regulatory barriers.

5.5.2.4 Strategic Barriers

Strategic barriers relate to deliberate actions that the incumbents devise to deter new entry, for example, by adopting exclusive dealing arrangements.[989] Strategic barriers include pricing techniques, strategic branding or advertisement, retaliation, collusive practices, strategic distribution, asymmetric information, and strategic control of necessary resources or inputs.[990] The Tanzania telecom sector has such barriers. For example, one of the barriers noticed in this research is strategic pricing. The research findings revealed that it is common for a provider to charge different prices based on on-net and off-net calls. So, on-net calls are always cheaper than off-net calls.

The impact of such an arrangement is to lock in customers to providers with significant scales. New customers are also likely to be attracted to more prominent firms with substantial subscribers because it will be easier to reach many subscribers within the same network. As for smaller firms, such techniques hardly work. It was noted that they have no substantial customer base or financial muscles to justify pricing differences. It was further noted that the new firms' standard practices are to charge excessively lower prices for both on-net calls and off-net calls. However, such strategies are always short-lived, without significant changes in the market shares.

The differences between on-net calls and off-net calls are significant enough to affect most Tanzanians' decisions on which network to choose. In 2010, for example, customers had to pay an average of 66 percent more (calculated between Vodacom, Tigo, and Airtel) when making off-net calls.[991] Astonishingly, it was cheaper for

---

[988] See TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 22.
[989] OECD, 'Competition and Barriers to Entry', p. 3.
[990] Lutz, Kemp, and Gerhard Dijkstra, p. 23.
[991] TCRA, *Telecommunications Statistics from September to December 2010* (Dar es Salaam: TCRA, 2010), p. 2.

Vodacom customers to call someone in the East African region (outside Tanzania) than to make off-net calls in Tanzania.[992] Note that by that time, Vodacom was dominant, with 41 percent of the market shares.

Pricing differences continue to vary as the industry continues to grow. In 2018, for example, customers paid 22 percent more when making off-net calls *vis-à-vis* on-net calls.[993] That year saw a significant decrease in differences between on-net and off-net call prices compared to previous years, say, 2010. However, in the first quarter of 2020, a different picture appeared as the gap between on-net and off-net calls increased. The average prices of bundled services show that Vodacom, Tigo, and Airtel customers pay 55 percent, 41 percent, and 57 percent more, respectively, when making off-net calls.[994] This strategy creates 'false loyalty' because customers and potential customers will find it cost-efficient to stay with an operator with a large customer base. Chances for the survival of smaller firms are slim unless they adopt a robust competitive plan.

Apart from pricing behaviors, the research found out that switching costs are strategically high with cumbersome procedures. It was noted that the established framework for number portability, for example, is complicated and unfriendly both to customers and service providers. The author's personal experience suggests that even the telecom firms are not entirely welcome to the portability idea, probably because they perceive it as a quick method of losing customers. Further complications arise as one's sim card is also a default mobile money account, which was not portable when concluding this research. From consumers' perspective, these switching costs and accompanying inconveniences might influence them to remain with the same provider (locking-in effect). As a result, the first movers continue to enjoy loyal customers at the expense of smaller firms.[995]

---

[992] By then, Vodacom charged Tsh 345 (about 0.15 US cents) for calls to East African countries while charging Tsh 390 (about 0.17 USD cents) for off-net calls in Tanzania. See TCRA, *Telecommunications Statistics from September to December 2010*, p. 2.
[993] See TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 22.
[994] TCRA, *Quarterly Communication Statistics: January to March 2020*, pp. 1–3.
[995] See TCRA, *Competition Assessment in Tanzania Communications and Broadcasting Markets*, p. 22.

5.5.3 Collusive Practices

This research revealed some practices with elements of collusion in the sector. It was found that such practices relate to the timing and extent of tariffs set by the MNOs, advertisements, other marketing strategies, and several other promotions. In most cases, there are usually striking similarities, especially between Vodacom, Airtel, and Tigo, the three MNOs with over 80 percent of all subscribers. In 2015, for example, the three companies made significant changes in their tariff setting in a manner that raised public concerns.

Firstly, they all introduced changes at the same time, around February. Secondly, they significantly reduced their data packages that were, until then, bundled with voice and SMS services. Instead, they all introduced new stand-alone internet bundles. Thirdly, pricing for their new bundles was coincidentally very similar, with some minor variations.[996] Furthermore, all three companies also introduced monthly bundles. The highest monthly package cost Tsh 49,000 for all three companies. As for the stand-alone internet bundles, all three companies introduced a single package of Tsh. 25,000 for unlimited internet access.[997]

Table 5.5-1 Number of minutes and SMS for low and high price daily bundles

Before					**After**			
	Price (Tsh)	Minutes	SMS	MB	Price (Tsh)	Minutes	SMS	MB
Vodacom	399	4	50	15	499	7	300	8
	999	21	100	100	999	20	1000	8
Airtel	399	5	50	15	499	9	300	10
	995	40	Unlimited	200	999	24	1000	10
Tigo	499	7	300	30	649	13	450	8
	999	21	1000	100	999	20	1000	8

Table 5.5-2 Number of minutes & SMS for low and high price weekly bundles

Before					**After**			
	Price (Tsh)	Minutes	SMS	MB	Price (Tsh)	Minutes	SMS	MB

[996] TCRA, 'Public Notice on the Issue of Tariffs in the ICT Sector' (TCRA, 2015), p. 4.
[997] TCRA, 'Public Notice on the Issue of Tariffs in the ICT Sector', p. 5.

Vodacom	1999	30	500	100	1999	29	500	60
	4999	90	1000	300	9999	190	1000	60
Airtel	1995	60	7000	175	1999	34	1000	70
	5999	200	Unlimited	2000	9999	200	5000	70
Tigo	1999	40	700	300	4999	91	2000	60
	9999	250	5000	1024	9999	190	5000	60

Source: TCRA notice on tariffs in the sector.[998]

These changes raised some questions. For example, how could the three competitors come up with very similar determinations at the same time? Was there possible collusion amongst the biggest firms in the country? The only mandated Authority to investigate and answer these questions is the TCRA. It responded. However, its response was relatively simple, with little or no relevance to competition policy. It merely noted that "although some of the service providers have changed the prices, generally, the changes in voice and SMS are not significant. There is, however, a huge decrease in data with a decrease in MBs."[999]

Therefore, the TCRA directed all telecom firms to file their tariffs with the Authority before becoming effective. It also directed that they ensure any changes are "gradual and not abrupt to avoid shocks in the market."[1000] The TCRA did not approach the matter from the competition enforcement perspective. Its concern, it would appear, was to address public concerns regarding the changes in communication prices and packages. Of course, the public registered its discontent because the changes meant consumers had to pay more for data and voice services. Unfortunately, by channeling its reaction to please the public, the Authority missed an opportunity to carry out a detailed analysis of the market from competition perspectives. It was at this point that it could have found out whether there were collusive practices. Since it conducted no such studies, it remains unknown whether such and similar practices are a result of collusive practices (explicit or tacit) or not.

[998] TCRA, 'Public Notice on the Issue of Tariffs in the ICT Sector', p. 6.
[999] TCRA, 'Public Notice on the Issue of Tariffs in the ICT Sector', p. 6.
[1000] TCRA, 'Public Notice on the Issue of Tariffs in the ICT Sector', p. 2.

5.5.4 Unregulated Dominant Markets

Interviews with telecom firms unveiled that some markets are not regulated even though they may have anti-competitive effects. One of those areas is the communication towers market, where Helios Towers company has significant market power. The firm had 3,661 towers in the country as of 2019, most of which it acquired from existing telecom firms.[1001] The research findings registered complaints from some telecom firms, especially TTCL, that the Authority does not regulate prices charged by Helios. As a result, tower charges are too high for small firms to afford, and hence, it is an entry barrier.

The towering market would have been an area where the Authority ensures that services are available on reasonable terms on an *ex-ante* basis. However, the research findings concluded that no regulation takes place in this area. Furthermore, the FCC has no jurisdiction because the tower market falls in the telecom sector, and, therefore, it cannot examine if there are instances of abuse of dominance and address them accordingly. Thus, the firm remains free from the TCRA's *ex-ante* regulation and FCC's *ex-post* enforcement.

There is another dimension to this matter. It was established that some of the telecom firms own or had owned shares in this company.[1002] These firms had or continue to have a say on charges the tower company sets. Some small telecom firms have noted that such charges have been high. So, while firms with shares in the dominant tower firm continue to enjoy the ease of doing business (because of the close business relationship), the smaller ones with no share struggle to raise the tower fees. Since this specific market is monopolistic and vertically integrated, anti-competitive concerns from the tower arrangements should be examined. It is possible, for example, that instances of cross-subsidization or margin squeezing are present.

[1001] Helios Towers is present in five Africa countries; Tanzania, Ghana, South Africa, Congo DRC and Congo Brazzaville. In all these countries it owns 6974 towers where more than half of them, that is 3, 661 come from Tanzania. See Helios Towers Plc, *Helios Towers Plc: Annual Report and Financial Statements* (London: Helios Towers Plc, 2019), p. 3 <https://www.heliostowers.com/media/1786/ht-ar-2019.pdf> [accessed 17 June 2020].

[1002] As of 2017, Vodacom owned 24.6% of shares at Helios. See Vodacom Tanzania, p. 53; Also, Millicom Holding BV which fully owns MIC Tanzania Limited (Tigo) owned 22.8% of Helios shares as of December 2017 Helios Towers, *Helios Towers Annual Report 2017* (Mauritius: Helios Towers), p. 53.

However, the research findings could not establish any active measures taken in this market for lack of monitoring and investigation.

Some telecom firms raised similar concerns regarding co-location and sharing of infrastructures. Again, the point here is that even though there is a general framework to regulate such arrangements, there is no stipulation from the Authority regarding fee arrangement. As a result, some firms provide these services on unreasonable terms and hence, complicate entry for newcomers and free competition.

There is one problem regarding these concerns. There are no studies to determine whether there is a firm with significant market powers in this market. In the absence of this knowledge, it is difficult to know the extent to which the regulator should intervene. This is an area where *ex-post* enforcement would have addressed these concerns. Since the Authority is highly inclined to *ex-ante* regulation and since the FCC has no jurisdiction in this market, this area remains a potential candidate for anti-competitive practices.

5.6 Competition Enforcement Framework

The enforcement framework is perhaps the most crucial aspect of competition policy. It is this framework that realizes what competition policy seeks to achieve. In Tanzania, there is only public enforcement of competition law. Public enforcement is a conventional approach to all jurisdictions that have adopted competition law.[1003] It is an intervention that, among others, serves as a deterrence mechanism.[1004] Under public enforcement, public authorities (these could be sector regulators, competition agencies, or judicial organs) have the power to address and remedy violations of competition rules. In those jurisdictions with a strong functioning regional competition law, for example, the EU, public enforcement also includes enforcement

[1003] See Kai Hüschelrath and Sebastian Peyer, 'Public and Private Enforcement of Competition Law – A Differentiated Approach' (Centre for European Economic Research, 2013), p. 1 <http://ftp.zew.de/pub/zew-docs/dp/dp13029.pdf> [accessed 11 November 2019]; Donald Baker, 'Private and Public Enforcement: Complements, Substitutes and Conflicts-Global Perspectives', in *Research Handbook on International Competition Law*, ed. by Ariel Ezrachi (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2012), pp. 238–65 (p. 238).

[1004] Donald Baker, 'Private and Public Enforcement: Complements, Substitutes and Conflicts-Global Perspectives', in *Research Handbook on International Competition Law*, ed. by Ariel Ezrachi (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2012), pp. 238–65 (p. 238).

by regional authorities such as the European Commission.[1005] In the case of Tanzania, the law vests such powers to the TCRA in the telecom sector.

The reading of competition laws in the sector reveals a skeletal approach in the enforcement framework. There are general blank statements with no details. Section 114 of the EPOCA states that "the Authority may take enforcement measures against any person who contravenes license conditions, regulations, and provisions of this Act." Furthermore, Regulation 4 of the Competition Regulations also has similar provisions. It reads;

> "The Authority shall have powers to (a) monitor and enforce fair competition in the communications sector; (b) investigate all acts alleged to be in breach of fair competition rules; (c) conduct proceedings, inquiries, or public consultations in order to render or make a decision on acts or conducts in breach of fair competition rules; and (d) impose sanctions, penalties or issue orders against licensees and persons whose acts or conducts are anti-competitive or in breach of fair competition rules."

From the quoted provisions, the TCRA does all enforcement in the sector. Firstly, it acts as a competition agency by monitoring a sector to ensure fair competition. Monitoring includes its use of *ex-ante* regulatory powers to provide a level playing field. Secondly, the Authority assumes powers usually enjoyed by competition authorities; to investigate all acts in violation of competition rules. Thirdly, having carried out the investigation, the Authority convenes as a quasi-judicial organ. Here it can carry out proceedings (as in a court of law), inquiries, or even public consultations to decide on the alleged breach of competition law. Fourthly, it has powers to make decisions, including ordering remedies, sanctions, or any other redress it deems fit.

The enforcement framework reveals a concentration of powers in the Authority as it covers all enforcement dimensions. Its powers range from alleging the violation of competition rules to making and enforcing decisions against the alleged violators. As the next chapter shows in detail, necessary checks to ensure fairness (both process

[1005] Jurgita Malinauskaite, *Harmonisation of EU Competition Law Enforcement*, 2020, p. 116.

and substance) are limited in all these procedures. Furthermore, these powers are a skeletal approach as details on procedures, especially on enforcement, are also missing. The next chapter looks at this and other related aspects in detail.

5.6.1 Remedies

Before addressing structural and behavioral remedies available in the competition enforcement framework, we first examine the terms 'remedies' and 'sanctions.' These are two terms used to describe actions taken to address anti-competitive conduct, even though their exact meaning is not universal. They may have similar or different meanings, depending on definitions adopted in respective jurisdictions. Such definitions generally take two approaches: the narrow approach and a broader approach.

On the one hand, the narrow approach limits remedies to all actions taken by authorities to "cure, correct, or prevent" anti-competitive behavior or practice.[1006] Here, the focus is not to punish violators but to rectify the effects of violations. Regarding sanctions, the approach limits them to all actions that penalize or punish violators.[1007] At this juncture, the focus is to punish violators.

On the other hand, the broad approach would define remedies to include all actions taken to address anti-competitive practices.[1008] Here, remedies include sanctions as well. When this approach is taken into consideration, the distinction between remedies and sanctions becomes irrelevant. They all mean the same thing: all actions taken to address the violation of competition rules.

For purposes of this study, remedies and sanctions are differentiated so that the former is limited to correcting anti-competitive concerns, while the latter deals with penalizing anti-competitive behaviors.

[1006] OECD, *Remedies and Sanctions in Abuse of Dominance Cases* (Paris: OECD, 2006), p. 19 <https://www.oecd.org/competition/abuse/38623413.pdf> [accessed 1 June 2020]; See also Wang Wei, 'Structural Remedies in EU Antitrust and Merger Control', *World Competition*, 344.4 (2011), 571–96; Per Hellström, Frank Maier-Rigaud, and Friedrich Wenzel Bulst, 'Remedies in European Antitrust Law', *Antitrust Law Journal*, 76.1 (2009), 43–63 (p. 45).
[1007] OECD, *Remedies and Sanctions in Abuse of Dominance Cases*, p. 18.
[1008] Wang Wei, p. 573.

5.6.1.1 Structural and Behavioral Remedies

Generally, the enforcing authorities have two approaches when remedying competition violations, structural remedies and behavioral remedies.[1009] Stating on the differences between the two, Wang notes;

> "The structural/behavioral distinction of remedies has been widely accepted. Structural remedies, for example, divestiture, may directly change market structure, while behavioral remedies set limitation on the conducts of firms. Structural remedies are more drastic than behavioral remedies, because structural remedies target the incentives of the entity concerned by changing the corporate structure, whereas behavioral remedies intend to deter specific conduct without touching incentives."[1010]

From Wang's quotation, the differences between structural and behavioral remedies are apparent. On the one hand, structural remedies go to a business firm's core setting, for example, through restructuring through divestiture.[1011] When applied, structure remedies affect not only the respective firm's behavior but also its core structure. It is as if taking extreme measures to limit the speed of a specific regional bus. Instead of fining the driver for over-speeding, authorities go a step further by reconfiguring the bus engine so that it is unable, at least theoretically, to over-speed again.

However, it would appear that structural remedies are not applied frequently, and when so, they are applied only in limited circumstances.[1012] Merger regulation is the

---

[1009] See for example OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences* (Paris: OECD Publishing, 2019), pp. 24–27 <https://www.oecd.org/daf/competition/divestiture-of-assets-competition-remedy-ENG-web.pdf>; Whish and Bailey, *Competition Law*, pp. 253–54; UNCTAD, *Appropriate Sanctions and Remedies* (Geneva: UNCTAD, 8 November 2010), p. 10 <https://unctad.org/en/Docs/tdrbpconf7d5_en.pdf>.

[1010] See for example OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences*, pp. 24–27; Whish and Bailey, *Competition Law*, pp. 253–54; UNCTAD, *Appropriate Sanctions and Remedies*, p. 10.

[1011] Thomas Sullivan, 'Antitrust Remedies in the U.S. and EU: Advancing a Standard of Proportionality', *The Antitrust Bulletin*, 48.2 (2003), 377–425 (p. 396) <https://doi.org/10.1177/0003603X0304800205>.

[1012] See OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences*, p. 28; Marilena Filippelli, *Collective Dominance and Collusion: Parallelism in EU and US Competition Law* (Cheltenham, U.K; Northampton, Mass: Edward Elgar Publishing, 2013), p. 228; Wei Wang and Matti Rudanko, 'EU Merger Remedies and Competition Concerns: An Empirical Assessment: EU Merger Remedies and Competition Concerns', *European Law Journal*, 18.4 (2012), 555–76 (p. 563) <https://doi.org/10.1111/j.1468-0386.2012.00610.x>; Whish and Bailey, *Competition Law*, pp. 177 & 214.

most common area where many jurisdictions prefer structural remedies.[1013] Such practices have also been standard in the past when addressing dominant firms. For example, divestiture was once used to limit the powers of dominant firms such as AT&T.[1014]

The cautious application of structural remedies results from their inherently invasive nature. For example, the OECD argues that structural remedies may affect the already functioning market or act as a disincentive to innovate. This is the reason why in the EU, "structural remedies can only be imposed either where there is no equally effective behavioral remedy or where any equally effective behavioral remedy would be more burdensome for the undertaking concerned than the structural remedy."[1015]

On the other hand, behavioral remedies tend to control firms' actions in the markets. They often require lengthy and complicated controls and monitoring systems. They may include control over pricing or monitoring of future conduct and practices.[1016] Generally, such remedies can be positive with a directive to perform certain obligations.[1017] They can also have negative directives, for instance, with prohibitions of uncompetitive acts.[1018] Positive remedies may include, for example, licensing obligations, distribution obligations, access obligations, IP related directives, and non-discriminatory directives."[1019] Regarding negative remedies, OECD notes that they

---

[1013] Thomas Wilson, 'Merger Remedies - Is It Time to Go More Behavioural?', *Kluwer Competition Law Blog*, 2020, p. 1 <http://competitionlawblog.kluwercompetitionlaw.com/2020/02/21/merger-remedies-is-it-time-to-go-more-behavioural/> [accessed 1 June 2020]; Wang Wei, p. 572; Bundeskartellamt, 'Guidance on Remedies in Merger Control' (Bundeskartellamt, 2017), p. 11 <http://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Leitlinien/Guidance%20on%20Remedies%20in%20Merger%20Control.pdf?__blob=publicationFile&v=3> [accessed 1 June 2020].

[1014] See details in Steve Coll, *The Deal of the Century: The Breakup of AT&T* (USA: Open Road Media, 2017); The Editors of Encyclopaedia Britannica, 'AT&T Corporation: American Company'.

[1015] OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences*, pp. 27–28; Cyril Ritter, 'How Far Can the Commission Go When Imposing Remedies for Antitrust Infringements?', *Journal of European Competition Law & Practice*, 7.9 (2016), 587–98 (p. 587) <https://doi.org/10.1093/jeclap/lpw037>; OECD, *Report on Experiences with Structural Separation* (Paris: OECD Publishing, 2011), p. 9.

[1016] Sullivan, p. 396.

[1017] OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences*, p. 24.

[1018] OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences*, p. 24.

[1019] OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences*, p. 25; See also José Luis Azofra Parrondo and Carlos Bobillo Barbeito, 'Merger Control Enforcement in Spain: An Ongoing Saga of the Assessment of Behavioural Remedies', *Journal of European Competition Law & Practice*, 7.5 (2016), 320–25 (pp. 4–6) <https://doi.org/10.1093/jeclap/lpw012>.

"often take the form of declaratory statements or cease and desist orders and are frequently imposed together with fines."[1020]

5.6.1.2 Compliance Orders

In Tanzania, the most common approach taken to remedy competition violations is the issue of compliance orders. A compliance order is an order from the Authority directing a licensee to take specific steps concerning, among others, a breach of competition law. The general powers to make compliance orders come from Section 45 (1) of the TCRA Act. As per Section 45(4), the order has the same effect as an order of the High Court of Tanzania. There are no further details on circumstances leading to the making of the compliance order. Nor are there prescribed standards within which the order is confined to.

In practice, almost all orders from the Authority also carry a requirement to pay fines. In other words, a compliance order is some kind of a judgment reached by the Authority regarding breach of regulatory rules. In theory, the issuance of compliance orders also extends to competition enforcement. Practice, however, is yet to give us real examples of its application.

Much as the Authority prefers compliance orders, it has issued none, to date, concerning competition enforcement. However, it has issued many such orders on breach of other regulatory rules. For example, in 2016/17, the Authority issued 15 compliance orders relating to breaches of several regulatory requirements.[1021] Most of these orders relate to service quality, sim-card registration, and failure to adhere to the Authority's directives. In 2015/16, it issued 30 compliance orders on similar grounds.[1022]

5.6.2 Sanctions: Fines and Imprisonment

At the beginning of this section, we noted the differences between sanctions and remedies. Sanctions involve all measures that intend to punish or penalize anti-

[1020] OECD, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences*, p. 24.
[1021] TCRA, *TCRA Annual Report 2017* (Dar es Salaam, 2018), p. 36.
[1022] TCRA, *Annual Report for the Year Ended 30th June 2016* (Dar es Salaam: TCRA, 2017), p. 31.

competitive practices.[1023] Whereas remedies take more of administrative or civil actions, sanctions are generally criminal matters. The most common penalties are fines and imprisonment. Tanzania has also enacted rules to address anti-competitive practices in the sector. The relevant provision is Section 69 of the EPOCA that reads,

> "A person who contravenes any prohibition under this Part commits an offence and shall, on conviction, be liable to a fine not less than five hundred thousand shillings or to imprisonment for a term not less than five years or to both and shall be liable to a further fine of one thousand shillings for every day or part of a day during which the offence continues."

The reading of the presented provisions reveals something interesting about the criminalizing of anti-competitive practices in Tanzania. The Part to which the cited section refers to is Part IV of the EPOCA. This part establishes conducts amounting to anti-competitive practices. The use of words such as 'conviction' and 'imprisonment' means there is a criminal sanction for each competition rule violation.

It would appear that the intention was to criminalize all anti-competitive practices, regardless of their nature and magnitude. The penalty for violating the competition rules includes either a fine of not less than five hundred thousand shillings (around 220 USD) or imprisonment for not less than five years or both. The Competition Regulations of 2018 also maintain similar criminal remedies. For abuse of dominance, Section 60(5) of the EPOCA sets a maximum of not more than twenty thousand US dollars or its equivalent in Tanzania shillings.

The striking irony of the criminal sanctions lies on two points. Firstly, it criminalizes all anti-competitive practices, even those not ordinarily falling under criminal law. For example, while cartels' criminalization quickly finds justifications for several reasons, it is unclear why the law also criminalizes non-cartel practices.[1024] It is unclear why one should go to jail for tying and bundling, cross-subsidization, margin

---

[1023] OECD, *Remedies and Sanctions in Abuse of Dominance Cases*, p. 18.

[1024] See generally Peter Whelan, *The Criminalization of European Cartel Enforcement: Theoretical, Legal, and Practical Challenges* (United Kingdom: Oxford University Press, 2014); Also see Caron Beaton-Wells, 'Australia's Criminalization of Cartel: Will It Be Contagious', in *More Common Ground for International Competition Law?*, ed. by Josef Drexl, Warren S. Grimes, and Clifford A. Jones (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2011), pp. 148–76 (p. 148); Christopher Harding, 'Business Collusion as a Criminological Phenomenon: Exploring the Global Criminalisation of Business Cartels', *Critical Criminology*, 14.2 (2006), 181–205 (pp. 181–83) <https://doi.org/10.1007/s10612-006-9000-6>.

squeezing, or failure to provide information to competitors, for example. It is not conceivable why even tying by the non-dominant firm also amounts to a criminal offense. Thus, it can only be assumed that either Tanzania wanted to punish all anti-competitive practices in the sector, a fact that lacks empirical evidence, or that this legal framework results from poor legislative drafting and lack of clear policy enforcement direction, which appears to be the case. In any case, the criminal enforcement framework leaves a lot to be desired.

Secondly, despite the criminalization of ant-competitive practices, the enforcement practice has not recorded any evidence where the Authority has initiated criminal proceedings on competition violations. Thus, the link between the law and practice is non-existent. However, the Authority has recently demonstrated its growing appetite for criminal proceedings as its favorite remedy for other regulatory violations. For example, for the years 2015, 2016, and 2017, criminal cases instituted by the TCRA increased from 8 to 18 and 40, respectively.[1025] Many cases related to the provision of communications services without license and cybercrimes. It remains to be seen whether this bolstered spirit of criminal enforcement shall also extend to competition enforcement.

5.6.3 Arbitration

Another avenue to address competition matters in the sector is through arbitration. Arbitration in competition law is a relatively young concept introduced first in the US about 30 years ago. This was in the case of *Mitsubishi Motors v Soler*.[1026] In this case, the US Supreme Court cautioned itself of the danger of discouraging business society if they [the courts] insist on a parochial concept that only courts of law must resolve all disputes.[1027] Since the *Mitsubishi Motors v Soler*, arbitration became a developing area of the law, and today, it is considered in many parts of the world that competition rules are arbitrable.[1028]

[1025] See statistics in TCRA, *TCRA Annual Report 2017*; TCRA, *Annual Report for the Year Ended 30th June 2016*; TCRA, *Annual Report for the Year Ended 30th June 2015* (Dar es Salaam: TCRA, 2016).
[1026] Mitsubishi Motors v Soler, *(1985) 473 US 614 (United States Supreme Court)*.
[1027] *Mitsubishi Motors v Soler*, p. 629.
[1028] James Segan, 'Arbitration Clauses and Competition Law', *Journal of European Competition Law & Practice*, 9.7 (2018), 423–30 (p. 423) <https://doi.org/10.1093/jeclap/lpy039>; Gordon Blake, 'EU

In the same spirit, the Competition Regulations have also introduced arbitration of competition disputes in the sector in Tanzania. According to Regulation 17, arbitration applies to acts that substantially lessen competition. A party who is aggrieved may petition to the Authority for arbitration. Upon receiving the petition, the Authority will then accord the other party right to be heard. After that, it shall make its determination based on an assessment of facts and evidence.

The arbitration process provides an opportunity, mostly for telecom firms, to resolve their disputes without following a strict legal process. However, in practice, the arbitral provisions remain vague without exhaustive details. For example, it is unclear who the arbitrator is within the Authority, the arbitrator's qualifications, what rules of arbitrations apply, and the arbitrators' powers and jurisdiction. Furthermore, there are no practical experiences on matters which the Authority has handled through arbitration. From the telecom firms, this study learned that awareness of how arbitration operates does not exist. As a result, the arbitration framework exists without having necessary clarities and structures for its operation.

5.7 Comments and Observations on the Regulation of Competition

This chapter has examined rules that regulate competition in the sector on an *ex-post* basis. Most of these rules are in the new Competition Regulations of 2018. Because these rules are new, and there was no established competition enforcement culture on an *ex-post* basis, not many practical examples exist. However, even in their raw, untested state, some observations on their efficacy and suitability become relevant.

5.7.1 Symmetric Regulation of Competition

One would notice there is symmetric regulation of competition. For example, rules, which generally would apply to dominant firms, apply to all firms. This approach is somewhat unconventional because many prohibited practices do not have anti-

---

Competition Arbitration', in *EU Competition Procedure*, ed. by Luis Ortiz Blanco, Third Edition (Oxford, New York: Oxford University Press, 2013), pp. 1075–1112 (pp. 1078–79); See also Adriana Almăşan, 'The Arbitrability of Articles 101 and 102 TFEU', in *The Consistent Application of EU Competition Law*, ed. by Adriana Almăşan and Peter Whelan (Cham: Springer International Publishing, 2017), IX, 141–61; Damien Geradin and Emilio Villano, 'Arbitrability of EU Competition Law-Based Claims: Where Do We Stand After the CDC Hydrogen Peroxide Case?', *World Competition*, 40 (2017), 67–91.

competitive effects when done by non-dominant firms.[1029] On the contrary, some of the prohibited conducts, it has been argued, may have justifications for technical or commercial reasons such as to reduce transaction costs, improve dynamic efficiency, and ensure standardization and operability.[1030]

One must note that the symmetrical application of competition rules may counter the envisaged benefits of competition. The case of Smart we have seen before is a good example. Because of these rules, a firm with no significant powers is forced not to charge lower prices because it does not meet the regulator's threshold. The effect is for consumers to pay more, contrary to what competitive markets seek to offer. More importantly, it is as if these rules promote equality of competitors and hence, do away with the entire concept of competition.

Now, since competition rules aim to promote competition and not protect competitors, most prohibitions in these rules should not have been there. Instead, most of the prohibitions ought to apply only to dominant firms, which actions can significantly impair competition.[1031] In other words, it is argued that there is no need to prohibit what does not harm competition. Rules that go beyond protecting competition run the risk of not only being awkward but counterproductive. They bring unnecessary complications in compliance, create unnecessary ambiguity in enforcement, and negate the whole market concept and its resulting efficiencies.

5.7.2 Conflict with Wider Goals of Competition Policy

In an attempt to set rules for almost everything, the drafting of competition rules ended up with too many rules. Some of them are either confusing or conflicting with competition policy's general objectives. There is enough literature support, especially

---

[1029] See Guy Sagi, 'A Comprehensive Economic and Legal Analysis of Tying Arrangements', *Seattle University Law Review*, 38.1 (2014), 1–35 (pp. 20–21); Lorenz, p. 225; Ritter and Braun, pp. 449–52.

[1030] See justifications of tying and bundling at Miguel de la Mano, Renato Nazzini, and Hans Zenger, 'Article 101', in *Faull & Nikpay: The EU Law of Competition*, ed. by Jonathan Faull and Ali Nikpay, Third edition (Oxford, United Kingdom: Oxford University Press, 2014), pp. 329–538 (pp. 450–53); Robert M. Schwartz, 'Confusing Bundling with Tying under Article 82 EC: Batteries Included or It Only Comes with Fries', *Hastings Business Law Journal*, 6.1 (2010), p. 155; ABA Section of Antitrust Law, *Federal Antitrust Guidelines for the Licensing of Intellectual Property* (USA: American Bar Association, 2010), p. 102; Anderman and Schmidt, pp. 72–73.

[1031] For further details see Stefan Holzweber, 'Tying and Bundling in the Digital Era', *European Competition Journal*, 14.2–3 (2018), 342–66 (pp. 346–51) <https://doi.org/10.1080/17441056.2018.1533360>; Geradin, Layne-Farrar, and Petit, p. 225.

from US scholars, arguing that competition policy must protect competition and not competitors.[1032] One can argue that competitors get protected through protecting competition. Though that may be true, it is argued that the law should not be designed such that protecting competitors appears to be a distinct and primary objective. The Competition Rules of 2018, especially Regulation 8, have the exact effect. They promote and "force" cooperation (market shares notwithstanding) among the players in the name of not lessening competition.

Again, just as we have seen in the previous section, adopting such rules complicates the whole competitive process. If well examined, these rules may lead to collusion as they promote more cooperation than competition. Creating a regulatory framework that promotes, and in some instances, requires more cooperation provides an avenue for coordination. It might kill the spirit of competition, replacing it with collaborative practices, thankfully assisted and encouraged by regulation. In the end, we will not see the positive effects of competition as would have been expected. In other words, such rules defeat the overall policy objectives of competition policy in the sector.

5.7.3 Disregard of "Effects-Based Approach" in Competition Rules

Another important observation in these Regulations is the shift of the burden of proof to telecom firms. By so doing, the law disregards an 'effects-based approach' in competition regulation in favor of rules that establish a presumption of competition violation. The "effect-based approach" is a concept developed in the European Union to modernize its competition policy. Included in the broader package called a "more economic approach" and influenced by Chicago Economics, the approach calls for a shift from a legalistic form-based approach to an economic analysis of the effects of anti-competitive practices. Thus, it is not enough only to look at the legal

[1032] See for example Richard R. Abood and Kimberly A. Burns, *Pharmacy Practice and the Law*, Eighth edition (Burlington, MA: Jones & Bartlett Learning, 2017), p. 350; Lars-Hendrick Röller, 'Efficiencies in EU Merger Control: Do They Matter?', in *European Competition Law Annual 2010: Merger Control in European and Global Perspective*, ed. by Philip Lowe and Mel Marquis (Oxford; Portland, Oregon: Hart Publishing, 2013), pp. 61–70 (p. 62) <http://site.ebrary.com/id/10732015> [accessed 28 May 2020]; Daniel Zimmer, 'The Basic Goal of Competition Law: To Protect the Opposite Side of the Market', in *The Goals of Competition Law*, ed. by Daniel Zimmer, ASCOLA Competition Law (Cheltenham, UK ; Northampton, MA, USA: Edward Elgar, 2012), pp. 486–502 (p. 499); Alese, p. 205; Ewing, p. 206; Cseres, p. 248; William Kolasky, 'Single-Firm Conduct: The Search for the Holy Grail of Administratable Procompetitive Standards', in *On the Merits: Current Issues in Competition Law and Policy ; Liber Amicorum Peter Plompen*, ed. by Paul Lugard and Peter Plompen (Antwerpen: Intersentia, 2005), pp. 59–70 (pp. 69–70).

prohibitions. One must go a step further to analyze the economic effects of the complained acts to establish whether it reduces consumer welfare. Proponents of this approach pin the goal of competition policy on consumer welfare. Thus, conducts which do not affect consumers are not likely to amount to a violation of competition. The effects-based approach also calls for case-by-case analysis instead of the blanket legalistic interpretation of legal rules. In further explaining the more economic approach, Witt says

> "the more economic approach is premised on the consumer welfare aim, welfare-based concepts of harm and countervailing effects, and the idea that legal presumptions of legality or illegality should only be used sparingly, so that, with a few exceptions, business conduct should not be prohibited as anti-competitive without prior in-depth economic assessment of the investigated conduct's actual effects on competition and consumer welfare." [1033]

Tanzania has taken an unorthodox approach. The law has defined what is wrong and directly proceeded to prohibit it without further regard for its effects on competition and consumers. For example, symmetric prohibition of acts such as underpricing, overpricing, or tying and bundling does not have any due regard to their effects in the competition process and, more importantly, to consumers' welfare. The presented case of Smart Telecom is an example of how practices that would otherwise have no effects on competition or consumers end up condemned for being uncompetitive.

The shift of the burden of proof of competition violation to telecom firms is related to the above point. Ideally, Regulation 7 of the Competition Regulations empowers the Authority to assess conduct that lessens competition in the sector. However, Regulation 8 comes up with a long list of conducts that lessen competition. It reads,

---

[1033] See Anne C. Witt, 'The European Court of Justice and the More Economic Approach to EU Competition Law—Is the Tide Turning?', *The Antitrust Bulletin*, 64.2 (2019), 172–213 (p. 173) <https://doi.org/10.1177/0003603X19844637>; For details on the more economic approach and effects-based approach see Avishalom Tor, 'Justifying Competition Law in the Face of Consumers' Bounded Rationality', in *New Developments in Competition Law and Economics*, ed. by Klaus Mathis and Avishalom Tor (Cham: Springer International Publishing, 2019), pp. 3–25 (p. 55) <https://doi.org/10.1007/978-3-030-11611-8_1>; Penelope Papendropoulus, 'The Implementation of an Effects-Based Approach Under Article 82: Principles and Application', in *The Reform of EC Competition Law: New Challenges*, ed. by Ioannis Kokkoris and Ioannis Lianos (The Netherlands: Kluwer Law International, 2010), pp. 419–33 (pp. 419–32).

> "subject to a licensee demonstrating otherwise in the course of any inquiry or other procedure conducted by the Authority, the following conducts or practices *shall be deemed to result in a substantial lessening of competition*"[1034]

This provision means that the Authority has the right to accuse a licensee of substantially lessening competition without any proof based on sound economic analysis of the effects of the condemned practices.

Now, one may defend these provisions in the view that each firm will have an opportunity to defend itself. However, adopting rules that already condemn such practices without a need for anti-competitive effects already gives the regulator an upper hand. We must also note that the regulator can already collect almost every piece of information it wants from the firms. Again, this gives it an upper edge. Furthermore, and we will see in the next chapter, there are no sufficient checks to limit the regulator's powers. These factors make it possible for the regulator to address competition concerns without investing in the actual anti-competitive effects.

5.7.4 Limiting Freedom of Contract and Freedom to Compete

Generally, the application of competition rules may somewhat affect the firms' freedom to contract and compete. The interference with firms' freedom to contract and compete may have effects on firms' economic activities. Thus, competition policy must find the right balance between competition and freedom to contract so that competition may flourish while "upholding the contractual freedoms necessary for a functioning market."[1035] For this reason, competition policy is concerned more with the rules to enable efficiently functioning markets, for example, the absence of restrictive practices. Thus, it will be understood if such rules seek to prohibit collusive practices or ensure that a dominant firm does not use its powers to restrain trading. As the European Court of Justice held, restrictions must be higher to a dominant firm because it has a "special responsibility not to allow its conduct to impair genuine undistorted competition on the common market."[1036]

[1034] Emphasis added.
[1035] Mark Steiner, *Economics in Antitrust Policy: Freedom to Contract vs. Freedom to Compete* (Boca Raton, Florida: Dissertation.com, 2007), p. 4.
[1036] See Para 57 *Michelin V Commission*, p. 3511.

Extension of the above rules to a firm with neither significant market powers nor involvement in collusive practices amounts to an unnecessary restraint of freedom to contract and compete. For example, the Competition Regulations restrict firms' choice of competitors as any refusal to deal or difference in treatment between competitors is prohibited. Furthermore, the Regulations go a step further to limit how non-dominant firms compete. They limit their pricing strategies, such as lower prices, or marketing strategies, such as bundled services.

Even more thought-provoking, the Regulations go a step further to make it a condition that each firm shall treat competitors equally. For example, this rule would require a telecom to have a uniform price for infrastructure access and sharing unless differences are justified by cost considerations. It is also true for sharing information on technical standards and relevant commercial information that must be uniformly and equally. This study argues that such an approach, which seeks to provide uniformity in the market, does not, in practice, facilitate competition. Unless licensees' actions directly affect or eliminate competition, each firm must retain its freedom to act as it wishes, including the choice of whom to trade with and on which basis.

5.7.5 Insufficiency of Enforcement Frameworks

In this section, we have also seen that the law tasks the TCRA to enforce competition. The task would mean, among other things, that the Authority has the legal mandate to enforce the law and has exhaustive frameworks on the procedural aspects detailing how each enforcement aspect takes place. However, the detailed procedural framework for competition enforcement is missing. There is only a legal basis for offering structural and behavioral remedies and the possibility of penal sanctions, which the Authority prefers, at least when dealing with other regulatory matters. As chapter six will explore further, these weaknesses in the enforcement framework contribute to the lack of active *ex-post* enforcement of competition law in the sector.

5.8 A Comparison with the General Competition Framework

As already provided in this work, the general framework for competition enforcement is under the Fair Competition Commission (FCC). The FCC derives its mandate and

enforcement from the Fair Competition Act of 2003. The Act, under Part II, provides a framework against anti-competitive practices. It prohibits anti-competitive practices under Sections 8 and 9. As a general rule, Section 8(1) prohibits any agreement "if the object, effect or likely effect of the agreement is to appreciably prevent, restrict or distort competition." Specific prohibitions under this rule are price-fixing agreements, collective boycotting, and collusive bidding or tendering. The Part also prohibits abuse of dominance under Section 10. Section 11 to 14 covers merger regulation as already discussed in Section 5 of this chapter.

The holistic reading of these provisions does not provide significant material differences from the competition rules adopted to govern the telecom sector under the EPOCA of 2010 and the Electronic and Postal Communications (Competition) Regulations, 2018. Both frameworks have regulations that address restrictive trade practices, control abuse of dominance, and regulate mergers and acquisitions. This generally means that the adoption of competition rules under the telecom framework was unnecessary reproduction of the already existing rules under the general competition framework that would have also addressed anti-competitive practices in the sector.

However, there are differences between the two frameworks worth mentioning at this point.

1. Firstly, the competition framework in the telecom sector has been specifically designed to address anti-competitive practices in the telecommunication industry. Certain provisions can only be applied in the industry, for example, those connected to interconnection or access.
2. Secondly, the telecom sector's framework has gone a step further in providing details and examples on anti-competitive practices and acts likely to lessen competition. This is a positive approach that would have simplified enforcement processes. However, by doing so, these rules have gone a step further to prohibit practices that would not have amounted to a violation of competition law. This chapter has provided, as an example, how acts that are usually prohibited when done by dominant firms are considered illegal in the sector regardless of the market position of the firm in question.

3. Thirdly, the general competition law framework has integrated competition rules and rules on consumer protection. As a result, the FCC administers both competition law and consumer protection law. Some of the addressed issues in the consumer protection framework, such as misleading practices, unfair business practices, and regulation of product and service information, may also have anti-competitive dimensions.[1037] Including them in the general competition enforcement gives the FCC broader powers to address all possible anti-competitive practices in the sector. The competition framework in the telecom sector does not include consumer protection regulation. A separate framework exists, but it is not as extensive as the one under the general competition framework.[1038]
4. Fourthly, the general competition framework contains extensive procedures as provided for in the Competition Rules of 2018.[1039] These rules, made under the Fair Competition Act, are substantially different from the Competition Rules of 2018 made under the EPOCA that regulate competition in telecommunication. Under the Competition Regulations under the FCC, the law has articulated procedures for enforcing competition from start to finish. There are rules to regulate the handling of documents, investigation, and hearing of competition matters, handling of mergers and acquisitions, decision making, and enforcement of the FCC's decisions. The Regulations also provide for the FCC's general powers of monitoring the markets, including studies, investigations, and inquiries on the state of the markets. These procedures provide certainty of enforcement procedures, unlike the TCRA, whose procedures regarding competition enforcement do not exist.

Thus, in the end, one finds the rules under the general competition framework to be reasonably balanced to address any possible anti-competitive practices in any market in the country. They provide general rules of substance that identify what is prohibited and establish procedural aspects of how such rules can be enforced to yield

[1037] See Parts III, IV, and VI of the *Fair Competition Act*, ACT NO 8 OF 2003.
[1038] See *The Electronic and Postal Communications (Consumer Protection) Regulations*, GN. NO. 61 OF 2018.
[1039] *The Competition Rules*, 2018, GN NO 344 OF 2018.

the desired results. The introduction of specific rules under the telecom sector has not proved to have any added significance in competition enforcement.

5.9 Concluding Remarks

This chapter looked at the regulation of competition in the Tanzania telecommunication sector. At the policy level, it has demonstrated that the Tanzania government has appreciated and understood the imperative role of fair and effective competition for the growth, development, and efficiency of the sector. It has then translated this understanding into competition laws, which prohibit anti-competitive practices such as restrictive trade practices and abuse of dominance. Besides, the laws guide on how to deal with mergers and acquisitions.

However, one must note at this point that some of the developed rules are unconventional. There is a generalized approach in which the rules apply symmetrically to all players in the markets regardless of their market positions. Some practices, which are typically not condemned under competition rules, are prohibited and thus, attract penal sanctions. This novelty, which results from attempts to regulate almost everything in the sector, is unnecessary, with no legal justifications. It does not lead to enhanced enforcement because, so far, the practice demonstrates otherwise.

Therefore, this chapter concludes that the telecom sector's competition law framework is still at its elementary stage. Though addressing common competition issues, the adopted rules have been 'perfected and modified' only to result in an unconventional framework that is not short of uncertainties. Nevertheless, an option exists to hone them through judicial proceedings. The problem with this option is that it depends on how the regulator opts to enforce the rules. So far, this study has observed a significant laxity in this area. Should the situation continue as it is, not only will Tanzania have underdeveloped rules of competition in the telecom sector, but also it would not have a robust jurisprudence of competition enforcement, especially on an *ex-ante* basis.

Chapter 6: TCRA's Efficacy in Competition Law Enforcement

> *The governance arrangements of a regulator are critical. The legal remit of the regulator, the powers it is given, how it is funded, and how it is held accountable are all key issues that should be carefully designed if the regulator is to succeed in combining effective regulation with high standards of integrity and trust. Regulators are pivotal in making regulatory regimes work for sustainable growth and equitable societies.*[1040]

6.1 Introduction

Any legal system has at least two components: substantive and procedural rules and institutional arrangements to enforce the rules. Both components must work efficiently to have the desired effects. This fact, which is also true for competition law (as it applies to sector regulation), is captured well by Phillip Lowe, the once Director-General for Competition in the EU. Lowe asserts that

> "All competition policy and enforcement systems consist of essentially two components: the legal instruments ('rules') governing both substance, competences, and procedure, and the administrative structures and processes through which the legal instruments are implemented. Each of these is necessary for the success of the system as a whole. Good rules remain a dead letter if there is no efficiently run organization with the processes to implement them. Conversely, an efficiently managed authority cannot compensate for fundamental flaws in the rules which it is to implement."[1041]

So far, this work has dealt much with the first part of the system: policy environment and legal rules. It has hitherto provided a bigger background picture of Tanzania's telecom sector and its regulation. This background includes some critical aspects such

[1040] OECD, *The Governance of Regulators*, p. 10.
[1041] Philip Lowe, 'The Design of Competition Policy Institutions for the 21st Century — the Experience of the European Commission and DG Competition', *Competition Policy Newsletter,* 2008, p. 1.

as introducing telecommunications, an overview of Tanzania's sector and examining the legal rules. Also, it has briefly given an overview of the institutional frameworks.

This chapter looks at the second aspect of the system, the institutional framework. It takes a narrow approach by focusing only on the TCRA as the enforcer of competition rules. The central idea here is that good substantive rules remain of no value without exhaustive structures that guarantee enforcement. The enforcement structures depend on many aspects, including how the law establishes enforcers, the mandate, powers, and resources. Therefore, based on the developed criteria in Section 6.2, this chapter seeks to evaluate the efficacy of the TCRA in enforcing competition law, especially on an *ex-post* basis.

The chapter takes the following structure. Firstly, it examines whether the Authority has sufficient legal mandate to enforce competition law. Here, the chapter examines the sufficiency of available rules, the regulatory objectives, and the remedies framework. Secondly, it evaluates the procedural framework, including mechanisms for detecting, reporting, and handling competition violation concerns. In a similar vein, the chapter looks at aspects of procedural fairness and the presence of private enforcement. Thirdly, the chapter looks at the institutional design and organization. In this section, the relationship between the TCRA and the Executive, Judiciary, and the FCC is covered. Also covered in this section are TCRA's internal arrangements and their impact on competition enforcement. Fourthly, the chapter looks at the extent to which the TCRA is independent in executing its functions. Fifthly, it assesses whether the Authority has sufficient human and financial resources to execute its mandate. The chapter's objective is that after covering the preceding aspects, there will be an answer on whether or not the TCRA is well-suited to enforce competition in the sector.

6.2 Evaluation Criteria

It was necessary to establish criteria to evaluate the efficacy of TCRA's competition enforcement. Those criteria, developed from diverse literature and presented in this section, are a benchmark for an ideal regulator with powers to enforce competition

law.[1042] As one can already notice, the standards must be higher because such a regulator performs two tasks in one. It is, in principle, a sector regulator and a competition enforcement agency. It follows that it must deliver what is expected both of an efficient regulator and an efficient competition enforcement authority. The following are the developed evaluation criteria:

1. Firstly, there must be a sufficient legal mandate to legitimize and empower the regulator in its enforcement.[1043] It has elsewhere been argued that the choice of a proper legal framework is a "strategic decision that impacts on the extent and type of available powers and success and efficiency of a policy package."[1044] Thus, a sufficient legal mandate must provide for, among others, the set of prohibited acts, regulator's objectives, jurisdictions, and functions, including remedies for infringement. Without a proper definition of the legal mandate, it is unlikely that any effective enforcement will follow.

2. Secondly, there must be exhaustive enforcement rules that provide clarity and certainty of enforcement procedures and structures.[1045] Such clarity is necessary to avoid possible conflicts with other authorities.[1046] Having substantive rules without setting a framework for their enforcement indicates that no enforcement will occur. There must be rules to direct the regulators on what to

---

[1042] For similar evaluation approach, see LITER principles developed in Ottow, p. 86.

[1043] See for example Julia Molestina, *Regional Competition Law Enforcement in Developing Countries* (Germany: Springer Verlag GmbH, 2019), pp. 310–11; OECD, *Driving Performance at Ireland's Commission for Regulation of Utilities*, The Governance of Regulators (Paris: OECD Publishing, 2018); UNCTAD Secretariat, 'Ways and Means to Strengthen Competition Law Enforcement and Advocacy: Note by the UNCTAD Secretariat' (presented at the Seventh United Nations Conference to Review All Aspects of the Set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices, Geneva: UNCTAD, 2015), p. 4; OECD, *The Governance of Regulators*; Blackman and Srivastava; OECD, *APEC-OECD Co-Operative Initiative on Regulatory Reform APEC-OECD Integrated Checklist on Regulatory Reform A Policy Instrument for Regulatory Quality, Competition Policy and Market Openness: A Policy Instrument for Regulatory Quality, Competition Policy and Market Openness* (Paris: OECD Publishing, 2008), p. 15; Farid Gasmi, Paul Noumba, and Laura Recuero Virto, 'Political Accountability and Regulatory Performance in Infrastructure Industries: An Empirical Analysis' (The World Bank, 2006).

[1044] Margit Cohn, 'Law and Regulation: The Role, Form and Choice of Legal Rules', in *Handbook on the Politics of Regulation*, ed. by Dāwid Lēwî-Faur (Cheltenham: Elgar, 2011), pp. 185–200 (pp. 195–96).

[1045] Jörg Philipp Terhechte, *International Competition Enforcement Law Between Cooperation and Convergence* (Berlin, Heidelberg: Springer Berlin Heidelberg, 2011), pp. 59–62 <https://doi.org/10.1007/978-3-642-17167-3>.

[1046] Nicolas Petit, 'The Proliferation of National Regulatory Authorities alongside Competition Authorities: A Source of Jurisdictional Confusion', in *Regulation Through Agencies in the EU: A New Paradigm of European Governance*, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 180–214 (pp. 180–205).

enforce and how to enforce it.[1047] Furthermore, the rules must ensure that enforcement complies with the accepted standards and principles at national and international levels.[1048]

3. Thirdly, the institutional design and organization must be such that they support effective enforcement of competition. For example, the OECD opines that "the manner in which the regulator was established (design, structure, decision making, and accountability structures) are all important factors in how effective it will be in delivering the objectives it was intended to deliver."[1049] In other words, bad institutional design and organization have a direct effect on enforcement efficacy.
4. Fourthly, there must be explicit protection of the regulator's independence both in law and in practice.[1050] The regulator must be free from external influences regardless of whether they come from the government, the regulated, or other stakeholders. Only when a regulator is independent can it discharge its enforcement duties legally, professionally, and fairly. If the regulator has no independence, the chances of capture will most certainly be high. Favoritisms may grow instead of fairness. And extraneous justifications may overtake and replace professional judgments.
5. Lastly, there must be available resources for enforcement, particularly human and financial resources. Studies indicate that it is naïve to expect that the

---

[1047] Terhechte, pp. 59–62.

[1048] Andreas Mitschke, *The Influence of National Competition Policy on the International Competitiveness of Nations: A Contribution to the Debate on International Competition Rules*, Contributions to Economics (Heidelberg: Physica-Verlag, 2008), p. 35.

[1049] See OECD, *The Governance of Regulators*, p. 18; See also Blackman and Srivastava, p. 17.

[1050] For discussions on the independence and accountability of sector regulators see Malinauskaite, p. 197; Adriana Mutu, 'The Regulatory Independence of Audiovisual Media Regulators: A Cross-National Comparative Analysis', *European Journal of Communication*, 33.6 (2018), 619–38 (pp. 4–6) <https://doi.org/10.1177/0267323118790153>; Christel Koop and Chris Hanretty, 'Political Independence, Accountability, and the Quality of Regulatory Decision-Making', *Comparative Political Studies*, 51.1 (2018), 38–75 (pp. 41–44) <https://doi.org/10.1177/0010414017695329>; Dolly Arora, 'Independent Regulatory Authorities: Contours of the Debate and Experience', *Indian Journal of Public Administration*, 64.3 (2018), 358–72 (pp. 2–9) <https://doi.org/10.1177/0019556118783050>; Ahmed Badran, 'Revisiting Regulatory Independence: The Relationship Between the Formal and De-Facto Independence of the Egyptian Telecoms Regulator', *Public Policy and Administration*, 32.1 (2017), 66–84 (pp. 3–6) <https://doi.org/10.1177/0952076716643381>; Okeoghene Odudu, 'The Wider Concerns of Competition Law', ed. by Christopher Townley, *Oxford Journal of Legal Studies*, 30.3 (2010), 599–613 (p. 365).

regulator will discharge its duties effectively without sufficient resources.[1051] Sufficient resources are necessary if the regulators are to achieve their objectives. Resources are also necessary to enable the regulator to attract qualified personnel.[1052] Furthermore, additional financial resources would be required to equip the regulator to cope with the sector's dynamic and complex nature. In other words, there is a direct link between the Authority's resources and its institutional capacity.

The presented criteria encompass a yardstick for factors that this study considers minimum for a sector regulator's effective enforcement of competition law. There are certainly some other factors that influence regulatory efficacy. For example, they include the political will, the overall national socio-economic policies, and the state of a particular country's economy. However, these other factors are not within the purview of this study. In the context of this research, it is assumed that at least, in theory, the regulator exists in a country whose policy direction in the sector is to promote the competitive provision of telecommunications services. Then, these factors assist in evaluating the manner the regulator can discharge such responsibility within such settings.

One more critical point: These factors are building blocks. They must all be present in full. The absence of one or more factors is likely to derail the regulator from its enforcement agenda. Table 6.2-1 presents a summary of such factors and the expected outcomes.

Table 6.2-1 Evaluation Framework

[1051] See further Martín Molinuevo and Sebastián Sáez, *Regulatory Assessment Toolkit: A Practical Methodology for Assessing Regulation on Trade and Investment in Services* (Washington, D.C: World Bank Publications, 2014), pp. 18–19; OECD, *Making Reform Happen Lessons from OECD Countries* (Paris: OECD Publishing, 2010), p. 52; Marianne Fay and Mary Morrison, *Infrastructure in Latin America and the Caribbean: Recent Developments and Key Challenges* (Washington, D.C: World Bank Publications, 2007), pp. 65–66; David Townsend, 'The Vital Role of Regulation in the Telecommunications Sector', in *Implementing Reforms in the Telecommunications Sector: Lessons from Experience*, ed. by Bjorn Wellenius and Peter A. Stern (Washington, D.C: World Bank Publications, 1994), pp. 505–10 (p. 509).

[1052] Recent trends show that even though poor countries already have a shortage of skilled personnel, the available few tend to move elsewhere for greener pasture. This trend, as known as brain drain, has seen a lot of skilled workers moving from developing to developed world. See James Ted McDonald and Christopher Worswick, 'High-Skilled Immigration in a Globalized Labour Market', in *Handbook of the Economics of International Migration*, ed. by Barry Chiswick and Paul Miller (Elsevier, 2014), pp. 537–84 (p. 568); International Organization for Migration, *World Migration 2005 Costs and Benefits of International Migration* (New Delhi: Academic Foundation, 2006), p. 176; World Bank, *Innovation Policy: A Guide for Developing Countries* (Washington, D.C: World Bank Publications, 2010), p. 172.

Criteria	Required	Outcomes
Sufficient legal mandate	Clear definition of regulatory objectives, institutional powers, and arrangement. Clear definition of substantive rules of the competition. Clear definition of sanctions and enforcement.	Clarity of rules on the substance and procedure for enforcing competition. Increased legitimacy in the regulatory process and the possibility of reaching regulatory objectives.
Enforcement Rules	Presence of clear and exhaustive rules of procedure for enforcement and enforcement structures.	The certainty of rules and enforcement procedures and transparency in the regulatory process.
Institutional Organization	Presence of rules defining the Authority's management structure, its relationship with other stakeholders, and dedicated department for competition enforcement.	Enhanced independence, professionalism, integrity, and legitimacy, and enforcement.
Institutional Independence and Accountability	Presence of rules and practices that guarantee the independence of the regulators, both from the government and stakeholders.	Professional, independent, and legitimate regulation and enforcement of competition Increased compliance and chances of reaching objectives.
Resources	Sufficient human and financial resources.	Expatriate regulatory intervention, reduced possibilities of capture, efficient enforcement based on sound analysis, enhanced regulatory confidence and capacity, and quality of enforcement decisions.

Source: Developed by the researcher from various literature sources

6.3 Legal Mandate to Enforce Competition in Telecom Sector

Certainty is key to any regulatory body tasked with enforcement responsibilities. One of the factors that guarantee certainty is the clarity of legal rules. Substantive rules ought to be exhaustive and clear enough to allow all stakeholders to make pre-informed decisions with probable consequences in mind. Thus, the law must clearly state matters subject to regulation, regulation objectives, the extent of regulation, powers of the regulator, and consequences of violating the Regulations.[1053] A well-designed regulation system must establish its objectives *ex-ante* and adopt verifiable

[1053] For further support of this argument see Araceli Castaneda, Mark A. Jamison, and Michelle Phillips, 'Considerations for the Design and Transformation of Regulatory Systems' (Public Utility Research Center Warrington College of Business Administration University of Florida, 2014), p. 22; Baldwin, Cave, and Lodge, *Understanding Regulation*, pp. 27 & 28; OECD, *Regulatory Institutions: A Blueprint for the Russian Federation*, 1 May 2008, p. 6 <https://doi.org/10.1787/241530366501>; Brown, Stern, and Tenenbaum, p. 60.

performance criteria.[1054] The law must explicitly provide how responsible authorities enforce competition and whether such responsibility is exclusive or shared with other institutions.

This section answers whether the law sufficiently mandates and empowers the TCRA to enforce competition law in the sector. In so doing, the chapter focuses on the following three primary areas: sufficiency of competition rules, clarity of regulatory objectives, and sufficiency of available remedies.

6.3.1 Substantive Rules of Competition

The starting point in evaluating the efficacy of enforcement is to ascertain whether, in the first place, there are rules to be enforced. Substantive rules of competition law define enforcement parameters. In this aspect, competition rules in the sector are relatively young. They were first introduced in 2010 under the Electronic and Postal Communications Act (EPOCA). Under EPOCA also came several regulations, the notable ones being Competition Regulations of 2011[1055] and 2018.[1056]

By the time competition rules were introduced in 2010, 17 years had passed after introducing competition in the sector. Besides, seven years had also passed since the establishment of the TCRA as an enforcement authority. It means that the TCRA had seven years to enforce what was non-existent. By that time, Tanzania had already established general competition rules to apply in other sectors of the economy but excluded the regulated sectors, including telecommunication. The obvious conclusion here is that the government intended to exclude competition law in the sector. At least, in theory, policymakers believed that *ex-ante* regulation would be sufficient.

A documentary review of existing laws and regulations on telecommunications revealed that as it stands now, and as chapter five provide in detail, rules detailing anti-competitive practices are in place. They deal with a wide array of competition issues such as regulating dominant licensees, prohibiting collusive agreements such as rate fixing, market sharing, boycotting suppliers and competitors, proscribing tying or

---

[1054] Phillippa S Dee, 'Possible Elements of a Reform Agenda', in *Institutions for Economic Reform in Asia*, ed. by Philippa S Dee (London: Routledge, 2011), pp. 12–35 (p. 29).
[1055] *The Electronic and Postal Communications (Competition) Regulations*, GN 420 OF 2011.
[1056] *The Electronic and Postal Communications (Competition) Regulations*, GN. NO 26 OF 2018.

linking arrangements, and regulating mergers and acquisition. However, as chapter five has already shown, the drafting of the rules was awkward as they are quite unconventional. They attempt to cover almost everything, and, as a result, they extend to practices that are in principle not subject to competition rules (for example, criminalizing all forms of tying and bundling or underpricing even when not done by dominant firms).

Nevertheless, it suffices to say that there are rules, albeit in a rudimentary form, that define anti-competitive practices. Such rules would have been perfected through judicial interpretation had the Authority undertaken to have active enforcement. However, field findings noted the limited jurisprudence in this aspect, and therefore, competition rules remain as they are, in their elementary state.

6.3.2 The multiplicity of Regulatory Objectives

To any authority tasked with enforcement obligations, objectives present a sense of direction.[1057] It may be argued that if one takes the objectives away, the authority goes nowhere. The argument goes further that if one puts too many objectives, the authority will likely crash in attempts to do everything. The key is to have fewer, clear, and not self-defeating objectives. Having "lofty objectives," as one author puts it, is one of the deadly sins in public administration.[1058] A direct guarantee for non-performance, he argues, "is to try to do several things at once."[1059] The argument goes further that the truth is, "if you try to do everything, you'll accomplish nothing."[1060] When authorities have too many objectives, they face what is known as *priority goal ambiguity,* where some goals are sacrificed at the expense of others.[1061]

Is the TCRA a victim of *priority goal ambiguity*? The answer lies in what the law tasks the TCRA to do. Except for mergers and acquisitions, every other aspect of the sector

---

[1057] The OECD mentions clarity of objectives as a key component of a good regulator. See OECD, *OECD Regulatory Policy Outlook 2018* (Paris: OECD Publishing, 2018), p. 110.
[1058] Peter F. Drucker, 'The Deadly Sins in Public Administration', *Public Administration Review*, 40.2 (1980), 103–6 (p. 103) <https://doi.org/10.2307/975619>.
[1059] Drucker, p. 103.
[1060] Donna E. Shalala, 'Guest Editorial: Are Large Public Organizations Manageable', *Public Administration Review*, 58.4 (1998), 284–89 (p. 287) <https://doi.org/10.2307/977557>.
[1061] Christopher Carrigan and Lindsey Poole, 'Structuring Regulators: The Effects of Organizational Design on Regulatory Behavior and Performance', 2015, p. 17 <https://www.law.upenn.edu/live/files/4707-carriganpoole-ppr-researchpaper062015pdf>.

is under the TCRA's regulation. The TCRA regulates competition, licensing, interconnection, tariff setting, spectrum, quality of services, consumer protection, and all dealings with communication equipment. Furthermore, it regulates internet services and monitors all online content, even those channeled via social media. On top of all these, it is the same Authority that regulates broadcasting and postal services, and it is responsible for ensuring cybersecurity and responding to cyber risks and attacks. With all these responsibilities, it is not surprising that some of its mandates, such as competition enforcement, are at the bottom of the Authority's priorities.

Documentary and field research revealed that there is limited institutional jurisprudential experience in handling competition concerns. Interviews with the Authority's senior legal officer found out that the Authority has not handled a single exclusive competition case to date.[1062] When asked why this inaction, the Authority has a response, even though unconvincing. It argues that Tanzania has not yet developed a strong competition culture.[1063] As a result, the Authority further opines, telecom companies are not so keen to pursue acts of unfair competition, and hence, no cases are pending with it. Besides, the Authority argues that Tanzanians are not 'pro-litigation' because they do not prefer legal proceedings even when there is an outright violation of laws.[1064]

These explanations, as already hinted, are not convincing. For example, interviews with enforcement department of the Fair Competition Commission revealed evidence of the FCC's active enforcement of competition in other sectors of the economy.[1065] Lack of competition enforcement jurisprudence with the Authority must be attributed to other factors, which, as this chapter continues to show, include a lack of priority on competition enforcement. This argument finds evidence when one looks at the Authority's structure. For example, it was noted during field research that as of

[1062] Many filed cases deal with consumer protection or disputes between the Authority and service providers.
[1063] An interview done to the Authority's senior legal officer.
[1064] An interview done to the Authority's senior legal officer.
[1065] For updates on the decided cases visit FCC, 'Fair Competition Commission', 2020 <https://www.competition.or.tz/> [accessed 24 March 2020]; Further see cases handled by the FCC as of December 2016 at FCC, *Annual Report and Audited Accounts for The Year Ended On 30th June 2016* (Dar es Salaam: Fair Competition Commission, 2017), p. 14.

January 2020, no department existed to deal exclusively with competition enforcement. Competition fell under the consumer and industry affairs department, which had over a dozen other responsibilities. Many efforts are dedicated to *ex-ante* regulation of the sector, which focuses more on the sector's technical aspects.

Therefore, one can already see that with the breadth of objectives to achieve, much of the enforcement focus is on technical regulation of the sector, which is, in principle, the Authority's specialty. Thus, the answer to the question posed at the beginning of this section is yes. The TCRA has fallen victim to *priority goal ambiguity*. The overall research findings suggest that the TCRA has a lot on its plate, thereby sacrificing some goals in favor of others. Since it is more of a technical regulator, it has done much on the sector's technical aspects. However, this comes at the expense of *ex-post* competition enforcement. It was found that competition enforcement is at the bottom of enforcement priorities, with not a single case and no dedicated department.

6.3.3 Remedy and Sanctions Framework

Reading of the competition rules will reveal that not all is lost despite the unusual drafting, which takes a highly general symmetric regulation. It is still possible to tell what is prohibited in the sector. Based on the research findings from interviews with the Authority and telecom firms, the most significant deficiency was found to lie in uncertainties of available remedies. It is important to note that the certainty of available remedies and sanctions is necessary because it instills a compliance culture.[1066] It has been argued that "regulatory agencies will be able to speak more softly when they are perceived as carrying big sticks."[1067] It is necessary that the law clearly states what sanctions are available in cases of contraventions. Moreover, the sanctions must fit the violation or contravention; they must have deterrent effects. There are two points this section examines to evaluate the efficacy of the sanctioning and remedy framework; insufficiency of the fining framework and over-criminalization of competition violations.

[1066] Richard Macrory, 'Reforming Regulatory Sanctions-Designing Systematic Approach', in *The Regulatory State: Constitutional Implications*, ed. by Dawn Oliver, Tony Prosser, and Richard Rawlings (Oxford; New York: Oxford University Press, 2010), pp. 229–42 (p. 230).
[1067] Macrory, p. 231.

6.3.3.1 Insufficiency of Fining Framework

Fines are a common way of addressing competition law infringements.[1068] The imposition of fines, among others, serves as a deterrence to the violation of competition law.[1069] Deterrence, it has been argued, works "if, and only if, from the perspective of the company contemplating whether or not to commit a violation, the expected fine exceeds the expected gain from the violation."[1070] If a company pays just insignificant fines in violation of competition rules compared to gained advantages, there will be no compliance pressure. Thus, the consequences of competition violations, argues the OECD, "should be significant enough to encourage compliance" and that the imposed sanctions should be "sufficient to deter violations."[1071] When we place Tanzania's fining framework against this rule, some concerns arise.

6.3.3.1.1 Low Fines

As seen in chapter five, the law provides for fines for almost every violation of competition rules. For example, according to Section 69 of the EPOCA, on conviction for contravening competition provisions, there is a fine of not less than Tanzanian shillings five hundred thousand (equivalent to 220 USD) or imprisonment for not less than five years.[1072] The new Competition Regulations of 2018 also maintain a penalty of not less than five hundred thousand Tanzanian shillings but reduce jail term to three months.[1073]

It is argued that setting fines at such a low rate does not communicate a firm resolve to address anti-competition practices in the sector. Even though one may argue that the rates are only a minimum threshold, nothing will prevent a presiding judge or

---

[1068] See for example Eric Barbier de La Serre and Eileen Lagathu, 'The Law on Fines Imposed in EU Competition Proceedings: Time for a Refresh of the Fining Guidelines?', *Journal of European Competition Law & Practice*, 8.6 (2017), 409–19 (pp. 1–6) <https://doi.org/10.1093/jeclap/lpx031>; Bas van Bockel, *The Ne Bis in Idem Principle in EU Law* (The Netherlands: Kluwer Law International B.V., 2010), p. 94; Rodger and MacCulloch, p. 48.
[1069] Ian Forrester, 'A Challenge for Europe's Judges: The Review of Fines in Competition Cases', *European Law Review*, 36.2 (2011), 185–207 (p. 137).
[1070] Wouter Wils, 'Leniency in Antitrust Enforcement; Theory and Practice', *World Competition*, 30.1 (2007), 25–63 (p. 188).
[1071] OECD, *Taking Stock of Regulatory Reform A Multidisciplinary Synthesis: A Multidisciplinary Synthesis* (Paris: OECD Publishing, 2008), p. 30.
[1072] S. 69 *The Electronic and Postal Communications Act*, ACT NO 3 OF 2010.
[1073] Reg 19 *Electronic and Postal Communications (Competition) Regulations*, *G.N No. 26 of 2018*.

magistrate from imposing the minimum prescribed fines. One does not imagine the imposition of fines as heavy as those issued by the European Commission to Google and similar tech giants. For example, in 2019, Google was fined 1.49 billion Euros for advertising violations. Between 2017 and 2019, the EU has fined google 8.2 billion Euros for breaching various competition rules.[1074] Realistically, few Tanzania companies may have assets close to such fines. Nevertheless, fining 220 USD as a minimum payable fine is hugely on the lower side. No telecom firm may fear entering into any anti-competitive arrangement if it is likely to pay a penalty of 220 USD.

6.3.3.1.2 Lack of Fining Policy

Another concern in the remedy framework is the absence of an established fining policy. Fining policies go beyond stipulating minimum payable fines. Since fines affect firms' pecuniary interests, it is imperative to establish a clear fining policy. It should set forth, for example, what should be fundamental considerations in the setting of fines (for instance, gravity and duration), the legal maximum of fines, and specific instances in which fines may be increased for deterrence purposes.[1075]

The fining policy should also consider the role of mitigating factors, the presence of leniency programs, and in some circumstances, the ability to pay.[1076] Beyond these legal certainties, a fining policy should also ensure equal treatment to all players, and above all, restrain the authorities from setting unreasonable fines based on superfluous grounds. As a result, a clear policy moves officers from "personal

[1074] See Adam Satariano, 'Google Fined $1.7 Billion by E.U. for Unfair Advertising Rules', *The New York Times*, 20 March 2019, section Business <https://www.nytimes.com/2019/03/20/business/google-fine-advertising.html> [accessed 25 November 2019]; European Commission, 'Antitrust: Commission Fines Google €4.34 Billion for Abuse of Dominance Regarding Android Devices', *European Commission - European Commission*, 2018 <https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4581> [accessed 25 November 2019]; Karen Gilchrist Balakrishnan Anita, 'EU Hits Google with a Record Antitrust Fine of $2.7 Billion', *CNBC*, 2017 <https://www.cnbc.com/2017/06/27/eu-hits-google-with-a-record-antitrust-fine-of-2-point-7-billion.html> [accessed 25 November 2019]; European Commission, 'Statement by Commissioner Vestager on Fining Scania for Participating in Trucks Cartel', *European Commission - European Commission*, 2017 <https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_17_3509> [accessed 25 November 2019].

[1075] See for example European Commission, *Guidelines on the Method of Setting Fines Imposed Pursuant to Article 23(2)(a) of Regulation No 1/2003*, *C 210/2*, 2006, p. 4.

[1076] European Commission, *Guidelines on the Method of Setting Fines Imposed Pursuant to Article 23(2)(a) of Regulation No 1/2003*, p. 4.

assessment to a more neutral, objective, and consistent method."[1077] However, a documentary review of all relevant laws, regulations, and policies could not find any such policy in the telecommunication sector in Tanzania. No was the Authority's directorate of legal affairs able to explain the policy used for fines during field research interviews. Such policy only exists with the Fair Competition Commission.[1078]

Without a fining policy, the Authority retains an arbitrary hand in deciding what fines fit certain violations. The absence of a fining policy presents an apparent uncertainty of the regulatory environment and a recipe for unfair or unequal treatment. Further, it is also an opening to entertaining political or other unclear motives. Below is a good example, though not directly connected to *ex-post* enforcement of competition.

From 2015 to 2017, all telecom firms, except the government-owned TTCL, were fined three times for violating sim-card registration regulations.[1079] Within the same period, telecom firms, except for the TTCL, were investigated, prosecuted, convicted, and fined for violating the Quality of Service Regulations. Table 6.3-1 shows fines imposed by the Authority from 2015-2017 for violation of sim-cards registration for the three big firms.[1080]

Table 6.3-1 The TCRA's Fines for violation of SIM-Cards registration from 2015-17

Year	2015	2016	2017
Vodacom	USD 11,000	USD 42,500	USD 420,000
Tigo	USD 11,000	USD 84,000	USD 580,000
Airtel	USD 11,000	USD 81,000	USD 480,000

Source: Extracted from TCRA Decisions from 2015-2017

In light of the presented fining trends, one can observe some tendencies, which would not have been the case, had the fining policy be in place. For instance, there were no justifications for excluding the state-owned firm from the investigations. Furthermore,

[1077] Forrester (n 1062) 188.
[1078] See S 60(1), *Fair Competition Act*, ACT NO 8 OF 2003 and Rule 28 of the Fair Competition Procedure Rules of 2018.
[1079] TCRA, *Hatua Dhidi Ya Watoa Huduma Kwa Kushindwa Kuzingatia Utaratibu Wa Usajili Wa Namba/Laini Za Simu Za Kiganjani*' (Dar es Salaam: TCRA, 2017), p. 1.
[1080] See TCRA, *Hatua Dhidi Ya Watoa Huduma Kwa Kushindwa Kuzingatia Utaratibu Wa Usajili Wa Namba/Laini Za Simu Za Kiganjani* (Dar es Salaam: TCRA, 2019), p. 1; TCRA, *Maelezo Ya Kaimu Mkurugenzi Mkuu, Mamlaka Ya Mawasiliano Tanzania, Eng. James Kilaba Kuhusu Uamuzi Kuhusu Ukiukwaji Wa Masharti Ya Usajili Wa Namba/Laini Za Simu Za Mkononi* (Dar es Salaam: TCRA, 2016), p. 1.

there were no justifications given on how the Authority calculated such amounts. In all instances, the Authority traced its fining powers from Section 17 of the Second Schedule of the TCRA Act. The Section empowers the Authority to impose sanctions for violations of regulatory rules.[1081] This lack of justifications made telecom firms question the 'coincidence' in which the state-owned TTCL was neither investigated nor fined.[1082] It is clear, they argue, that the TCCL enjoys protection from the authorities.

There were other concerns that the imposed fines, especially those of 2017, were politically motivated. Some telecom firms argued that they were a direct order from the higher powers that be, in which the Authority had to penalize telecoms for their "many misdeeds"[1083] For example, findings from the field revealed a perception amongst the Tanzania policymakers that most telecom firms use various techniques to avoid their statutory responsibilities, such as tax payment and corporate social responsibilities. There are also allegations that telecom firms steal from their consumers by overcharging them, non-delivery of purchased services, or even mysterious expiry of service without being consumed. Note that CSR is not obligatory to telecommunication companies. It is because of these perceptions, telecom firms responded, that the political establishments were unhappy with the way the Authority was lightly handling the telecom firms. As a result, the directive required more stringent measures against the telecom firms, thereby aggravated fines.

At this juncture, one point must be clear. It is not argued that that telecom firms are fined excessively. Nor is it argued that the decisions to impose fines were not justified. The critical observation here is that the lack of fining policy leads to inconsistencies in the fining process with amounts that lack legal or mathematical justifications.

Lack of the fining policy has also been linked with the government's need to raise revenues. The central government, especially under the fifth government, had continually demanded that each government agency, department, and independent

---

[1081] *The Tanzania Communications Regulatory Authority Act*, ACT NO 12 OF 2003.
[1082] Interviews with regulatory officers from Smart and Halotel. They requested anonymity.
[1083] Interviews with regulatory officers from Smart and Halotel. They requested anonymity.

authority contribute 15 percent of its income to the government (it would appear, regardless of whether it makes a profit or not).[1084] Since there is no policy to guide how the Authority may set fines, telecom firms opine that the need to raise revenues has also pushed the TCRA to issue high fines compared to previous years. Indeed, the TCRA emerged as the top contributor in 2017 after remitting over Tsh 59,86 billion (approximately 26,4 mil USD) to the central government treasury, 15 percent of its income.[1085]

All these factors make it questionable how far the Authority can go without a clear fining policy. Without restraints, it would appear that fining may continue to be mounted on grounds only known to the Authority. This does not send the right message to the regulated, whose number one wish is to have a stable and friendly regulatory environment.[1086]

6.3.3.2 Overcriminalization of Competition Violation

Chapter five of this work has noted strong criminal law influence in drafting competition rules. One would notice that all violations of competition rules amount to criminal offenses. For example, Section 69 of the EPOCA sets a blanket criminal punishment for all anti-competitive conducts. Section 60(5) of the EPOCA criminalizes all acts of abuse of dominance. The main concern here is the criminalization of practices that are typically not criminal. The effect of this arrangement, if adequately enforced, is to shift enforcement from the TCRA to the National Prosecution Service because the TCRA has no jurisdiction to carry out criminal proceedings.

The striking point here is that research findings revealed no laws to guide all criminal proceedings in these new sets of criminal offenses. The laws do not even mention courts with appropriate jurisdiction. Similarly, the role of the TCRA in these criminal proceedings is unclear. Furthermore, questions such as gathering and presenting

---

[1084] The Reporter, 'Mashirika 47 Kutoa Gawio Kwa Serikali', *Mwananchi Newspaper* (Dar es Salaam, 22 July 2018).
[1085] Alex Malanga, 'Government Earns Hundreds of Billions in Dividends', *The Citizen Newspaper*, 24 July 2018.
[1086] The lack of a stable and friendly regulatory environment was raised as a significant concern by all interviewed telecom firms, including those owned by the government wholly or partly.

evidence, including the burden of proof, are uncertain. Thus, criminalizing all anti-competitive practices and shifting enforcement to other bodies with competent criminal jurisdiction without proper legal rules to guarantee certainty of enforcement means creating an enforcement framework that is bound to fail. Perhaps this is why there is no criminal case on competition matters, either pending in any court of law or determined on merit.

6.4 Procedural Framework

The procedural framework lies at the center of any enforcement process. It is through well-designed and exhaustive procedures that a sector regulator may address competition concerns. This is particularly important to a regulator with multiple objectives. There must be clarity of procedural rules for each of its given mandates. Having substantive competition law rules, extensive as they may be, is pointless unless a robust enforcement framework exists.

A review of relevant laws established that most of the Authority's enforcement powers are provided in general terms. For example, Section 17(1) of the TCRA Act gives the TCRA powers to conduct investigations and inquiries in the sector, including matters relating to competition enforcement. Similarly, it has powers to summon attendance of any persons under Section 17(5) of the TCRA Act, powers to collect and retain physical evidence under Section 17(6) of the TCRA Act, and powers under Section 17(7) of the TCRA Act, to carry out "dawn raids" in the course of its investigation.[1087] The Competition Regulations of 2018 further provides for the general powers of competition enforcement. Regulation 4 of the Regulations reads,

> "4. The Authority shall have powers to- (a) monitor and enforce fair competition in the communications sector; (b) investigate all acts alleged to be in breach of fair competition rules; (c) conduct proceedings, inquiries or public consultations in order to render or make a decision on acts or conducts in breach of fair competition rules; and (d) impose sanctions, penalties or issue orders against licensees and persons whose acts or conducts are anti-competitive or in breach of fair competition rules."

[1087] Temu, p. 109.

Despite these powers, the whole procedure for enforcing competition law in the sector raises some concerns regarding their efficacy. Some of the observed deficiencies are explained in the subsequent sub-section.

6.4.1 Detecting Mechanisms

Detection of violation of competition rules is the first stage in the enforcement process. Without proper detection mechanisms, effective enforcement remains a theoretical ambition and compliance far from reality. As Caron Beaton-Wells notes,

> "a long-standing theory on compliance is that behavior is most effectively influenced by increasing the likelihood of detection and punishment of wrongdoing and threatening the application of severe sanctions for transgressions."[1088]

It follows that an enforcement body cannot adequately address competition and inculcate a compliance culture in the absence of precise mechanisms to detect violations in the first place. Such detection may be possible, for example, through various methodologies such as market monitoring, information from other national institutions, complainants' information, consumer information, inquiries, and programs such as leniency.[1089] All these intend to solicit information from the field.

Generally, one may argue that the Authority has powers to monitor competition and detect anti-competitive practices in the sector.[1090] However, monitoring presupposes organized departments and dedicated staff that gather data and understand market operations, including their implications on the competition process. Unfortunately, the law does not establish a dedicated department for competition monitoring. Nor does that department exist in practice.[1091] When concluding this study, monitoring competition was under the Department of Consumers and Industry Affairs, which deals with more than a dozen other responsibilities.

[1088] Caron Beaton-Wells, 'Substance and Process in Competition Law and Enforcement.: Why We Should Care If It's Not Fair,' in *Procedural Fairness in Competition Proceedings*, ed. by Paul Nihoul and Tadeusz Skoczny, ASCOLA Competition Law (Cheltenham, UK: Edward Elgar Publishing Limited, 2015), pp. 3–43 (p. 3).
[1089] Geradin, Layne-Farrar, and Petit, pp. 341–48.
[1090] See Reg 4(1) *Electronic and Postal Communications (Competition) Regulations*.
[1091] Response from the director of huma resources during field research.

This structure directly explains the Authority's starvation for jurisprudence on competition enforcement. Cases on competition enforcement do not exist because, with its too many objectives and lack of dedicated department and staff for competition enforcement, it is implausible to have active monitoring and detection of violations in the sector. Simply put, the authority has no effective mechanisms to monitor the market and detect violations of competition rules, if any.

6.4.2 Reporting Mechanisms and Complaint Initiation

Relating to the mentioned point is the absence of a well-established structure for reporting violations or competition complaints. Well-established machinery of reporting anti-competitive practices is also an effective method any regulator may use to detect competition violations. Many jurisdictions allow natural or legal persons' complaints on competition rules infringements.[1092] They also provide a room to report any information that might be inconsistent with competition laws.[1093] Regrettably, there are no legal provisions and mechanisms that allow or guide individual persons or even telecom firms to lodge their complaints to the Authority.[1094]

The Authority could not provide a precise picture of how it handles competition matters.[1095] Its general response was that enforcement matters fall under the legal department.[1096] However, the legal department is not an exclusive enforcement department. Instead, it deals with everything with a legal element, meaning almost

---

[1092] In Uganda, the Communications Commission may receive complaints from any person having legitimate interests. See S 45(a) and (b) of *Uganda Communications Act*, 2013, ACT NO 1 OF 2013; In the EU for example, a natural or legal person who can show legitimate interests may report an infringement. See Alina Kaczorowska, *European Union Law*, 3rd edn (Oxon: Routledge, 2013), p. 899; Themistoklis K. Giannakopoulos, *Safeguarding Companies' Rights in Competition and Anti-Dumping/Anti-Subsidies Proceedings*, 2nd edn (The Netherlands: Kluwer Law International B.V., 2011), p. 35; Even with the Tanzania Fair Competition Commission, any person has a right to initiate a complaint either in a prescribed form or in any manner convenient to him or her. See S. 69(a) and (b) of *Fair Competition Act*, ACT NO 8 OF 2003.

[1093] In Uganda, the Communications Commission may receive complaints from any person having legitimate interests. See S 45(a) and (b) of *Uganda Communications Act*, ACT NO 1 OF 2013; In the EU for example, a natural or legal person who can show legitimate interests may report an infringement. See Kaczorowska, p. 899; Giannakopoulos, p. 35; Even with the Tanzania Fair Competition Commission, any person has a right to initiate a complaint either in a prescribed form or in any manner convenient to him or her. See S. 69(a) and (b) of *Fair Competition Act*, ACT NO 8 OF 2003.

[1094] See the 1st Schedule, *The Electronic and Postal Communications (Consumer Protection) Regulations*, GN. NO. 61 OF 2018.

[1095] An interview with the TCRA legal department. An interview was done with the director of legal services and senior legal officer responsible for enforcement.

[1096] An interview with the TCRA legal department. An interview was done with the director of legal services and senior legal officer responsible for enforcement.

everything in the sector. It means that, in principle, the legal department does not have sufficient capacity to handle competition matters, in addition to other legal and administrative matters arising from regulatory duties.

Thus, it is apparent that no dedicated framework for handling competition complaints exists. It was learned from an interview with the TCRA's director of human resources that plans were underway to have an enforcement department that handles, among others, competition matters. What the department will look like and whether there will be specific mechanisms to handle the reporting of competition violations remain to be seen.[1097] As a result, it is more likely than not that many anti-competitive practices will remain undisclosed to the Authority. Furthermore, consumers and stakeholders remain unaware of whether they can complain of competition violations, and if yes, they are unsure of methods to use. In the end, it is the TCRA's institutional capacity that gets undermined because it loses opportunities to detect anti-competitive practices. Naturally, the Authority cannot enforce what it is unaware of.

It was surprising to learn, from an interview with regulatory departments of three telecom respondents, that even the telecom firms do not know how to initiate a competition complaint despite raising several concerns requiring *ex-post* enforcement.[1098] It was found that complaints initiation is one of those many areas in which legal uncertainty appears to be a law of the day because rules of procedures are determined *ad hoc* by the Authority. As one practitioner working with one telecom firm further intimated, most TCRA proceedings follow no established legal procedures. That in many cases, he further noted, there are no known specified procedures. He concluded that telecom firms follow what the TCRA says without enjoying the structured format of an established procedure that ensures certainty of proceedings.

Further interviews with the respondents established that telecom firms would use official letters to convey their grievances. Such practice may be extended to anti-

---

[1097] As of 2021 August, no such department existed. See TCRA, 'TCRA Organization Structure 2021' <https://www.tcra.go.tz/uploads/text-editor/files/TCRA%20Organisation%20Structure_1622544286.pdf> [accessed 16 August 2021].
[1098] Interviewed in this aspect were TTCL, Tigo and Halotel.

competitive practices. The use of letters comes out of the usual way of transacting business in the field and not a defined legal framework. Principally, the research findings established, there is no known framework to govern the initiation of competition complaints with the Authority.

6.4.3 Procedural Fairness

Authors of administrative and constitutional law agree that procedural fairness is a central requirement for administration of justice.[1099] However, what amounts to procedural fairness is not a matter of universal certainty, although literature reveals what may constitute its essential elements.[1100] For example, they include the impartiality of decision-makers, the right to appear, present and defend a case before an impartial judge, the right to present and examine evidence from the other party, and the right to have a decision reviewed by another independent body.[1101] Procedural fairness is essential "in shoring up the perceived legitimacy of the law and, in that way, strengthening voluntary compliance on normative grounds."[1102]

In a system that seeks to uphold justice, the fairness of procedures should be positively embraced, among other things, to "prevent even the probability of unfairness."[1103] The Constitution of Tanzania stipulates that,

> "When the rights and duties of any person are being determined by the court or any other agency, that person shall be entitled to a fair hearing and to the right of appeal or other legal remedy against the decision of the court or of the other agency concerned".[1104]

[1099] See for example William F. Funk and Richard H. Seamon, *Administrative Law*, Examples & Explanations, Fifth edition (New York: Wolters Kluwer Law & Business, 2016), p. 122; *Constitutional and Administrative Law*, ed. by Neil Parpworth and Nicola Padfield, Core Text Series, 7th ed (Oxford: Oxford University Press, 2012), pp. 300–301; Alex Carroll, *Constitutional and Administrative Law*, Foundation Studied in Law Series, 6th ed (Harlow Essex, England ; New York: Pearson Longman, 2011), pp. 350–51; Timothy O'Riordan, Ray Kemp, and Michael Purdue, *Sizewell B: An Anatomy of Inquiry* (Hampshire and London: The Macmillan Press, 1988), p. 73.

[1100] Douglas Ginsburg and Taylor Owings, 'Due Process in Competition Proceedings', *Competition Law International*, 1.11 (2015), 39–49 (p. 39); Tom R. Tyler, 'What Is Procedural Justice? Criteria Used by Citizens to Assess the Fairness of Legal Procedures', *Law & Society Review*, 22.1 (1988), 103–35 (pp. 111–13) <https://doi.org/10.2307/3053563>.

[1101] Ginsburg and Owings, p. 39; Tyler, pp. 111–13.

[1102] Beaton-Wells, 'Substance and Process in Competition Law and Enforcement.: Why We Should Care If It's Not Fair,' p. 27.

[1103] Ginsburg and Owings, p. 104.

[1104] See Article 13(6) (a), *The Constitution of the United Republic of Tanzania*, CAP 2 [R.E 2002].

The Constitution corresponds to the need to have a framework that embraces procedural fairness as an integral factor for effective enforcement. Without procedural fairness, it is possible to have unfair remedies or punishments or to leave violators unpunished.

Examination of procedural fairness in the enforcement of competition law in the telecom sector provides mixed results. *Prima facie*, the TCRA appears to be one of Tanzania's agencies and authorities that embrace fairness. Indeed, its code of conduct, for example, upholds virtues such as fairness, accountability, integrity, the prohibition of undue influence, and avoidance of conflict of interests.[1105] The same values also appear in the TCRA Enforcement Guidelines of 2012.[1106]

The above observations notwithstanding, some crucial legal framework and details that would guarantee fairness are still wanting regarding competition enforcement. For example, while it is clear that a party has a right to a hearing, representation, and presenting of evidence, it is uncertain how the Authority upholds impartiality. Furthermore, the standard of proof is unknown, decision-making processes inexact, and rules for making decisions unstipulated. The next sub-section provides further stipulation of some critical observations.

6.4.3.1 Evidence and Standard of Proof

The standard of proof is the certainty and level of evidence needed to establish liability.[1107] Generally, in Tanzania, the standard of proof in civil cases is on the "preponderance of probability" and in criminal law is "beyond a reasonable doubt."[1108] For criminal cases, this standard is higher, and as a general rule, it does not shift from the prosecutor to the defense side.[1109] The requirements of the standard of proof demand that whoever alleges, as a general rule, must prove.

[1105] TCRA, 'Tanzania Communication Regulatory Authority Code of Conduct' (TCRA, 2015).
[1106] TCRA, 'Enforcement Guidelines' (TCRA, 2012), p. 2.
[1107] Tony Reeves and Ninette Dodoo, 'Standards of Proof and Standards of Judicial Review in European Commission Merger Law', *Fordham International Law Journal*, 29.5 (2005), 1034–67 (p. 1037).
[1108] See S. 3(2)(a) &(b), *The Evidence Act*, CAP 6 [R.E 2019]; Yves Botteman, 'Mergers, Standard of Proof and Expert Economic Evidence', *Journal of Competition Law & Economics*, 2.1 (2006), 71–100 <https://doi.org/10.1093/joclec/nhi027>.
[1109] Ahmed Omari v R, *Criminal Appeal No 154 of 2005 (Court of Appeal of Tanzania) (Unreported)*.

Rules on the standard of proof are fundamental because the TCRA has powers to allege breach of the law and then investigate, prosecute, adjudicate, and enforce its decision. The problem is that with the TCRA enforcement system, there is no legal framework governing how it handles evidence and proves its allegations. Generally, the TCRA avers to have always ensured that each party has the right to be heard.[1110] It then proceeds to decide.

However, in practice, its decisions are based on its own rules of practice, which telecom firms claimed to be unfamiliar with. For example, interviews with telecom firms revealed that the actual procedures are primarily one-sided. Typically, the Authority would proceed to conduct its investigation and form its opinion. This opinion in the form of the Authority's judgment is then transmitted to the "respondent." The respondent will have an opportunity to presents its case in a hearing. In this hearing, the respondent is required, in most cases, to show cause why the Authority's finding should not be implemented. One legal officer from one big MNO noted, "the hearing is just a mere formality. In all cases we had appeared before the Authority, it had already formed its decision. Our defense did not change anything."[1111]

Because there is the concentration of powers on the Authority, legal controls should have been in place. Such control would ensure, among others, that the TCRA's decisions are made after a careful analysis of the evidence on objective criteria. As of the moment, that is not the case. Everything hangs on the Authority, which we have already noted, albeit in other regulatory issues, that is not impartial because it is already interested in cases it adjudicates (See Section 6.6 for further detail on the Authority's independence).

6.4.3.2 Concentration of Powers

Generally, the law empowers the TCRA to monitor the sector, and in case of any breach of regulatory rules, investigate, prosecute, and adjudicate such breach.[1112]

[1110] An interview with the TCRA's senior legal officer.
[1111] The respondent requested anonymity.
[1112] See for example Reg 4 of *The Electronic and Postal Communications (Competition) Regulations*, GN. No 26 of 2018.

When it finally determines the matter at hand, it has the power to enforce its decision. In practice, the TCRA has an internal enforcement arrangement in which the Director of Legal Services oversees all enforcement matters.[1113] Under this directorate lies the powers to allege, investigate, prosecute, adjudicate, and enforce its decisions. The Director of Legal Services may work with directors from other departments (where the subject matter of enforcement lies) or another member appointed by the TCRA's Director-General.[1114]

There are concerns, specially recorded from the telecom firms and stakeholders, over this arrangement's desirability. There is direct disregard for natural justice principles, which prohibit one from being a judge of its case (*Nemo judex in causa sua*). Article 13(6) of the Constitution of Tanzania embeds these principles by guaranteeing equality before the law. Specifically, Article 13(6)(1) of the Constitution emphasizes the right to a fair trial. Tanzania courts have already established that provisions that guarantee natural justice are no longer common law principles but "fundamental constitutional rights."[1115]

Thus, it is entirely against the Constitution to disregard these principles. It is undesirable to establish a separate enforcement framework with a concentration of powers without establishing sufficient checks on the Authority's enforcement. Even though there is a tribunal as an appellate body, one must note that not all matters are appealable. The result is that most decisions are likely to conclude without due regard to principles of natural justice and other principles of fairness.

The impact of such congestion of powers is not far-fetched. Telecom firms have raised some concerns about procedural impartiality and lack of fairness.[1116] For example, the Directorate of Legal Services interacts with the telecom firms regularly. In so doing, it collects tons of information in its regulatory capacity. Besides, it collects much

---

[1113] TCRA, 'Enforcement Guidelines', p. 2.
[1114] TCRA, 'Enforcement Guidelines', pp. 2–3.
[1115] See for example, Mbeya-Rukwa Auto Parts & Transport Limited vs Jestina George Mwakyoma, *[2003] TLR 257 (Court of Appeal of Tanzania)*.; Onesmo Nagole v Steven Kiruswa, *Civil Appeal No. 129 of 2016 (Court of Appeal of Tanzania) (Unreported)*.; Dishoni Mtaita v The DPP, *Criminal Appeal No 132 of 2004 (Court of Appeal of Tanzania) (Unreported)*.; The Principal Secretary, Ministry of Defence & National Service vs Devram Valalmbhia, *[1992] TLR 185 (Court of Appeal of Tanzania)*.
[1116] Response from TTCL, Smart, Tigo and Vodacom.

information from the regulated, for instance, their revenues, network expansion plans, customer base, and business plans. In so doing, the directorate is already possessing a powerful asset: information. With such information, it can then turn itself into a complainant, then an investigator, then a prosecutor, and finally, a judge. Of course, it is also an enforcer of its own decision. The bottom line here is that the concertation of powers affects the Authority's ability to deliver fair decisions. Furthermore, it even affects the Authority's ability to develop expertise because it is unlikely to excel in each enforcement mandate.

6.4.3.3 TCRA's Independence and Fairness

It must always be remembered that the TCRA has its interests in the regulatory process. For example, an interview with a senior officer within the Authority reveals that the TCRA being an executive government body, regularly receives government directives for implementation. Further, as a sector regulator, the Authority has goals that it strives to achieve for each financial year. As a result, the TCRA enters into a regulatory arena with varied interests it wishes to achieve. For example, the Authority may act as a complainant, investigator, prosecutor, and adjudicator when address regulatory matters. When it passes a decision, monetary penalties go back to its account.

With such interests, the Authority is already an interested party. As such, it is compromised to enforce the law impartially. The more pertinent issue here is whether the Authority can be fair in the absence of its independence. For example, since it has access to firms' financial information, it has been argued that the Authority might decide when to initiate an investigation and issue an order for fines. Thus, it is apparent that such an accumulation of powers in its hands makes it even easier for the Authority to proceed with whatever intentions it might have. Telecom companies noted that it is one of the grave weaknesses.[1117]

On another note, the TCRA is purely an executive body. In terms of policy directions, the TCRA is still answerable to the executive (the Minister and the President).

[1117] TTCL, Smart, and Halotel were most vocal on this aspect.

Therefore, it is not within the judiciary hierarchy and not bound by the judicial principles of administration of justice. The telecoms fear that the TCRA may be (and some opine that it already is) inclined to favor the executive.[1118] Instances of sparing the government-owned telecom company while punishing others or acting on the executive directions were cited as examples that undermine the Authority's fairness in decision making.[1119] Thus, it follows that the totality of the powers on its hand actually complicates the enforcement process and does not necessarily help the Authority to actively, fairly, and effectively enforce the law.

6.4.4 Absence of Private Enforcement Framework

Even though there is a sufficient body of literature supporting private enforcement of competition law, no such framework exists in Tanzania.[1120] There is no clear policy justification for why the law does not enable private enforcement. However, it is clear that given regulatory circumstances already explained in this work so far and the fact that competition does not rank high within the regulator, the presence of a private enforcement framework would have proved beneficial in many ways. Stressing on the importance of private enforcement in competition enforcement, Andreas Mundt, the President of *Bundeskartellamt*, observes that "if cartel members have to expect actions for damages from customers harmed by the cartel in addition to a heavy fine, this appreciably weakens the attractiveness of these illegal and socially damaging agreements."[1121]

[1118] Apart from the government-owned TTCL, all other interviewed telecom firms indicated their perception that the TCRA is not free and that it acts on the government directions in most cases.

[1119] Respondents from Smart and Halotel were very vocal on instances that the TCRA appears to have acted under the government's influence. They averred that in most cases, such decisions affect the smaller firms the most. The respondents, two legal officers from the companies, requested anonymity.

[1120] See for example, Christopher H. Bovis and Charles M. Clarke, 'Private Enforcement of EU Competition Law', *Liverpool Law Review*, 36.1 (2015), 49–71 <https://doi.org/10.1007/s10991-015-9164-9>; Niamh Dunne, 'The Role of Private Enforcement within EU Competition Law', *Cambridge Yearbook of European Legal Studies*, 16 (2014), 143–87 <https://doi.org/10.1017/S1528887000002585>; Wolfgang Wurmnest, 'Assimakis P. Komninos, EC Private Antitrust Enforcement: Decentralised Application of EC Competition Law by National Courts (Oxford and Portland/ Oregon, Hart Publishing 2008) 314 Pp., ISBN: 978-1-84113-744-5 Doi:10.1017/S1566752909006491', *European Business Organization Law Review*, 10.4 (2009), 649–52 <https://doi.org/10.1017/S1566752909006491>; Paul D. Carrington, 'The American Tradition of Private Law Enforcement', *German Law Journal*, 5.12 (2004), 1413–29 <https://doi.org/10.1017/S2071832200013328>.

[1121] 'Interview with Andreas Mundt, President of the German Bundeskartellamt (Federal Cartel Office)', *The Antitrust Source*, 2016, p. 4

For instance, private enforcement would have encouraged enforcement culture as applicants would have personal incentives (damages) to enforce the law. Furthermore, private enforcement would have complemented the TCRA's enforcement when unable to act for various reasons, such as insufficient resources or other priorities. Private enforcement would have also provided the Authority with market information, helping it reformulate its policies to address pertinent and relevant issues. In sum, private enforcement would have increased deterrence, provide a possibility of compensating victims, complement public enforcement, and promote competition culture within the sector.[1122] Such an opportunity is lost for lack of necessary frameworks.

6.4.5 The Shortcoming of Arbitration Framework

It is presented in chapter five that the Competition Regulations have introduced arbitration of disputes on acts that lessen competition in the market. It is a standard practice that arbitration agreement/clause is an essential condition without which arbitration cannot take place.[1123] The Regulations, however, introduce what this study calls "institutional-imposed arbitration," where telecom firms may resort to arbitration without first having an arbitration clause. Much as this new development is welcome, some critical concerns touch on its practicability and viability as one way to enforce competition in the sector. Should the telecom firms resort to the arbitration framework, some questions find no answers.

For example, Regulation 17(5) of the Competition Rules designates the TCRA as the arbitrator. However, it remains unclear who within the Authority can qualify to form an arbitration panel. The arbitration panel's certainty is necessary because the panel determines many things, from the impartiality of proceedings to the expertise required. Further, there are procedural uncertainties on how arbitration takes place. It is unclear, for example, how one files an arbitration petition. Furthermore, it is also unclear how the arbitrators handle or determine the standard of proof. It is also

---

<https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Interviews/the_antitrust_source%20-%20An_interview_with_Andreas_mundt.pdf?__blob=publicationFile&v=3> [accessed 29 August 2021].

[1122] Donncadh Woods, Ailsa Sinclair, and David Ashton, 'Private Enforcement of Community Competition Law: Modernisation and The Road Ahead', *Competition Policy Newsletter*, 2 (2004), 31–37 (p. 34).

[1123] Blake, p. 1089.

unclear what kind of remedies the Authority can award in the process. Will the Authority be bound by competition law provisions, or does it have complete freedom to offer remedies it deems fit? This question has no answer in the law.

These points raise concerns over the feasibility of the arbitration framework. Scrutiny of the law gives no answers. And so is the practice. To the telecom firms, for example, arbitration remains unchartered territory for lack of a clear framework. An interview with some of them revealed that they are unaware of how it works.[1124] However, it would appear that even a letter may trigger the arbitration process. At one time, Benson Informatics Limited (Smart) refused to interconnect with Viettel Tanzania Limited (Halotel).[1125] Viettel wrote a letter to the Authority stating its case. The Authority called Smart to respond to such allegations using a standard official letter. However, before the TCRA could determine the dispute, the parties decided to settle. It would have been interesting to learn whether or not such proceedings would have led to arbitration and how that process would have worked out. Much as it did not materialize, we are left only with questions and skepticism. What is certain is that the arbitration framework is uncertain. It is not clear what substantive rules govern the arbitration. Nor is it clear whether competition principles would prevail or that parties can ignore them.

6.5 Institutional Design and Organization

It is essential to understand that designing authorities to enforce competition law is not an exact science as no unique framework may fit all.[1126] Nevertheless, such authorities' design is crucial as it links with the success in enforcement.[1127] In other words, sloppy design may affect the institutional ability to discharge its responsibilities. This section looks at some design issues that may undermine the Authority's efficacy in enforcing competition law. Specifically, the section focuses on

[1124] Firms that responded to this matter were Halotel, TTCL, Smart, and Tigo.
[1125] Information obtained from field study.
[1126] See Frederic Jenny, 'The Institutional Design of Competition Authorities: Debates and Trends', in *Competition Law Enforcement in the BRICS and in Developing Countries*, ed. by Frederic Jenny and Yannis Katsoulacos, International Law and Economics (Switzerland: Springer International Publishing, 2016), pp. 1–57 (p. 1) <https://doi.org/10.1007/978-3-319-30948-4_1>.
[1127] Ariel Ezrachi, 'Sponge', *Journal of Antitrust Enforcement*, 5 (2017), 49–75 (p. 54) <https://doi.org/10.1093/jaenfo/jnw011>.

TCRA's relationship with the Executive, Judiciary, and the FCC. Also, the section examines the Authority's internal organization.

6.5.1 TCRA and the Executive

The relationship between the TCRA and the Executive is a matter of concern. In principle, the TCRA cannot exist in complete isolation from the government. However, the primary point of concern is whether legal and practical mechanisms exist to guard against any possible exploitation of such a relationship. Put differently, the relationship between the TCRA and the Executive should only be to the extent that the Executive supports the Authority to effectively deliver its objectives. Anything beyond this role may jeopardize the Authority's ability to discharge its roles.

Unfortunately, a review of all relevant laws and regulations does not reveal any safeguards the relationship between the TCRA and the government. There are no legal provisions that prohibit the government from interfering with the Authority's operation. Further, in terms of policy coordination, the TCRA is under the Ministry responsible for communications. It receives directives from and is accountable to the Minister. Combining these two factors (lack of legal protection from interferences and being accountable to the Ministry) makes it possible for the executive to exercise some powers over the Authority. In other words, the Authority cannot act in complete independence from the executive.[1128] Some examples in the next sub-sections may help to explain this point further.

6.5.1.1 Dismissal of TCRA's Board and its Officials

Dismissal of the TCRA officials and TCRA's board may shed light on the executive powers in the sector. It is a common practice that each Director General (DG) serves for five years, renewable once. The five years term is an accepted standard practice at the Authority.[1129] The law, however, does not provide for that term with certainty. It says that the DG may serve for a term specified in the appointment letter (typically

[1128] The lack of express guarantee of independence is of course contrary to the international accepted practices such as the WTO Reference Paper on Telecommunications which charges all WTO members to adopt independent regulators. See WTO, 'Telecommunications Services: Reference Paper 24 April 1996 Negotiating Group on Basic Telecommunications' (WTO, 1996) <https://www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm> [accessed 30 July 2019].
[1129] This information was confirmed by the director of human resources during the field study.

five years term) or for another term as approved by the Board of Directors with consultation with the Minister responsible for communications.[1130]

In 2016, however, the President removed the then Director-General, who had served only nine months for failing to discharge his duties properly.[1131] The decision was followed by the dismissal of the entire TCRA's Board of Directors. The mentioned reason was underperformance, causing loss to the government.[1132] It is worth noting that even though there is no protection of tenure for the authority's officials, the law sets some limits on their removal. For example, under Section 12(1) of the TCRA Act, the removal of board members is possible on the grounds of bankruptcy, criminal conviction, conflict of interests, inability to discharge duties due to physical or mental inabilities, or failure to attend two-third of the Authority meetings.

The removal of the DG in question and the entire board of directors did not comply with the aforementioned provisions. The mentioned reason appears to have been used to camouflage the actual reasons that were never disclosed to the public. For example, one top official from the Authority (he requested anonymity) termed the dismissal of the DG as "purely political," having nothing to do with his capacities, which, as he confided, were beyond reproach.[1133]

It is worth mentioning that even though the President has no powers to appoint the DG, he or she has dismissal powers under Section 12(1) of the TCRA Act. By extending such powers to the Executive, the law allows the Executive to decide who heads the Authority and how he or she heads it. The impact of this structure is to have the Authority, whose functioning depends much on the Executive wishes.

6.5.1.2 Extension of Tenure

Another aspect of the executive powers relates to an extension of the TCRA's top official's tenure. Even though it is upon the Minister to appoint and renew the DG's

---

[1130] See the *The Tanzania Communications Regulatory Authority Act*, ACT NO 12 OF 2003.
[1131] BBC Swahili, 'Magufuli aivunja bodi ya TCRA', *BBC News Swahili*, 2016 <https://www.bbc.com/swahili/habari/2016/04/160426_magufuli_yahaya_sack> [accessed 3 December 2019].
[1132] BBC Swahili.
[1133] The DG who holds PhD in Information Engineering went on to become the Executive Secretary of the East African Communications Organizations. See EACO, 'Dr. Ally Yahaya Simba: EACO Executive Secretary', 2020 <http://www.eaco.int/pages/exsec> [accessed 4 June 2020].

tenure, research findings show that even other Executive members, for example, the President, can also assume those responsibilities. A good example is an incident in 2019, presenting a stark contrary to what happened in 2016 (See Section6.5.1.1). While in a public function, the President extended the current Director-General's tenure for five more years.[1134] The reason for the extension was that the DG was doing an outstanding job, in the President's opinion.

One must note that under Section 13 of the TCRA Act, the President has no powers to appoint the Director-General. Nonetheless, he extended the DG's tenure. Furthermore, by this extension, there was a violation of Section 13 of the TCRA Act, which sets procedures to appoint the DG, including a process that involves a nomination committee. These procedures were not followed.

The two examples in the preceding paragraphs show how much the Authority's design makes it permeable to external interferences. Even more importantly, they show how the Executive can make such essential decisions, like who becomes the Authority's chief without objective criteria. It is at the Executive's hand to hire or fire, based on a personal assessment of performance or underperformance. By having these powers, the appointed person automatically works under the pleasure of the appointing authority because he or she can be removed at any time. This structure culminates in the Authority's lack of personal independence, which translates to the Authority's lack of independence.

6.5.1.3 Dismissal of Employees not Accountable to the Executive

The field findings observed that the Executive has powers over the TCRA officials (civil servants) not appointed by the Executive. It was established that the Minister may order a suspension or removal of the Authority's employees because of dissatisfaction with their performances. For example, in 2016, the Minister for communications suspended three departmental directors for allegedly failing to discharge their regulatory responsibilities.[1135] One needs to remember that the

[1134] Aurea Simtowe, 'Magufuli Ataja Sababu Za Kumng'oa Bosi TCRA', *Mwananchi* (Dar es Salaam, 18 January 2019) <https://www.mwananchi.co.tz/habari/kitaifa/Magufuli-ataja-sababu-za-kumng-oa-bosi-TCRA/1597296-4940668-138cyh2/index.html> [accessed 3 December 2019].
[1135] Liwenga, p. 1.

Minister had neither power to appoint them nor to dismiss them. The employees had their tenure governed by the civil service laws.

The presented examples show a complicated relationship between the two. The Executive has an edge to exploit that relationship as it wishes. At this point, some clarification is necessary. This research did not look into the merit of all the decisions taken. That task is altogether different, not covered in this work. The point, which this research drives home, is that the existing relationship has made it possible for the Executive to act outside the prescribed legal parameters and established legal procedures. These advances from the Executive may likely paralyze the Authority's ability to enforce the law objectively.

The summation of the Executive's recent actions culminates into one clear message to the regulatory officials, 'do what we want, and stay longer or disobey and get removed.' At any rate, the undefined and uncontrolled relationship between the Executive and Authority undermines the Authority's ability to stand on the objective criteria in its enforcement responsibilities. Moreover, because of the absence of legal protection of the Authority's independence, the TCRA has no legal justification for refusing politically motivated advances or advances without legal justification because it has no legal basis to do so.

6.5.2 TCRA and the Judiciary

Judicial oversight of sector regulators' decisions is crucial to check and counter the regulators' powers.[1136] It is an *ex-post* tool of addressing what one author called the "democratic and accountability" deficit in regulation.[1137] Through judicial accountability, the judiciary scrutinizes regulators' decisions for their legality and

[1136] Saskia Lavrijssen and Fatma Çapkurt, 'Who Guards the Guardians? Judicial Oversight of the Authority Consumer and Market's Energy Regulations in the Netherlands', in *Judicial Review of Administrative Discretion in the Administrative State*, ed. by Jurgen de Poorter, Ernst Hirsch Ballin, and Saskia Lavrijssen (The Hague: T.M.C. Asser Press, 2019), pp. 133–71 (p. 137) <https://doi.org/10.1007/978-94-6265-307-8_8>.

[1137] Luis E. Mejía, 'Judicial Review of Regulatory Decisions: Decoding the Contents of Appeals against Agencies in Spain and the United Kingdom', *Regulation & Governance*, 2020, 1–25 (pp. 1–2) <https://doi.org/10.1111/rego.12302>; Marek Szydło, 'Judicial Review of Decisions Made by National Regulatory Authorities: Towards a More Coherent Application of EU Sector-Specific Regulation', *International Journal of Constitutional Law*, 12.4 (2014), 930–53 (p. 931) <https://doi.org/10.1093/icon/mou069>.

legitimacy. Put differently, judicial oversight guards against improper use of the regulators' discretionary powers. Thus, once in the periphery of regulation, courts are now at the very center of it.[1138] It would follow that judicial oversight is vital to ensure regulators work within their legal mandate and correct mistakes, including omissions, which would have otherwise impaired the regulators' efficacy.

A review of relevant laws and regulatory practices established that the relationship between the TCRA and the judiciary in Tanzania is limited, at least in two ways. Firstly, the judiciary is excluded from reviewing the TCRA's decisions. According to Section 36 of the TCRA Act, decisions of the TCRA are appealable only once to the Fair Competition Tribunal, whose decision is final. One must note that both the TCRA and FCT are more administrative than judicial bodies, accountable to the government and not the judiciary. Some stakeholders have raised some concerns over their independence and the likelihood of favoring the government.[1139] Widening the possibility of appeal to the Court of Appeal would provide a more unbiased review of the TCRA's decision. It would also conform to the Constitution, which places the responsibilities of making final decisions in the dispensation of justice only to the Judiciary.[1140]

Secondly, even the extent of review by the Fair Competition Tribunal is limited. For example, as per Section 36(2) of the TCRA Act, appeals are possible only on four grounds. They are the following: an error of law, procedural impropriety, lack of jurisdiction, and a decision without regard to the produced evidence. In other words, appeals are available mainly on technical grounds. One may not generally appeal upon being dissatisfied by the decision or, for example, on the extent of issued remedies.

It would naturally follow that limited opportunities for judicial oversight of the regulator's decision mean that many decisions end at the regulator's level. It is argued

---

[1138] Despoina Mantzari, 'Judicial Scrutiny of Regulatory Decisions at the UK's Specialist Competition Appeal Tribunal', in *Judicial Review of Administrative Discretion in the Administrative State*, ed. by Jurgen de Poorter, Ernst Hirsch Ballin, and Saskia Lavrijssen (The Hague: T.M.C. Asser Press, 2019), pp. 63–80 (p. 64) <https://doi.org/10.1007/978-94-6265-307-8_4>.

[1139] Concerns from some telecom firms and private practitioners observed during field study.

[1140] See Art 107 A, *The Constitution of the United Republic of Tanzania*, CAP 2 [R.E 2002].

that this is not healthy for effective regulation since the judicial interpretation of regulators' decisions provides an avenue for further sharpening and finetuning the relevant rules. More importantly, the oversight would instill a sense of accountability and hence, necessitate the regulator's self-review of its practices and decision for better and effective regulation. Even though there is almost a consensus on the role of judicial review, it is also essential to ensure courts are not used to impair the regulatory process. Thus, judicial oversight becomes meaningful if it is efficient in terms of time and quality of decisions made, and it does not act to paralyze the whole regulatory machinery.[1141]

6.5.3 TCRA and the Fair Competition Commission

Formal or informal cooperation between the Authority and other stakeholders, for instance, the FCC, would have enhanced the Authority's capacity to detect anti-competitive behaviors and enforce competition law. This relationship is essential because, as some studies have shown in other jurisdictions such as the UK, sector regulators with powers to enforce competition tend towards not being active in *ex-post* enforcement of competition.[1142] Some of the reasons for such indifference include hardship in proving infringement, resource constraints, and lack of expertise.[1143]

To address such challenges, the involvement of competition authorities becomes necessary. The UK, for example, has established a competition network comprising the national competition agency, i.e., the Competition and Market Authority, with other sector regulators.[1144]Among others, they work together on strategic dialogue, enforcement cooperation, enhancing their enforcement capabilities, sharing best practices, and advocacy.[1145]

[1141] See OECD and IDB, p. 45; OECD, *OECD Reviews of Regulatory Reform: Germany 2004 Consolidating Economic and Social Renewal: Consolidating Economic and Social Renewal* (Paris: OECD Publishing, 2004), p. 15; Scott Colin, 'Accountability in the Regulatory State', *Journal of Law and Society*, 27.1 (2000), 38–60 (pp. 44–45).
[1142] Woodward-Carlton and Collinson, p. 141.
[1143] Woodward-Carlton and Collinson, p. 142.
[1144] See UK Competition Network, 'UK Competition Network', *GOV.UK* <https://www.gov.uk/government/groups/uk-competition-network> [accessed 30 July 2019].
[1145] Woodward-Carlton and Collinson, p. 147.

In Tanzania, however, a review of relevant laws and interviews with FCC and TCRA established that the relationship between the TCRA and the FCC is limited. The law provides two circumstances in which the two might work together. Firstly, the TCRA may report any competition infringement in the sector to the FCC under Section 19(1) of the TCRA Act. The word used in the Section is 'may,' notifying discretion on the TCRA's side. Thus, it may or may not report uncompetitive acts to the FCC, depending on its evaluation and discretion. Secondly, the law under Section 65(5) of the Fair Competition Act requires the FCC to consult with the TCRA when dealing with any matter falling within the telecom sector. The law demands that the FCC should receive the TCRA's written advice before it can decide. The Section uses the word 'shall,' meaning that it is mandatory on the FCC's side. For example, an interview with the FCC's director of restrictive trade practices unveiled that the FCC cannot clear any merger in the telecom sector without first writing the TCRA for advice. This provision gives the regulator an influence even in those competition matters that the FCC handles.

Even though the law envisages some limited cooperation between FCC and TCRA, practice showed a different picture. An interview with the FCC's senior legal officers noted that it has a good relationship with other sector regulators, apart from the TCRA. For example, the FCC noted that the Tanzania Civil Aviation Authority could not deal with any competition matter without consulting the FCC.[1146] One must note that the legal provision which gives the TCAA powers to deal with competition cases is in *pari materia* with the provision giving the TCRA powers to deal with competition law.[1147] There was also evidence of FCC working with another regulator, EWURA, regarding boycotting fuel suppliers from supplying petrol and diesel between 2011-15. The FCC intervened to carry a study to find whether there were collusive practices because almost all petrol stations in Dar es Salaam refused to sell petrol and diesel over disagreement on price regulations with the regulator.[1148]

[1146] These were findings from an interview with senior legal officers from research, mergers, and advocacy and compliance divisions of the Fair Competition Commission.
[1147] See Section 46(2) of the *Civil Aviation Act*, CAP 80 R.E 2020.
[1148] These were findings from an interview with senior legal officers from research, mergers, and advocacy and compliance divisions of the Fair Competition Commission.

However, the interviews revealed that the relationship between the two, i.e., FCC and TCRA, is not at the expected level. Also, some studies in the past indicate that there have always been some turf wars between the two.[1149] The relationship is almost non-existent, save on a few circumstances where FCC had to clear a few telecom-related mergers. While commenting on this state of a poor relationship, one author noted that,

> "On the face of it, there seems to be no antagonism between the FCC and regulated sectors. This is because it is perceived that FCC regulates competition in trade in goods while the regulated sectors regulate competition in services. But behind the scenes, according to the private sector and a consumer association there is a lot of tension and protection of turfs. The concern of business is that there seems to be a gap between law and theory. Thereby in theory the law is clear in the mandate given to different agencies, however, the reality in implementation is different. In addition, the perception of industry and civil society is that while the different agencies might consult each other, in actual fact when it comes to implementation, there is lack of cooperation as agencies are engaged in turf wars as already mentioned."[1150]

In due regard, the lack of a working relationship means that TCRA misses an opportunity to benefit from a culture of competition and enforcement experience already enjoyed by the FCC. This experience would have boosted its capacity and efficacy, and where necessary, complement it.

It must be mentioned here that at the international level, the TCRA has maintained good relationships with other regulators in the East Africa Community and with the International Telecommunication Union (ITU). Nevertheless, it is not a member of the International Competition Network (ICN), which, as the German's *Bundeskartellamt* described it, is an "important association of competition authorities worldwide."[1151] On the contrary, the FCC is a member of the ICN. This means the FCC benefits by learning from and sharing experiences with more than 130 other competition authorities. However, it cannot pass such benefits, experiences, and lessons to the TCRA for lack of cooperation framework. This means the TCRA will

---

[1149] Noor, p. 44.
[1150] Noor, p. 44.
[1151] See *The Bundeskartellamt Annual Report 2017* (Bonn: The Bundeskartellamt, July 2018), p. 13.

continue to enforce competition in the sector with a regulation mindset pegged on *ex-ante* rules and, therefore, fail to address concerns, which only *ex-post* enforcement can address.

6.5.4 TCRA's Internal Organization

Since the TCRA also enforces competition law, it must have an internal organization reflecting on its enforcement priorities and capacities. For example, because it has a broad range of functions and responsibilities, it is crucial to have internal structures and systems, which show how it deals with each of its mandated responsibilities. Such an approach is necessary to avoid any possible confusion or sluggishness in enforcement. It is also necessary to create certainty for the public and the regulated.

Field visits to the TCRA observed that it has organized itself with units and directorates to deliver its regulatory roles. It has six units (legal services, internal audit, quality management, procurement, corporate communication, and risk management) and four directorates (licensing and enforcement; industry analysis; ICT applications and services; and corporate resources). A closer look, however, reveals some concerns when competition enforcement comes into the big picture.

Firstly, this study has already seen a concentration of powers in the Authority.[1152] Even though the concentration of powers with regulators is not atypical, one must consider all circumstances in assessing this system's desirability. It is crucial to consider prevailing circumstances such as lack of independence, political influence, and limited judicial accountability.[1153] With all these factors in mind, it is not difficult to see the possibilities of inefficiencies. Designing the Authority in this way complicates its ability to address competition concerns in the sector.

Secondly, it would have been ideal if departments existed to correspond to each enforcement mandate (i.e., monitoring, investigation, prosecution, and adjudication, for example). This arrangement is crucial because the concentration of powers calls for institutional certainty on specific departmental roles. For instance, such an arrangement would have created a "Chinese wall" to ensure fairness and promote

[1152] See Section 6.4.3.2. of Chapter six of this study.
[1153] See Sections 6.4 and 6.6 of Chapter six of this study.

public trust. Such practice has been the case with the FCC, where it separates investigation (investigation department) from decision-making (commissioners).[1154] The plus point here is that the commissioners, who are also 'judges' of the Commission, do not form part of the Commission's day-to-day activities. This arrangement allows the commissioners to approach competition cases with some degree of neutrality. The commissioners can dismiss cases presented by the FCC's investigation department if they are not well supported by sufficient evidence.[1155]

Thirdly, field visits to the TCRA found out that with all its responsibilities, it has no dedicated department for competition enforcement. One may argue that the entire regulatory mandate seeks, among others, to promote competition. However, a difference exists between *ex-ante* enforcement and *ex-post* enforcement. The regulators can very well do the former. The latter usually is a specialty of competition agencies. When placed within a sector regulator, it might be necessary to ensure dedicated structures for such purposes. Such structures do not exist.[1156] Instead, competition falls into the consumer and industry affairs department, which, among others, "monitor market behavior, competition, and pricing by commercial providers of communication services."[1157]

At the date of concluding the field study in January 2020, there was no single employee with exclusive duty to promote and enforce competition. According to one senior legal officer at the Authority, "competition cases are dealt with on an *ad hoc* basis, but they are not many [none could be produced] as Tanzania has no competition culture."[1158] In the absence of specific departments and personnel to enforce competition law in the sector, and with so many other objectives on the Authority's plate, one would say this design did not envisage any active enforcement of competition in the sector.

[1154] See Regulations 10(3), (5) and (18) of FCC, *Competition Rules*.
[1155] See Regulations 12-20 of FCC, *Competition Rules*.
[1156] Findings from interviews with the Authority's director of human resources.
[1157] TCRA, 'Directorate of Industry Affairs', 2019 <https://www.tcra.go.tz/index.php/about-tcra/departments/2-tcra/81-department-consumer-and-industry-affairs> [accessed 30 July 2019].
[1158] An interview with Authority's senior legal officer.

6.6 Independence of the TCRA

Even though opinions regarding the role of regulation in the economy and the design of regulators diverge, there is consensus that independence is one of the crucial factors that guarantee efficiency in regulation.[1159] For example, Damien Geradin calls the independence of sector regulators the "most central principle of good governance."[1160] The reasons for the elevation of independence are not inconceivable. Independence is particularly essential because regulators must develop and cultivate public trust in the regulatory process. The public must trust the regulatory process, mainly when both public and private entities are regulated and when regulators' decisions significantly impact the regulated and the public.[1161] This trust can only be possible if regulators are independent.

Apart from developing public trust, independence is necessary to guarantee expertise, impartiality, and stability.[1162] An independent regulator may also work best against influences and captures.[1163] Further, it may organize its priorities, make informed and objective decisions, and execute and enforce its decisions freely and fairly only if it is independent.[1164] Regulators cannot achieve all these objectives if external factors such as political motivations or the regulated industry's influence have an opportunity to thrive. Furthermore, independence is essential as it ensures consistency in policy

[1159] See for example May Chu and others, 'Perceptions of Communications Sector Regulatory Performance in the East Asia and Pacific Region', *Utilities Policy*, 58 (2019), 128–35 <https://doi.org/10.1016/j.jup.2019.05.006>; Arora; Badran; Paolo Subrato Dasgupta, 'The Independence of Regulatory Agencies in Practice: The Case of Telecommunications Regulators in the United Kingdom and France' (unpublished A thesis submitted to the Department of Government of the London School of Economics and Political Science for the degree of Doctor of Philosophy, The London School of Economics and Political Science, 2009) <http://etheses.lse.ac.uk/2750/1/U615699.pdf>; Gilardi, *Delegation in the Regulatory State*; Fabrizio Gilardi, 'The Formal Independence of Regulators: A Comparison of 17 Countries and 7 Sectors', *Swiss Political Science Review*, 11.4 (2005), 139–67 <https://doi.org/10.1002/j.1662-6370.2005.tb00374.x>.

[1160] Damien Geradin, 'The Development of European Regulatory Agencies: Lessons from the American Experience', in *Regulation through Agencies in the EU: A New Paradigm of European Governance*, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 215–45 (p. 230).

[1161] OECD, *Creating a Culture of Independence: Practical Guidance against Undue Influence*, The Governance of Regulators (OECD, 2017), p. 5 <https://doi.org/10.1787/9789264274198-en>.

[1162] Rachel Barkow, 'Insulating Agencies: Avoiding Capture Through Institutional Design', *Texas Law Review*, 89.15 (2010), 15–79 (pp. 19–24).

[1163] Barkow, pp. 19–24.

[1164] Ogus, p. 117.

implementation, uniform interpretation of the laws, and promotes public confidence in the regulator.[1165] As the European Commission once held, regulators must

> "have genuine autonomy in their internal organization and functioning if their contribution is to be effective and credible. The independence of their technical and/or scientific assessments is, in fact, their real *raison d'être*."[1166]

From what the EU holds, one should not expect efficiency in performance from a non-independent regulator. This is because, as the EU further held, independence of competition authorities is necessary for them to "effectively apply Articles 101 and 102 TFEU," i.e., effective application of competition law,

> "so that competition in the internal market is not distorted and that consumers and undertakings are not put at a disadvantage by national laws and measures which prevent national competition authorities from being effective enforcers."[1167]

In other words, competition authorities cannot be effective in the absence of their independence.[1168] Lack of independence takes away the regulator's ability to make objective technical and operational decisions. Furthermore, independence becomes imperative when a regulator assumes a judge's position to determine firms' rights and responsibilities.

6.6.1 Defining Independence

Even though definitions vary, sector regulators' independence implies that a regulator can act without bowing to influences and pressures from the government, legislature, or industry interests. With independence, the regulator can translate its preferences

---

[1165] Ellen Vos, 'Independence, Accountability and Transparency of European Regulatory Agencies', in *Regulation through Agencies in the EU: A New Paradigm of European Governance*, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 120–40 (p. 121).

[1166] The Commission of European Communities, 'COMMUNICATION FROM THE COMMISSION; the Operating Framework for the European Regulatory Agencies' (The Commission of European Communities, 2002), p. 5 <https://publications.europa.eu/en/publication-detail/-/publication/fa3ad044-8751-408c-8735-a7e52925e059/language-en> [accessed 6 December 2018].

[1167] See Art 1(1) of *Directive (EU) 2019/1 of the European Parliament and of the Council of 11 December 2018 to Empower the Competition Authorities of the Member States to Be More Effective Enforcers and to Ensure the Proper Functioning of the Internal Market* ([2019] OJ L 11/3), p. 16.

[1168] See further recitals 3,5,8,10,17,18,22 and 25 of *Directive (EU) 2019/1 of the European Parliament and of the Council of 11 December 2018 to Empower the Competition Authorities of the Member States to Be More Effective Enforcers and to Ensure the Proper Functioning of the Internal Market*.

into authoritative actions without external restraints.[1169] Through independence, other values such as "objectivity, impartiality, integrity, expertise, and professionalism" can be realized.[1170] Emphasis on independence is in the sense of integrity and impartiality.[1171] Fabrizio Gilardi argues that,

> "The defining characteristic of independent regulatory agencies is precisely their independence: the fact that they cannot be directly controlled by elected officials, or to use a catchphrase, that they are at arm's length from politicians."[1172]

Stressing further on factors, which affect regulatory independence with African context in mind, Anton Eberhard notes that,

> "[for many African countries] regulatory independence and accountability have often been compromised by political expediency, lack of regulatory commitment and institutional and human resource constraints that have sometimes resulted in inconsistent and poor regulatory decisions. Disempowered regulators are either subject to undue political influence, or they lack the resources to make quality, robust, predictable, credible, transparent, and justifiable regulatory decisions."[1173]

Regulatory independence may be guaranteed by the law and hence, *de jure* (legal or formal) independence or acquired due to daily authority experiences, henceforth, *de facto* (actual) independence.[1174] The regulator has *de jure* independence when the law places it outside the direct control of a government.[1175] It concerns the presence of legal controls on sensitive questions such as regulatory officials' appointments

---

[1169] Martino Maggetti, 'De Facto Independence after Delegation: A Fuzzy-Set Analysis', *Regulation & Governance*, 1.4 (2007), 271–94 (p. 272) <https://doi.org/10.1111/j.1748-5991.2007.00023.x>.
[1170] Ottow, p. 90.
[1171] Katja Sander Johannsen, *Regulatory Independence in Theory and Practice– a Survey of Independent Energy Regulators in Eight European Countries* (Copenhagen: AKF Forlaget, 2003), p. 20.
[1172] Gilardi, *Delegation in the Regulatory State*, p. 9.
[1173] Anton Eberhard, 'The Independence and Accountability of Africa's Infrastructure Regulators: Re-Assessing Regulatory Design and Performance' (presented at the 4th AFUR Annual Conference, Livingstone, Zambia, 2007), p. 15 <https://www.gsb.uct.ac.za/files/AfurKeynoteAddress.pdf> [accessed 30 April 2018].
[1174] See for example Maggetti, 'De Facto Independence after Delegation', p. 272; Marc Tenbücken and Volker Schneider, 'Divergent Convergence: Structures and Functions of National Regulatory Authorities in the Telecommunications Sector', in *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*, ed. by Jacint Jordana and David Levi-Faur, The CRC Series on Competition, Regulation and Development (Cheltenham, UK ; Northampton, MA, USA: E. Elgar, 2004), pp. 271–94 (pp. 255–56).
[1175] Karin Ingold and Frédéric Varone, 'Regulation of the Telecommunications in Switzerland: A Network Approach to Assess the Regulatory Agencies' Independence', in *Multi-Level Regulation in the Telecommunications Sector*, ed. by David Aubin and Koen Verhoest (London: Palgrave Macmillan UK, 2014), pp. 137–61 (p. 146) <https://doi.org/10.1057/9781137004925_6>.

(especially top ones), the regulator's legal status, its finances, and the degree of reporting and accountability.[1176] As for *de facto* independence, the regulator has powers of self-determination and autonomy in executing its daily regulatory activities.[1177]

This section considers both *de jure* and *de facto* independence when assessing the TCRA's independence. In principle, there is no guarantee that the presence of the former will guarantee the latter. Therefore, it is essential to examine the authority's laws and practice to assess its level of independence. In so doing, the study considered five dimensions: the authority's legal status, appointment and dismissal of top officials, autonomy on operational activities, financial independence, and degree of accountability. Table 6.6-1 presents a summary of what is required in each case.

Table 6.6-1 Criteria for analyzing the independence of the TCRA

Factor	Required
Legal status	Operate outside the government/executive Legal guarantee of independence Limited interference from the executive, only in instances of policy direction
Appointment and dismissal of top officials (Protection of Tenure)	Transparency in the appointment of top officials, possibly by involving the legislature for vetting Protection of tenure for top officials
Operational autonomy	Powers to act in the absence of interference, pressures, or approval from the executive, other departments, or the regulated
Financial independence	Sufficient source of funds independence of the executive control
Accountability	Accountability on clear objective criteria

Source: Developed by the researcher from various literature

[1176] Ingold and Varone, p. 146.

[1177] See for example Badran, p. 4; See Laurenz Ennser-Jedenastik, 'The Politicization of Regulatory Agencies: Between Partisan Influence and Formal Independence', *Journal of Public Administration Research and Theory*, 26.3 (2016), 507–18 (p. 509) <https://doi.org/10.1093/jopart/muv022>; Colin Scott, 'Independent Regulators', in *The Oxford Handbook of Public Accountability*, ed. by Mark Bovens, Robert E. Goodin, and Thomas Schillemans (Oxford: OUP Oxford, 2014), pp. 472–87 (p. 479); Fabrizio Gilardi and Martino Maggetti, 'The Independence of Regulatory Authorities', 2010, p. 4 <https://www.fabriziogilardi.org/resources/papers/gilardi_maggetti_handbook.pdf> [accessed 30 March 2020]; Maggetti, 'De Facto Independence after Delegation', p. 272.

6.6.2 Legal Status

The law has separated the TCRA from the central government structure. Section 4(1) and (2) of the TCRA Act establish the regulator as a corporate body with perpetual succession. It has some degree of autonomy in its operation, including powers to sue or be sued, acquire properties, or enter into contracts or other legal transactions. As a result of this separation, the TCRA is not structurally under the Ministry of communications, nor is it subjected, at least from a theoretical perspective, to daily ministerial bureaucracies and controls. Nevertheless, the law does not expressly state the TCRA to be independent.

Failure to guarantee the regulator's independence is somewhat unconventional, even in the standards of developing countries where their competition and regulation institutions are yet to mature. A review of competition and regulatory laws from other jurisdictions indicates that the independence of regulators receives deserving attention and is explained in no uncertain terms. In Uganda, for example, Section 8 of the Uganda Communications Act calls the Uganda Communications Commission to discharge its functions "independently of any person or body."[1178] The same is true for South Africa with the Independent Communications Authority of South Africa, where the law declares it to be "independent, and subject only to the Constitution and the law, and must be impartial and must perform its functions without fear, favor or prejudice."[1179] Furthermore, the law directs it to discharge its functions without political or commercial interference.[1180] Similar observations are found in Kenya, where the respective law declares Kenya's Communications Authority to be "independent and free of control by government, political or commercial interests in the exercise of its powers and in the performance of its functions."[1181]

The idea of having such a guarantee aims not only at having a formal legal declaration of independence but also to form a strong basis upon which an authority can claim its actual independence. For example, as the OECD notes regarding the

[1178] *Uganda Communications Act*.
[1179] See Section 3(3) of *Independent Communications Authority of South Africa Act*, *No. 13 of 2000*, 2000.
[1180] See Section 3(4) of the *Independent Communications Authority of South Africa Act*.
[1181] See Section 5A *Kenya Information and Communications Act*, *Act No 2 of 1998*, 1998 as amended by the Kenya Information and Communications (Amendment) Act, Act No 41A of 2013.

German Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway ("*Bundesnetzagentur*"), the Agency has not only legal declarations of independence but also frameworks to make it highly independent. In its words, the OECD observes that the Agency is "an example of a highly independent regulator for all regulated sectors."[1182] It proceeds to observe further that the Agency's

> "independence is stated explicitly in the law (§ 1, *Gesetz über die Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen*), it has no dominant source of funding, and the regulator cannot receive instructions or guidance from the government on its strategy, individual cases or appeals. The regulator's decisions can only be appealed in court in the final instance."[1183]

The lesson we get from Germany's *Bundesnetzagentur* is that legal structures are necessary for a regulator to claim its *de facto* independence. The law must explicitly articulate the protection of regulators' independence. From such structures, a regulator can now flex its muscles to claim autonomy in its operations. It is not easy to see how a regulator may start to ascertain its independence without ascertained legal structures. Such structures are missing with the TCRA.

When comparing TCRA to the FCC, it is surprising to learn that even though both institutions were established in the same year with laws passed in the same parliamentary seating, the FCC has an explicit guarantee of its independence. The law states that the "Commission shall be independent and shall perform its functions and exercise its powers independently and impartially without fear or favor."[1184] Thus, considering the history of their establishment, it is clear that the government did not intend to guarantee the independence of the TCRA, as is also the case with other regulators.[1185] Put differently, the government did not want an independent TCRA. The omission appears to be a calculated decision to give the government some form of control in the sector. The result is to affect the regulator's operational independence.

[1182] OECD, *The Governance of Regulators*, p. 49.
[1183] OECD, *The Governance of Regulators*, p. 49.
[1184] See S. 62(1) of *Fair Competition Act*.
[1185] As for other regulators, for example the TCAA, LATRA or EWURA, there are also no legal provision expressly guaranteeing their independences.

6.6.3 Appointment and Dismissal Powers

The OECD study on the independence of regulators reveals that, among others, regulators' top officials are always under substantial pressure both from governments and the industry.[1186] Such pressure notwithstanding, such officials are responsible for their decisions.[1187] The public and even respective governments will hold them accountable for regulatory decisions despite various pressures from different interested groups. Thus, regulators' top officials must be persons who can balance the interest of the government, the industry, and the public. It is only possible to do so if such officials are independent. For example, knowing how heads of regulators come into power will reflect whether they can act independently or swing into varying compelling interests.

The independence of regulators' top officials is necessary because it reflects on institutional independence as well. Principally, studies indicate more independence of regulators if the appointment of regulators' top officials stands on a transparent and objective process and is subject to checks and balances, for example, from the Parliament.[1188] In many cases, it has been found that joint appointment of heads of regulatory bodies, for example, through the parliamentary system, has improved regulatory independence.[1189] A good example is when Parliament vets the executive's appointments.[1190]

It is argued that the vetting process puts a cap on appointing authorities' powers, especially in countries with strong presidential systems like Tanzania. The process will bring some sense of accountability to the appointing authority. It will also

---

[1186] OECD, *The Governance of Regulators: Being an Independent Regulator* (Paris: OECD Publishing, 2016), p. 4.
[1187] OECD, *The Governance of Regulators: Being an Independent Regulator*, p. 4.
[1188] See for example OECD, *The Governance of Regulators: Being an Independent Regulator*, p. 29; OECD and IDB, p. 43; OECD, *The Governance of Regulators: Being an Independent Regulator*, p. 41; Adam Jasser, 'Independence and Accountability', *Journal of European Competition Law & Practice*, 6.2 (2015), 71–72 (p. 71) <https://doi.org/10.1093/jeclap/lpu117>; Eberhard, p. 1; Dominique Custos, 'The Rulemaking Power of Independent Regulatory Agencies', *The American Journal of Comparative Law*, 54 (2006), 615–39 (p. 616); The World Bank, *Private Solutions for Infrastructure in Angola* (Washington, D.C: World Bank Publications, 2005), p. 122.
[1189] See details at the OECD studies at OECD, *OECD Reviews of Regulatory Reform: Brazil 2008 Strengthening Governance for Growth: Strengthening Governance for Growth* (Paris: OECD Publishing, 2008), p. 214.
[1190] See details at the OECD studies at OECD, *OECD Reviews of Regulatory Reform*, p. 214.

inculcate objectivity in the appointment process because the appointing authority knows that its decision will be scrutinized by another (supposedly) independent body. Unfortunately, as presented in the next section, Tanzania's appointment process is purely an executive affair with minimal checks and balances. In the absence of distributed powers of appointment, studies indicate that appointments done solely by the executive are usually politicized "by appointing 'loyal people' in top management."[1191]

6.6.3.1 Appointment of the TCRA's Head

Appointment of the head of the TCRA is solely the executive's affair. Section. 8(1) to (3) of the TCRA Act establishes the appointment procedure. Firstly, there is a Nomination Committee of three persons, whose function is to present three names to the Minister to appoint one as the DG. The Minister will then appoint the DG on the terms and conditions prescribed in the appointment letter. *Prima facie*, it would appear that there are some mechanisms to ensure, at least in partial ways, that appointment is objective and transparent.

Nevertheless, a closer observation of practical experiences revealed this to be more of a theoretical mask than a practical reality. For example, the nomination committee comprises top executives from the government. The chairperson is the Permanent Secretary of the Ministry of Communications. Other members are the Permanent Secretary of the Ministry of Information and a member appointed by the Minister of Communications. In a practical sense, these officials work under the Minister's direct instructions and may not purport to act independently.

Another point of concern noted during the field study is the lack of transparency in the appointment process. Neither the law nor practice reveal how exactly the nomination committee gets the names. In other words, there is no evidence to the public that the nomination process takes place at all. Worse, even those with no powers to appoint top officials can now make the appointment. Additionally, there is a complete absence of checks and balances against the appointment decision. No

[1191] For details on the politics of political appointments see David E Lewis, *The Politics of Presidential Appointments: Political Control and Bureaucratic Performance.* (Princeton: Princeton University Press, 2010).

other Authority, including the Parliament, has powers to check the appointment process. Once done, the appointment stands uncontested. As shown here in this section, the lack of clear and transparent structures undermines an authority's independence. Elsewhere, such structures have been considered as a key pillar to an effective and independent Authority. For example, Article 4 (4) of the EU Directive 2019/1 holds that:

> "Member States shall ensure that the members of the decision-making body of national administrative competition authorities are selected, recruited or appointed according to clear and transparent procedures laid down in advance in national law."[1192]

The said appointment structure shows that the Executive has powers over the appointment process. There are no controls over the process as the legislature, for example, is not in the picture. Furthermore, there is evidence of complete disregard for the appointment process, as the law determines.[1193] The effects of this structure are to make the appointed head serve under the pleasure of the executive. In other words, the appointment process has the effect of taking away the Authority's top officials' independence. In a jurisdiction where appointment and dismissal depend on the appointing authority's mood, survival wisdom demands the appointed to cultivate a culture of submission and compromise rather than objectivity and self-determination. In practice, this means the appointed heads' survival in power depends not on performance efficiency but on pleasing the executive. The outcome is clear: lack of independence.

6.6.3.2 Security of Tenure and the Dismissal

Theoretically, there is a significant impact on independence when the head of the regulatory body serves at the pleasure of the appointing authority. Some authors argue that the protection of the heads of regulators' tenure is the "legal touchstone of

[1192] *Directive (EU) 2019/1 of the European Parliament and of the Council of 11 December 2018 to Empower the Competition Authorities of the Member States to Be More Effective Enforcers and to Ensure the Proper Functioning of the Internal Market*, p. 18.
[1193] See Section 6.5.1 of Chapter 6 of this study.

agency independence."[1194] Thus, it is always desirable to put some mechanisms against their arbitrary removal.[1195] As for TCRA, however, the law does not secure the tenure of the TCRA's head. Under Section 13(3) of the TCRA Act, the TCRA's head tenure depends on the terms of his or her appointment letter. This position is dangerous as the director's employment hangs on the Minister's determination.

Such a lack of tenure protection provides the government with an upper hand while dealing with the directors. It could be through an immediate removal from the office or extension of tenure (whether legally or not) as the government desires. It is difficult for lack of transparency to know why one head would serve for a long time (almost ten years) and another for just a short time (less than a year). The most intriguing factor, though, is not always the duration of their terms. It is the controversy surrounding their appointment or removal that matters.[1196] As for other divisional directors who are decision-makers as they head respective departments, the law does not stipulate their removal. As it has already happened, the Minister can order their removal at any time.[1197]

As a result of these practices, the individual independence of top officials who are the actual decision-makers comes into question. The primary concerns are whether or not these top officials, especially when acting in their judicial capacities, can fairly administer justice in fear of their possible imminent removal.[1198] Elsewhere, studies already indicate that lack of protection of tenure is likely to undermine officials' independence.[1199] In the context of this study, it will be naïve to expect such officers to

---

[1194] See Breyer and others, p. 144; For Further insights see Kirti Datla and Richard L. Revesz, 'Deconstructing Independent Agencies (and Executive Agencies)', *Cornell Law Review*, 98.4 (2013), 768–844 (pp. 789–92); Jacint Jordana and Carles Ramió, 'Delegation, Presidential Regimes, and Latin American Regulatory Agencies', *Journal of Politics in Latin America*, 2.1 (2010), 3–30 (p. 6).
[1195] Jordana and Ramió, p. 6; Datla and Revesz, pp. 789–92.
[1196] See Section 6.5.1. of Chapter 6 of this work.
[1197] Liwenga.
[1198] For constitutional provisions on the fairness of judicial and administrative bodies, see *The Constitution of the United Republic of Tanzania*, CAP 2 [R.E 2002].
[1199] Breyer and others, p. 144; Rachel Ellett, *Pathways to Judicial Power in Transitional States: Perspectives from African Courts* (Oxon and New York: Routledge, 2013), p. 104; Lameck Mfalila, 'Twenty Five Years of the Court of Appeal and the Independence of the Judiciary', in *Law and Justice in Tanzania: Quarter a Century of the Court of Appeal*, ed. by Chris Maina Peter and Helen Kijo-Bisimba (Dar es Salaam: Mkuki na Nyota, 2007), pp. 81–98 (pp. 86–87); Benjamin William Mkapa, 'The Legal System Should Be More Accessible and Affordable to More Tanzanians', in *Law and Justice in Tanzania: Quarter a Century of the Court of Appeal*, ed. by Chris Maina Peter and Helen Kijo-Bisimba (Dar es Salaam: Mkuki na Nyota, 2007), pp. 33–42 (pp. 35–36).

enforce the law effectively. The best approach would be to ensure appointments on objective criteria and security of tenure for top officials.

6.6.3.3 Ministerial Powers

This work has already demonstrated that the Minister has significant powers in the regulatory process.[1200] These powers also go to the appointment of top officials. The previous section has shown that the tenure of the DG depends on the Minister. There are also reports from telecom firms and Authority's sources indicating that most political interventions are channeled informally through the Minister.[1201] This culture has long historical roots.[1202] For example, we have seen that even though the Tanzania Communication Commission (TCC) was established in 1994, no commissioners were appointed by the Minister until 1998.[1203] The Minister acted as a regulator. Even after the appointment in 1998, the Minister soon dismissed them over a dispute on which company should be licensed as a mobile operator.[1204] Thus, the Minister continued to act as a regulator.[1205] Such is the culture that continues to exist to date, affecting the very independence that the Authority requires for effective enforcement.

6.6.4 Operational Autonomy

Operational autonomy means that regulators should be free to make their daily regulatory decisions. However, this is not always the case. As one author noted (especially about African regulators), "many regulators lack full independence and continue to be subject to undue political influence and interference."[1206] As a result, he further contends, "regulators are actually exacerbating the problems they were meant to ameliorate."[1207] In other words, the author argues that lack of independence directly affects the efficiency of regulators. Thus, it is essential to ensure that regulators are autonomous in carrying their mandate for effective regulation.

[1200] Section 4.5.2 of Chapter 4 of this work.
[1201] An interview with a TCRA senior official who requested anonymity.
[1202] Mustafa, Laidlaw, and Brand, *Telecommunications Policies for Sub-Saharan Africa*, p. 65.
[1203] Noll and Shirley, p. 54.
[1204] Noll and Shirley, p. 54.
[1205] Noll and Shirley, p. 54.
[1206] Eberhard, p. 1.
[1207] Eberhard, p. 1.

In principle, the research findings established that the TCRA has a certain degree of operational autonomy. Under normal circumstances, it ought not to consult any other body to approve its decisions except only where the law requires. It should not worry, for example, whether the Minister, the President, or any other politician will end up overruling its decisions. Had this been entirely the case, one would conclude that the TCRA has *de facto* independence even though there is no express guarantee of its independence in the law. In practice, however, there are some observations, which point to the opposite. Let us see a few examples to cement this argument further.

1. Some telecommunication firms that responded to this study admitted that there is an external influence on the functioning of TCRA.[1208] Some of the examples they cited include limitations on what type of identification card is acceptable for sim-card registration, an abrupt introduction of mandatory biometric sim-card registrations after the initial registration with approved IDs was complete, the imposition of massive fines without any known method of calculation, and imposition of complicated mobile number portability. Telecom firms opined that these few regulatory examples, which had no known objective justifications, resulted from other forces outside the Authority.
2. It was observed that there are instances where politicians have overruled the Authority's decisions.[1209] For example, the TCRA had introduced new biometric registration of sim cards to last up to December 2019. However, both the President and the Minister of Home Affairs overruled that decision, saying the registration shall continue indefinitely.[1210] Soon after that, the President again came with a new directive. This time he extended the registration for twenty days until the 20th of January, 2020.[1211] In all these instances, the TCRA had to

[1208] The respondent firms were Smart, Tigo, Vodacom, Halotel, and TTCL.
[1209] Similar instances have also been recorded in the energy and water sector regulated by EWURA and the insurance sector regulated by SSRA.
[1210] 'Rais Magufuli Abatilisha Muda Wa Usajili Wa Laini Za Simu Kama Ilivyotangazwa Awali Na TCRA', *JamiiForums* <https://www.jamiiforums.com/threads/rais-magufuli-abatilisha-muda-wa-usajili-wa-laini-za-simu-kama-ilivyotangazwa-awali-na-tcra.1577401/> [accessed 30 July 2019]; Anastazia Anyimike, 'Wasion Na Vitambulisho Kutokuzimiwa Simu', *HabariLeo Newspaper* (Dar es Salaam, 14 November 2019) <https://habarileo.co.tz/habari/2019-11-145dcce3183c86b.aspx> [accessed 27 November 2019].
[1211] Herieth Makwetta, 'Rais Magufuli Aongeza Siku 20 Usajili Laini Za Simu, Atoa Agizo Kwa TCRA - Mwananchi', *Mwananchi Newspaper* (Dar es Salaam, 27 December 2019)

comply with new directives from the politicians. If anything, these examples, though specifically apply to *ex-ante* regulation, show how powerful the executive can be, even to the extent of overruling the Authority's decisions.

3. The research findings also revealed instances in which politicians reverse the Authority's decisions. For example, Section 26 of the EPOCA demands all telecom firms to offer 25 percent of their shares to the public. On the 1st of June, 2016, the President ordered the TCRA to cancel licenses of all non-compliant firms.[1212] However, in 2019, the same government allowed Airtel to defer listing on the Dar es Salaam Stock Exchange (DSE).[1213] The decision came after Airtel had transferred 35 percent of shares it previously owned in TTCL to the government. Because of the transfer, TTCL is now under 100 percent government ownership.[1214] Furthermore, Airtel freely raised the Government's shares (in Airtel) from 40 percent to 49 percent.[1215] Now that the Government of Tanzania had gained substantial interest in Airtel, it could exclude the company from the requirements of Section 26.
4. There are concerns from some telecom firms over some preferential treatments received by others. For instance, some pointed fingers at TTCL, arguing that it receives preferential treatments from the Authority and other government offices.[1216] Furthermore, some observations show that while other firms get spectrum through competition, the same process does not apply to the TTCL. Then, there are some concerns regarding the entry of Halotel in the Tanzanian

---

<https://www.mwananchi.co.tz/habari/kitaifa/Rais-Magufuli-aongeza-siku-20-usajili-laini-za-simu-/1597296-5399334-kmallm/index.html> [accessed 30 March 2020].

[1212] The Reporter, 'JPM Aagiza TCRA Kuzifuta Kampuni Za Simu Zitakazoshindwa Kujiunga Na Soko La Hisa', *Mwananchi Newspaper* (Dar es Salaam, 1 June 2017).

[1213] Allan Olingo, 'Tanzania Allows Airtel to Defer Listing on DSE', *The East African Newspaper* (East Africa, 30 June 2019).

[1214] Bob Koigi, 'Government Takes Total Control of Tanzania Telco after Airtel Exit', *Africa Business Communities*, 27 June 2016 <https://africabusinesscommunities.com/news/government-takes-total-control-of-tanzania-telco-after-airtel-exit.html> [accessed 30 July 2019].

[1215] Financial Times Reporter, 'Halotel, TTCL Play Catch up as "big 3" Extend Dominance', *Financial Times* (Dar es Salaam, 30 January 2019) <https://www.ippmedia.com/en/business/halotel-ttcl-play-catch-big-3-extend-dominance> [accessed 30 July 2019].

[1216] For example, they gave recent examples in which the Authority fined all telecom firms except the TTCL. See TCRA, 'Public Notice: Regulatory Action Taken Against Operators' (TCRA, 2015) <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/263-public-notice-regulatory-action-taken-against-operators> [accessed 30 July 2019].

market as some firms argued that it received special attention from the authorities because some people in the government had to do the 'pushing.'[1217]

These are few examples indicating the presence of external powers that affect the Authority's autonomy. Some sources confided that the Authority often receives directions on how to act on certain aspects that the sources named 'sensitive.'[1218] The sources disclosed that most of the influence comes through informal channels. The Authority did not concede to having received orders, which impair its ability to act independently.[1219] It maintained that it acts only according to the law.[1220] However, the interviews conducted in the cause of this study and the result of research indicate that even though the Authority exercises some degree of autonomy, it still receives directions and faces pressures both from the government and other establishments.[1221] Its operational independence is far from reality.

6.6.5 Financial Independence

Regulators' financial independence means the regulator has sufficient resources to execute its duties. With financial independence, regulators minimize chances of capture and influence from the industry and the government.[1222] The result is to grant regulators more independence in transacting their businesses. A review of relevant laws points to the Authority's limited financial independence. According to Section 49(1) of the TCRA Act, the Authority's funds include regulatory fees, levies, monies earned due to Authority's activities, grants, donations, or bequests from other sources and interested stakeholders. An interview with the Authority's finance department pointed out that there is no budget or specialized fund to cater to the Authority's financial needs hence overreliance on regulatory fees, as Table 6.6-2 shows.

Table 6.6-2 The Authority's source of revenues from 2014/15 to 2016/17

Source of Revenue	2014/15	2015/16	2016/17

[1217] Information disclosed from other telecom firms and legal practitioners.
[1218] Mentioned in this category are decisions regarding disclosure of information from MNO's, decisions on certain regulatory measures, and other decisions on the grounds of national interests and security. The sources wished to remain anonymous.
[1219] An interview with TCRA's senior legal officer.
[1220] An interview with TCRA's senior legal officer.
[1221] An interview with TCRA's senior legal officer.
[1222] OECD, *The Governance of Regulators: Being an Independent Regulator*, p. 22.

Radio frequency	48%	47%	43%
Numbering resources	21%	22%	24%
Licensing Fees (Network services license, Network facility license, Application services license, and Content services licenses)	22%	25%	26%
Other sources	9%	6%	7%

Source: TCRA Annual Reports from 2014/15-2016/17

Although providing a moderately stable source of income at the moment, the authority's financial system has some points of concern. Generally, there are debates on whether budget financing[1223] or regulatory fees is an ideal source of regulators' funds.[1224] This part does not dwell on that point. However, it argues that regardless of the financing model, it is necessary to ensure that the Authority's financing system does not undermine regulators' independence or efficiency.

As for Tanzania, its preferred approach to funding the regulator has a few concerns worth shedding light on. For example, while regulatory fees may provide a stable income source, overreliance on them would mean that the authority is under constant pressure to raise funds. Furthermore, as we have already seen, the government has intensified its demands for all agencies to contribute 15 percent of their annual turnover.[1225] The pressures may end up affecting enforcement priorities as some firms have already complained that most of the TCRA's interventions, for example, seek to raise more revenue.

It is also essential to note the extent to which ministerial supervisory powers and government policies limit the Authority's freedom of budgeting and spending. For example, according to Section 54 of the TCRA Act, the Minister has powers to

[1223] OECD recommends budget funding of regulators see OECD, *The Governance of Regulators*, p. 100; OECD, *Regulatory Policy in Peru Assembling the Framework for Regulatory Quality: Assembling the Framework for Regulatory Quality*, OECD Reviews of Regulatory Reform (Paris: OECD Publishing, 2016), p. 185; The OECD believes budgeting financing to be fitting because of the involvement of the parliament in the appropriation process. That way, the OECD holds, there is a promotion of transparency and accountability. See OECD, *The Governance of Regulators: Being an Independent Regulator*, p. 80.
[1224] The World Bank, on the other hand, prefers regulatory fees to fund regulators. See Brown, Stern, and Tenenbaum, pp. 222–23.
[1225] See Section 6.3.3.1.2. of Chapter 6 of this work.

approve or disapprove the Authority's budget proposals. These powers are generally not a problem as some degree of accountability is necessary. Nevertheless, given the already immense powers the Minister enjoys over the sector, the budgeting powers mean even a wider say, which may swing the authority's independence. In other words, the Authority may not object against ministerial directives because the same Minister has the final say over its finances. As the adage goes, one should not "take a saw to the branch he is sitting on." Besides, an interview with the Authority's director of human resources noted an increased involvement of the central government in the Authority's budgetary activities, taking away the freedom it had once enjoyed in the past.

6.6.6 Regulatory Accountability and Independence

Regulatory accountability means a requirement for regulators to provide information and justify their actions or conduct to another body.[1226] Some regulatory decisions may need sanctions, while accounting bodies may overrule others.[1227] A typical accountability routine may involve reporting duties, parliamentary oversight, judicial reviews, ethical committees, information exchange, and stakeholders' engagements.[1228] Another level of accountability may include the formation of regulators' networks at the national or international level or a network of public authorities to peer review their activities.[1229] This approach, which includes regulators' self-control, presents a self-accountability approach where no one controls the authority, yet it is under control.[1230]

[1226] Christel Koop, 'Assessing the Mandatory Accountability of Regulatory Agencies', in *Accountability and Regulatory Governance: Audiences, Controls and Responsibilities in the Politics of Regulation*, ed. by Andrea Bianculli, Xavier Fernàndez-i-Marøn, and Jacint Jordana (Houndmills, Basingstoke, Hampshire ; New York, NY: Palgrave Macmillan, 2015), pp. 78–104 (p. 82); Martino Maggetti, Karin Ingold, and Frédéric Varone, 'Having Your Cake and Eating It, Too: Can Regulatory Agencies Be Both Independent and Accountable?', *Swiss Political Science Review*, 19.1 (2013), 1–25 (p. 4) <https://doi.org/10.1111/spsr.12015>.
[1227] Article 63(2) & 93, *The Constitution of the United Republic of Tanzania*, CAP 2 [R.E 2002].
[1228] Christopher Carrigan and Lindsey Poole, 'Structuring Regulators: The Effects of Organizational Design on Regulatory Behavior and Performance' (unpublished Research Paper Prepared for the Penn Program on Regulation's Best-in-Class Regulator Initiative presented at the Penn Program on Regulation, George Washington University, 2015), p. 10 <https://www.law.upenn.edu/live/files/4707-carriganpoole-ppr-researchpaper062015pdf> [accessed 15 May 2015]; Brown, Stern, and Tenenbaum, p. 60.
[1229] Vos, pp. 128–29.
[1230] Martino Maggetti, 'Legitimacy and Accountability of Independent Regulatory Agencies: A Critical Review', *Living Reviews in Democracy*, 2010, 1–9 (p. 5).

Tanzania's law has set the TCRA's accountability at three levels; political level, performance and financial level, and judicial level. Political accountability relates to the Parliamentary constitutional duty to oversee government operations through parliamentary standing committees. Dawn Oliver says the objective of political accountability is "to determine whether the regulatory bodies are working as intended and whether they are operating effectively and efficiently."[1231] In the Authority's case, the responsible committee has powers to inquire about anything done in the Authority's operations.[1232] The committee has powers to question the authority's performance and direct rectification of specific errors or omissions.[1233]

Performance and financial accountability relate to how the Authority handles its finances and discharges its statutory mandate. The Controller and Auditor General (CAG) is the one responsible for this task. [1234] As for the judicial review, the Authority is accountable only to the Fair Competition Tribunal, whose decision is final as per Section 36(1) of the TCRA Act.

It is crucial to understand that judicial review in this context does not refer to the powers of courts to review the decisions of administrative bodies. It refers to direct appellate powers to review the merit of lower courts' decisions through appeal, review, or revision. In administrative law, judicial review is a constitutional right that cannot be simply ousted by legislation. So, the finality that the law provides here is in respect of an appeal, so that there is no right to appeal further. It takes away the right to question the decision on merits.

As for the judicial review in the context of administrative law, it is argued that such review has not been ousted. This means the High Court can still question the lawfulness of the TCRA's actions and decisions. Such review will not answer whether the decision reached is right or wrong but only question the lawfulness of decisions

---

[1231] Dawn Oliver, 'Regulation, Democracy, and Democratic Oversight in the UK', in *The Regulatory State: Constitutional Implications*, ed. by Dawn Oliver, Tony Prosser, and Richard Rawlings (Oxford; New York: Oxford University Press, 2010), pp. 243–66 (pp. 252–53).
[1232] See Articles 63(2), 89 (1) & (2), and 93 of *The Constitution of the United Republic of Tanzania*, CAP 2 [R.E 2002].
[1233] For further detail see Sections 6, 137, 138, and Sections 5-7 of the 8th Schedule to the Parliament of Tanzania, *Standing Orders, Parliament of Tanzania*, 2020, G.N NO 626 OF 2020.
[1234] See Article 143 of *The Constitution of the United Republic of Tanzania*, CAP 2 [R.E 2002]; and S. 5(1)(c) of *The Public Audit Act*, CAP 418 R.E 2020; and S. 5(1) (c) of *The Public Audit Act*, CAP 418 R.E 2020.

and actions taken. This position has been reemphasized by Tanzania courts as well as in common law tradition.[1235]

Accountability of the TCRA is necessary to ensure it discharges its functions legally and adequately. With a proper framework, accountability ought to complement the Authority's independence. The research findings did not come across any indication that the current framework has affected the TCRA's operations. However, some areas demand closer scrutiny for necessary legal and policy reforms to avoid future complications. They include the following:

1. Since the Tanzanian Parliament is highly partisan, it is imperative to have legal means to ensure accountability on objective criteria. Such measures would ensure that no political agenda overshadows existing legal requirements. One of the ways to ensure this point is to avoid any opportunity for conflict of interest. For example, unlike many other jurisdictions, Tanzania had, for a long time, been appointing Members of Parliament into different Boards of Directors of government agencies (including the TCRA).[1236] The National Audit Office found that such practice counters good governance principles and opens doors for conflict of interests and political influences.[1237]
2. As already noted before in this chapter, judicial accountability should extend to the Court of Appeal of Tanzania. This would allow the judiciary, which is disconnected from the regulatory process, to review regulatory decisions, the FCT's inclusive.

[1235] See for example AG v. Lohay Akonaay and Joseph Lohay, *TLR*, 1995, p. 80; James Gwagilo v. AG, *TLR*, 1994, p. 73; R. v. Medical Appeals Tribunal, Exp. Gilmore, *QB*, 1957, I, 574.

[1236] As for TCRA, however, latest records show that MPs ceased to sit on its board in 2011. See TCRA, *Annual Report for the Year Ended 30th June 2011*, p. 3.

[1237] See for example National Audit Office, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2013/2014* (Dar es Salaam: National Audit Office, 2015), p. 79; National Audit Office, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2012/2013* (Dar es Salaam: National Audit Office, 2014), p. 98; National Audit Office, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2011/2012* (Dar es Salaam: National Audit Office, 2013), p. 91; National Audit Office, *Kuwasilisha Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2010/2011* (Dar es Salaam: National Audit Office, 2012), p. 46; National Audit Office, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2009/2010* (Dar es Salaam: National Audit Office, 2011), p. 81.

3. Legal frameworks ought to be adopted to emphasize self-regulation of the regulator. This can be in two ways. Firstly, the Authority should strengthen its internal audit committee. The committee should have powers to assess the propriety of all decisions, be it on technical, financial, regulatory, or adjudicatory aspects. Secondly, a formal network of regulators can also provide an excellent opportunity for independent peer review, for example, under the auspices of an international organization.

Thus, in the end, the research findings have established that the TCRA's independence is limited. It has some degree of autonomy as it operates outside the ministry of communications. However, there is no legal protection of its independence, a decision appearing to be deliberate when considering the legislative history. The executive maintains a strong influence on some areas of regulation. It has the power to appoint and dismiss top officials. Besides, it has powers to determine the extent of some regulatory decisions that include reversing them when it wishes to. As for finances, regulatory fees provide a relatively stable source of income. However, the executive's pressures on raising revenues and government limits on financial spending affect its independence. These policies, to some degree, subject the authority to the executive. Such aspects affect its enforcement priorities, which may also affect competition law enforcement.

6.7 Institutional Capacities

The OECD defines regulatory capacity as the "ability to perform appropriate tasks effectively, efficiently and systematically in a timely manner."[1238] It is one thing to have laws that set the regulatory objectives in place, but it is entirely another thing to implement such objectives. Implementation of objectives requires regulators to have sufficient resources, such as enough financial resources.[1239] Furthermore, they must have sufficient staff required for effective enforcement. The sufficiency of resources

[1238] OECD, 'Regulatory Management Capacities of Member States of the EU That Joined the Union on 1 May 2004', 2007, p. 98 <https://doi.org/10.1787/5kml60q573g6-en>.
[1239] See for example, *Better Regulation in Europe: Italy 2012*, ed. by OECD, Better Regulation in Europe, rev. ed., June 2012 (Paris: OECD, 2013), pp. 45–55; OECD, *Better Regulation in Europe; United Kingdom* (Paris: OECD Publishing, 2010), pp. 55–72; OECD, *Better Regulation in Europe; the Netherlands* (Paris: OECD Publishing, 2010), pp. 45–59; OECD, *Better Regulation in Europe; Portugal* (Paris: OECD Publishing, 2010), pp. 41–51.

also extends to the quality of available resources. Providing on the importance of sufficient resources, the EU notes that responsible enforcement authorities must have "a sufficient number of qualified staff and sufficient financial, technical and technological resources that are necessary for the effective performance of their duties."[1240] For example, the existing staff must be equipped to address the changing nature of the sector. Stressing on the need for expertise, Louis Jaffe notes that,

> "With the rise of regulation, the need for expertness become dominant; for the art of regulating an industry requires knowledge of details of its operations, ability to shift requirement as the conditions of the industry may dictate, the pursuit of energetic measures upon the appearance of emergency, and the power through enforcement to realize conclusions as to policy."[1241]

Lack of resources means regulators are disposed to underperformance and capture by a well-equipped and robust industry.[1242] This section addresses two resources the Authority requires mostly, financial resources and human resources.

6.7.1 Financial Resources

Interviews with the Authority's finance department and review of its financial reports observed that the Authority's finances depend on regulatory fees. In theory, regulatory fees present a relatively stable source of income. In practice, however, it was found that the stability of income depends on the timely payment of fees. This is not always the case, as delays in fee remittances are not uncommon. The Authority has repeatedly made calls for timely payment of regulatory fees with threats on cancellation of licenses.[1243] For instance, Augere Tanzania Limited lost its licenses for,

---

[1240] See Article 5(1) of the *Directive (EU) 2019/1 of the European Parliament and of the Council of 11 December 2018 to Empower the Competition Authorities of the Member States to Be More Effective Enforcers and to Ensure the Proper Functioning of the Internal Market*, p. 19.

[1241] See for example, Louis L. Jaffe, 'James Landis and the Administrative Process', *Harvard Law Review*, 78.2 (1964), 319–28 quoted in; Giandomenico Majone, 'Introduction', in *Deregulation or Re-Regulation? Regulatory Reform in Europe and the United States*, ed. by Giandomenico Majone (London : New York: Pinter; St. Martin's Press, 1990), pp. 1–6 (p. 2).

[1242] Mark Thatcher, 'Independent Regulatory Agencies and Elected Politicians in Europe', in *Regulation through Agencies in the EU: A New Paradigm of European Governance*, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 47–66 (pp. 56–57).

[1243] TCRA, 'Public Notice: Outstanding Payment of Regulatory Fees', 2016 <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/287-public-notice-oustanding-payment-of-regulatory-fees> [accessed 5 August 2019].

among others, failure to pay regulatory fees.[1244] Another firm that lost its license is Six telecom company for, among others, failure to pay regulatory fees.[1245]

Nevertheless, the Authority's finance department revealed that the Authority has been able to meet its basic monetary demands. For example, information obtained from the Authority's human resources department revealed that the Authority's employees are paid better than other government officials. Quite unconventional, while many institutions in Tanzania weep for insufficient funds, the TCRA has raised surplus and hence, stock it in the special fund as required by Section 50 of the TCRA Act. Therefore, based on these findings, it may be argued that the Authority has sufficient financial resources to meet its essential operational requirements, even if revenue collection is not as smooth as anticipated.

6.7.2 Human Resource

Human resource is at the core of any enforcement framework. A practical enforcement framework must hold sufficient personnel with requisite knowledge and skills. It is even more critical in the highly dynamic telecom sector. While the Authority has sufficient funds, there are some weaknesses in the availability of sufficient staff and recruitment methods, as the next part elucidates.

6.7.2.1 Limitations and Complications in the Recruitment Process

Section 14(4) of the TCRA Acts allows the Authority to employ officers, staff, and employees of such titles and numbers as it shall be necessary to discharge its functions effectively. However, the Authority's human resources intimated that this provision is not implemented in practice because of restrictions set by the Public Service Act.[1246] The recruitment process for public service, including the TCRA, is now under the President's Office through the Public Service Recruitment Secretariat (the Secretariat).[1247] Under this relatively new structure, the Secretariat carries on the employment process on behalf of the TCRA (like it is with other government offices,

[1244] TCRA, 'Cancellation of Licence Granted to Augere Tanzania Limited (Issued under Section 22 of the Electronic and Postal Communications Act, Cap. 306)'.
[1245] TCRA, 'Cancellation of Licenses Granted to Six Telecoms Company Limited'.
[1246] Parliament of Tanzania, *Public Service Act*, CAP 298 R.E 2019.
[1247] See details at 'Public Service Recruitment Secretariat – PSRS' <https://www.ajira.go.tz/> [accessed 5 August 2019].

departments, agencies, and authorities), and only after the treasury has permitted it to employ.

A review of recruitment procedures under the Secretariat noticed some adverse concerns. Firstly, studies already indicate many cases of delay in obtaining permission to employ.[1248] The result of this process is to delay the availability of staff when needed. Secondly, as Table 6.7-1 shows, the process becomes complicated and, often, unnecessarily long. Thirdly, there are questions about the capacity of the Secretariat to recruit the required personnel. Some studies have already indicated a lack of competent recruiting personnel, delays in filling vacancies, failure to address emergency needs, and inability to recruit competent staff based on the employers' needs.[1249] Lastly, there are concerns about the recruited staff's quality because the Authority does not control the process. Its involvement in the recruitment process is limited.

Table 6.7-1 The Recruitment Process at the TCRA

Stage	**Required Action**
Step 1	The Authority determines its staff needs and applies to the Treasury for permission to employ
Step 2	The Treasury reviews and approves (or rejects the application)
Step 3	If the application is approved, the Authority communicates with the Public Service Recruitment Secretariat under the President's Office.

[1248] See for example Christina Arnold, 'Do Centralized Recruitment in Tanzania Recruit Competent Staff in Local Government Authorities? A Case of Kinondoni Municipal Council' (unpublished A Dissertation Submitted in Partial Fulfilment of the Requirements for Award of the Masters of Public Administration (MPA), Mzumbe University, 2017), p. 50; Magreth Kiwara, 'Institutional Strength of the Public Service Recruitment Secretariat in Managing the Recruitment and Selection Functions in Tanzania' (unpublished A Thesis Submitted to the School of Public Administration and Management in Partial Fulfilment of the Requirements for the Degree of Master of Science in Human Resource Management, Mzumbe University, 2015), p. 54.

[1249] For detailed discussions see Alex Augustino Nkondola, 'Succession Planning Challenges in The Public Sector in Tanzania', *Global Journal of Human Resource Management*, 7.1, 59–68; Nuru Kalufya, Francis Michael, and Henry Chalu, 'Human Resource Management Reforms and Public Sector Governance in Tanzania: An Application of Decentralization Perspective', *ORSEA Journal*, 8.1, 51–67; Lameck Yusuph Mashala and Wang Guohua, 'Challenges for Implementing New Public Management Reforms in Local Government in Tanzania: Evidence from Six Selected Local Government Authorities', *Public Policy and Administration Research*, 7.6, 32–45; Nathanael Sirili and others, 'Addressing the Human Resource for Health Crisis in Tanzania: The Lost in Transition Syndrome', *Tanzania Journal of Health Research*, 16.2 (2014) <https://doi.org/10.4314/thrb.v16i2.6>.

Step 4	The Secretariat starts the recruitment processes, including the advertisement of employment opportunities, shortlisting, interviews, selection, and notification to successful applicants.
Step 5	The successful applicants have to report to their workstations. If there is an unfilled slot, or if one of the successful applicants does not show up, the process to fill his slot starts afresh.

Source: Developed by the researcher based on the recruitment process under the relevant laws

The impact of this structure is to limit the Authority's independence in the recruitment process. For example, the human resources department observed that not always does the TCRA timely gets the required staff or of the quality it desires.[1250] Furthermore, in the worst-case scenario, which is not unlikely, the government may exploit the recruitment process to frustrate the TCRA, especially when they do not see eye-to-eye. In other words, this structure directly interferes with the Authority's autonomy by cementing the executive's hands on the Authority's affairs.[1251]

6.7.2.2 Sufficiency of Human Resources

One far-reaching observation regarding the Authority's human resources is an inadequate number of lawyers and economists employed by the Authority. The research findings observed that the number of staff on post raises a presumption that the Authority was designed to be more of an institute of engineers for technical regulation than lawyers and economists for economic regulation. As of April 2018, the Authority had a total of 167 employees.[1252] Of those staff, almost half are supporting staff and, therefore, not directly engaged in enforcement.[1253] As Table 6.7-2

[1250] An interview with the director of human resources.
[1251] See Lukio Lawrence Mrutu and Adam Othaman Ngowi, 'How Centralized Recruitment Influence Employee's Turnover in Tanzania Local Government Authorities: Experience from Moshi Municipal Council', *International Journal of Academic Research in Business and Social Sciences*, 6.9 (2016), Pages 334-343 (pp. 335–36) <https://doi.org/10.6007/IJARBSS/v6-i9/2314>; Felister Bruno Njovu, 'Experience of Decentralized and Centralized Recruitment Systems in Local Government Authorities of Tanzania: A Case Study of Two Local Government Authorities in Morogoro Region' (unpublished A Research Paper Presented in Partial Fulfilment of the Requirements for Obtaining the Degree of Master of Arts in Development Studies, The Netherlands, 2013), pp. 32–35.
[1252] Data obtained from the Human Resources Office on April 2018.
[1253] Supporting staff means those not dealing with direct enforcement activities. Here we include office attendants, drivers, secretaries, accountants, procurement and supply officers, security officers and statisticians.

indicates, of the remaining half, 72 are engineers, 6 are lawyers, and 3 are economists.

Table 6.7-2 TCRA Human Resource Distribution as of April 2018

Category	Number of Staff	Percentage
Engineers	72	43%
Lawyers	6	2%
Economists	3	4%
Postal and supporting staff[1254]	86	51%

Source: Information from TCRA Human Resource Department as of April 2018

From these numbers, one can see that lawyers and economists make a tiny fraction of the Authority's staff. However, they are expected to enforce competition law. In other words, at least from a theoretical perspective, there are nine employees available for competition law enforcement. However, this suggestion is a very liberal construction since all those nine are not exclusively dealing with competition.[1255] Lawyers and economists are already involved in many other administrative and regulatory functions that take away their focus on enforcement matters. For example, lawyers are responsible for, among other things,

> "the provision of legal services to the Authority, drafting/review of contracts for the provision of goods/services to the Authority, follow up of court proceedings, representing the Authority in Courts of law, coordinating Board meetings, drafting/reviewing communications legislation (rules, regulations, policies, etc.), processing and issuance of licenses, and enforcement of license conditions."[1256]

With all these responsibilities at their tables, it is unrealistic to imagine them having sufficient time to enforce competition law. The TCRA staff structure may be contrasted with the Fair Competition Commission (FCC). Out of 52 employees of FCC, 26 deal exclusively with competition enforcement.[1257]

[1254] In this supporting group are Messengers, Drivers, Secretaries, Accountants, Librarians etc.
[1255] The Authority's Human Resource Office informed the researcher that plans were underway to establish a full-fledged enforcement department.
[1256] TCRA, *TCRA Annual Report 2017*, p. 35.
[1257] Information obtained from the Fair Competition Commission as of April 2018.

During the field study, the human resources department acknowledged the shortage of lawyers and economists.[1258] However, it could not project how many lawyers and economists were needed to fill the gap. It just hinted that plans were underway to increase the number of lawyers and economists. Such lack of concrete plans relates to what we have already observed that competition enforcement ranks low in the Authority's regulatory agenda. It is not difficult to prove the assertion because while the human resources department was so particular that it needed at least 12 more engineers and other specialists in communication science and technology at the end of 2019, it was uncertain regarding the lawyers and economists' gap.

Based on those facts, the overall findings point to one conclusion that the Authority has no sufficient staff to enforce competition. However, when concluding this study, the human resources department admitted that plans were underway to establish a full-fledged enforcement department. This department will also deal with competition law enforcement.[1259] At the latter stage, during a follow-up study, it was observed that the Authority had restructured its organization. It now has the Directorate of Licensing and Enforcement and the Legal Services Unit under the Director-General's Office.[1260] Both units, unfortunately, have nothing to do with competition enforcement. The enforcement unit's design is such that it deals with *ex-ante* regulatory matters, most of which deal with licensing. It remains doubtful if the Directorate will ever deal with competition matters. The description of its scope of function does not suggest so.

As for the legal Unit, the TCRA has designed it to provide support services. As already noted, since almost every aspect of the Authority's mandate is likely to have legal implications and therefore involves the Unit, it is right to conclude that it is involved in almost everything in the Authority. It does not exclusively deal with competition enforcement. Nor is it mentioned in its core functions. Thus, the conclusion that the existing staff does not support effective enforcement of competition law remains valid, even after these changes. As the TCRA expands into regions with six zonal

[1258] An interview with the TCRA's director of human resources.
[1259] Information obtained from field study.
[1260] TCRA, 'About Us', *TCRA Website*, 2020 <https://www.tcra.go.tz/about-tcra/departments> [accessed 17 November 2020].

offices already established, staff shortage is acute.[1261] Due to such expansion, more staff are indispensable to ensure the sector's successful regulation and effective law enforcement.

It is enigmatic that with enough funds to raise surplus, there is still a staff shortage. It is argued that this is a question of the Authority's priorities. The Authority did not raise any employment restrictions from the central government as a validation of this shortage. Thus, it means the shortage comes from the Authority's own doing. In other words, the Authority's engineering was that it should deal more with technical regulation. Therefore, it is observed that full enforcement of competition takes a peripheral role, as evidenced by a lack of enforcement rules and requisite human resources.

6.7.2.3 Quality of Human Resources

Having sufficient human resources is the first step toward effective enforcement. The second and perhaps more important aspect is the quality of available staff. Therefore, it is critical to ascertain whether available staff has the requisite skills in addressing various enforcement questions in the sector. At the onset, it must be noted that the Authority is one of the few government agencies that maintain quality human resources. Unlike many other regulators in Africa, the Authority has a full-fledged department of human resources.[1262] Before the Secretariat took over, it recruited staff on a competitive basis, with all technical staff required to have at least a bachelor's degree (as of 2018).[1263]

The majority of the top management staff have at least master's degrees in their fields of specialization. For example, the board comprises people not only with an excellent academic background but also outstanding achievements in their career lives. For example, of the current five board members (as of August 2021), there are two Ph.D.

[1261] These are Zanzibar Zone Office, Southern Highlands Zone Office, Northern Zonal Office, Eastern Zone Office, Central Zone Office and Lake Zone Office.
[1262] van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 74.
[1263] Information obtained from the Human Resources Department.

and three master's degree holders.[1264] Furthermore, each member brings into the Authority over twenty years of career experience. See Table 6.7-3.

Table 6.7-3 Academic Qualifications for TCRA Board Members as of December 2019.

Name	Highest Academic Qualifications
Dr. Jones Killimbe	Ph.D. in Telecommunications, University of Communications and Transport, Dresden, Germany
Dr. Mzee Mndewa	Ph.D. in Optoelectronic information engineering from Huazhong University of Science and Technology, Wuhan - China
Ms Vupe Ligate	Master of Arts degree in Gender and Development (MA), from University of Sussex, UK
Amb. Sylvester Mabumba	Master of Science degree in Community Economic Development (M.Sc. CED) from the Southern New Hampshire University, USA
Ms. Valerie Msoka	Master of Arts degree in International Journalism from City University, UK

Source: TCRA's Website as of August 2021

The preceding observations indicate that the TCRA has developed a mechanism to attract competent staff. If anything, the qualifications of its board members, for example, provide a clear testimony. Therefore, it would appear that if all factors remained constant, the Authority would have qualified staff to enforce competition law. However, as already noted, the number of staff available for competition enforcement is almost negligible. Furthermore, the fact that the staff is also involved in other administrative activities highly minimizes their availability for competition enforcement.

It is also noteworthy that regular training and continuing education are necessary to bring the staff to speed with enforcement issues. This is one of the areas the TCRA has exceptionally performed. For example, in 2006, it set aside 630,000 USD for workshops and training and 620,000 USD for conferences and meetings.[1265] In 2011, the Authority spent about 1.4 million USD on training over 85 employees on short courses and four employees on long courses.[1266] With the said programs, the Authority ensured that at least each staff attended one training yearly.[1267]

[1264] TCRA, 'TCRA Board Members', 2021 <https://www.tcra.go.tz/administration/board-members> [accessed 16 August 2021].
[1265] van Gorp and Maitland, 'Regulatory Innovations in Tanzania', p. 74.
[1266] TCRA, 'Annual Report for the Year Ended 30th June 2011' (n 651) 49 & 70.
[1267] Information from the human resources department.

However, since 2015, the Authority has reduced its investment in human resource training due to changes in the financial and public service management policies. Nevertheless, it has continued to offer short courses to its staff and very few long-term training at the Master's or doctoral degree (Ph.D.) level.[1268] Of interest, however, is that those training programs do not focus on competition and its enforcement. For example, between 2015 and 2017, 173 staff attended short-term and long-term training programs.[1269] Remarkably, from all such training programs, no single one was on competition law. They mostly focused on the technical side of the regulation (ICT, cybersecurity, Internet Protocol TV technology, radio frequency spectrum, quality of service) or improving capacity for the supporting staff (procurement law, labor law, and record management).[1270]

6.8 Conclusion

Is the TCRA best suited at the moment to enforce competition law in the telecommunication sector? This question was at the center of this chapter and the primary question of this study. In an attempt to answer it, the chapter reviewed the Authority in five aspects: the legal mandate, the procedural framework, institutional organization, institutional independence and accountability, and human and financial resources. In the end, the research findings established that there are legal, procedural, and practical challenges that make it difficult for the TCRA to enforce competition law effectively. For example, while the law has tried to define competition rules in the sector, albeit in a rudimentary form, it does not set rules to govern the enforcement process. Nor are the questions regarding remedies provided for without uncertainties.

Furthermore, one would also notice the close relationship with the executive and vast powers bestowed to the Minister responsible for communications. These powers open doors to the executive command of the regulatory process and undermine its

[1268] See details at TCRA, *Annual Report for the Year Ended 30th June 2015*; FCC, *Annual Report and Audited Accounts for The Year Ended On 30th June 2016*.
[1269] See details at TCRA, *Annual Report for the Year Ended 30th June 2015*; FCC, *Annual Report and Audited Accounts for The Year Ended On 30th June 2016*.
[1270] See details at TCRA, *Annual Report for the Year Ended 30th June 2015*; FCC, *Annual Report and Audited Accounts for The Year Ended On 30th June 2016*.

independence. Lack of an express guarantee of the Authority's independence creates an amenable ground for manipulation, especially from those occupying higher political offices.

Apart from its independence, there are serious questions such as limited personnel for competition enforcement and limited powers of recruitment. If all these findings are taken in the broader context of this study, one will conclude that even though the Authority does best regarding the sector's *ex-ante* regulation, it is not well equipped for *ex-post* enforcement of competition. It is a promising sector regulator but certainly not tailored to enforce competition. Table 6.8-1 shows some areas where the Authority has displayed some strengths and weaknesses in the competition enforcement framework. Note that P stands for Present, while A stands for Absent. √* stand for where the evaluation criteria are present but limited.

Table 6.8-1 Summary of the Evaluation of the TCRA as an Enforcer of Competition Law in the Tanzania Telecommunications Sector

Evaluation Criteria	***Category***	***P***	***A***	***Remarks***
The Legal Mandate	Substantive rules of competition law	√		The EPOCA and its Regulations somewhat define what practices are prohibited in the sector.
	Clarity of objectives	√*		The laws set the Authority's objectives, but they are too many such that competition enforcement is peripheral.
	Clarity of remedies		X	There is no framework for fining policy. Further, there is an over criminalization of anti-competitive practices and an inexhaustive arbitration framework.
Enforcement Framework	Clarity of enforcement rules and procedure		X	Rules for enforcing competition laws are not in place.
	The mechanism for detection of violation		X	No such mechanisms are in place.
	Mechanisms for reporting and initiating complaints		X	No such mechanisms are in place.
	Rules to ensure procedural fairness		X	No such rules are stated in the law. There is a concentration of powers in the Authority where it acts as complainant, investigator, prosecutor, adjudicator, and enforcer.
	Private enforcement		X	No room for private enforcement.
	Arbitration	√*		The room for arbitration exists, although its framework remains vague.
Institutional Organization	Legal status; separation from the executive	√		The Authority operates outside the daily control of the executive.

	Presence of rules to guide against undue influence from the executive		X	No such rules exist. The Minister responsible for communications has many powers in the sector. Further, practices have already shown several political interferences.
	Exclusive department for competition enforcement		X	No such department exists at the time of concluding this study.
	Cooperation with FCC		X	No such cooperation exists.
	Judicial review		X	The Judiciary has no powers over the TCRA's decisions except only through administrative, judicial reviews.
Institutional Independence and Accountability	Presence of legal protection of independence		X	No such rules exist. As a result, there are no safeguards against interferences, especially from the executive.
	Financial Independence	√		The Authority has sufficient funds from regulatory fees.
	Budgetary independence	√*		It is limited subject to the approval from the Minister.
	Independence on recruitment	√*		It is limited, subject to permission from the Treasury. Further, the actual employment process is not in the Authority's hands but the President's Office.
	Accountability	√*		Both political and constitutional exists. Judicial accountability is, however, limited to the FCT. The Judiciary has no jurisdiction in the sector.
Resources	Sufficient human resources		X	Not sufficient. There is a minimal number of lawyers and economists compared to engineers, for example.
	Sufficient financial resources	√		Has sufficient resources.
	Quality personnel	√*		The available staff members are very qualified. However, policy changes that limit training and further education is a threat.

Source: Developed from findings from this study

Chapter 7: Summary of Findings, Conclusions and Recommendations

> *"The general telecommunication policy objective is to ensure that telecommunication services are provided in a liberalized and competitive manner."*[1271]

7.1 Summary of Findings

At the center of this research is the design of the TCRA, the Tanzania telecommunications regulator, as the sole enforcer of competition law in the sector. The law has explicitly excluded the Fair Competition Commission from enforcing competition in the sector, except for mergers and acquisitions. Thus, being both the regulator and competition enforcement authority, one is justified to expect that the TCRA's design would provide for *ex-ante* pro-competition regulation and proactive and effective *ex-post* regulation and competition law enforcement. Such design would entail, for instance, detailed rules on competition, an exhaustive enforcement framework, guaranteed independence, a dedicated department for competition matters (since the TCRA deals with many things), and sufficient resources, among others.

However, the preliminary review of the whole enforcement architecture raised some questions on the efficacy of the desired enforcement approach. There was no single case on the TCRA's *ex-post* enforcement of competition law. Further, a perusal of relevant laws did not reveal how the TCRA ought to address anti-competitive concerns in the sector. Thus, the primary question arose on whether the current legal, policy, institutional, and regulatory frameworks enable effective enforcement of competition in the sector. This question proposed to look into the TCRA's legal

[1271] The United Republic of Tanzania, Ministry of Communications and Transport, p. 2.

mandate, institutional design, and institutional capacities and resources. Thus, to exhaustively address this question, it is further subdivided into three.

1. Whether the current policy, legal, institutional, and regulatory frameworks enable the TCRA to enforce competition rules in the sector effectively,
2. Whether the Authority possesses requisite resources and capacities to enforce competition law, and
3. What should be the best way to enforce competition law in the telecommunications sector.

The main objective was to critically analyze and evaluate the legal, policy, institutional, and practical framework for enforcing competition in the sector. Specifically, it examined whether the TCRA is well-placed legally and institutionally to enforce competition. In so doing, the work studied legal, policy, and regulatory frameworks governing telecommunications regulation and competition. It then critically assessed the efficacy of TCRA's institutional design, practice, and procedures in promoting and enforcing competition law. Furthermore, it assessed the sufficiency of TCRA's resources and enforcement. As a result, the study has the following significant findings:

1. To a certain degree, the research findings indicate that Tanzania's laws and policies generally support competition in the sector. The relevant sections of telecommunications laws and Regulations charge the TCRA to monitor, promote, and enforce competition. Furthermore, there are policy statements that charge the government and its institutions to do the same. Although undeveloped for lack of enforcement, such a framework set the basis for promoting competition in the sector.
2. The study of relevant laws, regulations and regulatory practice observed unnecessary overregulation. A telecom firm in Tanzania is subject to too many regulatory requirements. A few examples are multiple licensing requirements, many regulatory fees and royalties, interferences with telecom firms' internal organizations, heightened taxes, and related fees. As such, complying with all of them without fail becomes almost impossible. Furthermore, regulation has also turned out to pose entry barriers, for example, by maintaining rules that

limit availability or disposition of spectrum, complicated licensing regime, or failure to address exclusionary practices such as locking-in arrangements. Thus, overregulation has ended up defeating the very purposes of regulation. Whereas regulation is aimed at promoting competition, overregulation has achieved precisely the opposite by erecting entry and expansion barriers. It is as if the framework was meant (either intentionally or inadvertently) to protect those already stable in the market.

3. In broad policy analysis, the research findings noted another worrying trend observed in the past few years. During the liberalization era, the government had decided to withdraw from doing business. However, there are elements of rescinding its decisions, especially the way it treats the TTCL. The government has reacquired and elevated TTCL to a public corporation. It has given the corporation some mandate, which may compromise effective competition. With these new developments, it is doubtful whether effective competition will exist for all players. It is not easy to imagine how the TTCL, which is now elevated above other telecom firms and has some powers over them, can compete fairly. It might very well be the beginning of uneven competition policies that favor government-owned firms.

4. The research findings established that there is no *ex-post* enforcement of competition law. The TCRA has remained mostly a regulator dealing with the sector's technical aspects. It may be argued that the Authority has not succeeded in exercising its powers as a competition enforcer by actively monitoring the market players' conduct and addressing the subsequent violation, if any. There is no single case in which the TCRA dealt exclusively with a competition matter. As the rest of the findings show, this observation emanates from the Authority's design. Putting it simply, even though it has the mandate to enforce competition, this study concludes that it was not designed to do so.

5. Despite the existence of rules that define anti-competitive practices, lack of enforcement frameworks was found to be the most significant shortcoming of the entire regulatory framework. There are no rules to explicate how

enforcement takes place. This void raises uncertainties in the regulatory process. We must note, though, that details for other *ex-ante* regulatory matters abound. Such stark contrast sends one clear message; the TCRA may be an excellent regulator but not an enforcer of competition law. On a different note, the research findings established the absence of private enforcement of competition. No rules or regulation allows such type of enforcement. As a result, only public enforcement through the TCRA is available. Such framework, however, is inefficient for lack of necessary enabling frameworks. Thus, one should not expect any effective enforcement unless there is an extensive overhaul of some crucial legal aspects in the sector that will establish necessary frameworks for public and private enforcement of competition law.

6. Regarding institutional design, the findings revealed some concerning shortcomings that may paralyze the whole enforcement agenda. For example, the Authority's independence is limited. That being the case, regular interferences, especially from the political powers, are not unusual. Then, there is a question of internal organization. The breadth of the Authority's mandate calls for dedicated arrangements to ensure the effective discharge of its mandates. However, the findings noted the absence of any department dedicated to competition enforcement. Competition does not receive the proper weight it deserves, even though it should be at the core of regulation.

7. The research findings established that TCRA has sufficient financial resources, even though the available sources are unstable. The Authority has never failed to execute its function for lack of funds. Instead, it has always generated a surplus from its collections. Surprisingly, however, the number of staff for competition enforcement, namely, lawyers and economists, is minimal. Only six lawyers and three economists existed at the time of concluding this study, making only 6 percent of all staff. This percentage, when compared to engineers (and related fields) who make 43 percent of the Authority's staff, is disappointing. We know at this point that an in-depth economic and legal analysis of market practices is necessary to establish anti-competitive practices.

Without a sufficient number of lawyers and economists who monitor markets, it is unlikely that any active enforcement will take place.

8. Another observation regards the lack of a working relationship with the FCC. It was observed that by excluding the FCC in the sector, the Authority misses necessary experience on *ex-post* enforcement. Furthermore, it loses an opportunity to complement its enforcement, primarily when it cannot address *ex-post* enforcement adequately. Apart from the FCC's exclusion, there is no collaborative relationship with other sector regulators. Such a relationship would have promoted the institutional sharing of enforcement experiences, assistance in capacity building, sharing of information and new techniques, and establishing joint enforcement approaches.
9. Another design point of equal importance is the unnecessary concentration of powers in the Authority. Such concentration gives it huge powers in regulation and enforcement. By being able to do everything, the authority may also end up doing nothing in some areas. It will not be a surprise to see some regulatory agenda overriding others. This is what has happened in enforcing competition. Competition enforcement became a victim of other regulatory goals.

7.2 General Conclusions

Based on the presented findings, this study concludes as follows:

1. Firstly, while the policy, legal, and policy framework generally support and promote competition in the sector, there is no adequate framework to guarantee effective enforcement. Most of the TCRA's work centers on *ex-ante* regulation. Admittedly, this study can prove the TCRA to have done a fair job on that aspect. *Ex-ante* regulation, however, cannot address post-entry anti-competitive practices, which generally require *ex-post* enforcement. In this area, the TCRA has failed. It is concluded this has happened so because the TCRA was not designed as an *ex-post* enforcement authority.
2. Secondly, the TCRA's institutional design makes it highly unlikely to enforce competition effectively. The study found out that the TCRA is designed to be more of a sector regulator than a competition authority. It has no systems and

structures that support *ex-post* competition enforcement. Additionally, there are no structures to provide for private enforcement of competition law. This left the entire enforcement agenda to the TCRA, which has design shortcomings that make effective enforcement impossible. Thus, it follows that competition enforcement powers are imposed on a structure that is destined to fail.

3. Thirdly, even though the TCRA has sufficient financial resources, it has not employed them efficiently for competition enforcement. Whereas sometimes the TCRA has had a budget surplus, it is surprising to see a minimal number of lawyers and economists working with it. Thus, without dedicated lawyers and economists to monitor and evaluate players' conduct, the TCRA is in no position to address competition matters. Lack of competition cases, as this study already pointed out, proves this conclusion.

Thus, patched against research questions, these conclusions provide the following respective answers:

1. Research question one, which inquired into whether the current policy, legal, institutional, and regulatory frameworks enable the TCRA to enforce competition rules in the sector effectively, is answered partly in the affirmative and partly negative. That while the policy, legal, and policy framework generally supports and promotes competition in the sector, there is no adequate framework to guarantee effective enforcement. The rudimentary nature of the competition rules and lack of regulations and procedures for enforcement makes it highly improbable for the TCRA to enforce competition.
2. Regarding the part on institutional design, the answer is negative. The institutional design of the TCRA makes it highly unlikely to enforce competition effectively. The TCRA is designed to be more of a sector regulator than a competition enforcement authority. Attempt to make it a competition enforcement agency without changing underlying structures is but fruitless.
3. Research question two, which inquired into whether the Authority possesses requisite resources and capacities to enforce competition law, is answered partly in the affirmative and partly negative. That while the TCRA has sufficient financial resources, it has not employed them efficiently for competition

enforcement. With only six lawyers and three economists, it is impossible to see how the Authority will adequately address competition matters.

4. Research question three, which sought to answer what should be the best way to enforce competition law in the telecommunications sector, is answered in the next section on the recommendations.

In the upshot, the overall research findings conclude that while the Authority may be an efficient regulator, it has fallen short on competition enforcement. The legal mandate, procedural enforcement, and internal organization do not allow it to enforce competition effectively. As a result, we have a framework that empowers the Authority to enforce the law but lacks actual enforcement because of the existing legal and institutional weaknesses. As it stands now, in the absence of significant legal and institutional overhaul, the TCRA cannot effectively enforce competition in the sector.

7.3 Recommendations

The objective of telecommunication policy in the sector is to have telecom services provided in a liberalized and competitive environment. Achieving this objective is only possible if there are corresponding legal frameworks and enforcement structures. The research findings found that such structures are generally not present. These concerns need immediate attention from the policymakers. Therefore, this section presents recommendations on crucial reforms that policymakers must make for a highly competitive telecom sector. With these recommendations in considerations, it is possible to achieve the overall objectives of the telecommunication policy.

7.3.1 Policy Reforms

Regarding policy matters, it is recommended that:

1. The government should reaffirm its support for the market economy in the sector. It should continue to establish a friendly environment to support competition, including treating all firms equally.

2. The government should avoid any policies likely to create elements of monopolies. Any policies, which favor the national telecom, or any other firm on

top of others, should be avoided. Moreover, to ensure fair play, the government should avoid doing business in the sector. Instead, it should continue to support private firms.

3. There is a need to redefine the role of the TCRA in competition enforcement. The relevant laws and regulations must define the Authority's *ex-post* powers of competition enforcement, including establishing appropriate structures. The idea here is to ensure the Authority does not consider itself only as an *ex-ante* regulator.
4. The government should consider extending the FCC's jurisdiction to the sector to complement the Authority's weaknesses and failures in *ex-post* enforcement.

7.3.2 Legal Reforms

On legal aspects, it is recommended that:

1. The government should review competition rules to ensure they comply with the accepted standards of competition enforcement and are reasonably practical. Among other aspects, the review should avoid unnecessary duplication of rules or adoption of rules that are confusing or inconsistent.
2. There is a need to modernize regulation and competition rules to address rapid technological developments in the sector. For example, with the convergence of communication services, a regulation that is based on the old PSTN concept might not be ideal. The new framework ought to consider current aspects such as the role of intellectual properties, data, and digital services, among others.
3. The law should guarantee TCRA's *de jure* and create frameworks for its *de facto* independence. Specifically, it should ensure the Authority's top officials' appointment is on transparent and objective criteria and that their tenure is protected. The law should categorically prohibit political interference in regulation, mostly when the regulator sits in a judicial capacity.
4. If the TCRA continues to enforce competition, it is necessary to enact detailed enforcement rules. Such rules should articulate how enforcement takes place from complaint initiation to the enforcement of decisions. Further, there is a need to review the sanctions framework to ensure it instills a fear of violating

the rules. Further, rules must be established to ensure fairness in addressing competition violations.

5. There is a need to introduce rules that provide for private enforcement of competition. The presence of these rules could prove helpful in cultivating an enforcement culture since, as we have seen in chapter five, incentives such as damages may encourage more enforcement actions. Increased enforcement actions are helpful as they will test competition rules leading to the growth and maturity of the competition regime in the sector. Besides, private enforcement could complement the weaknesses of public enforcement, filling the gaps already explained by the findings of this research.
6. Since *ex-post* competition enforcement can address most of the issues currently under regulation, there should be a reduction of regulatory rules in the sector by maintaining only rules that promote efficiency and support the market-based transaction. Such rules ought to be necessary (for example, as justified by monopolistic features of markets or technical necessities), proportionate (only to address specific aspects of market failure), and pro-competition (i.e., they foster and not foreclose competition). Specifically, the study recommends regulation in the following areas, as Table 7.3-1 shows.

Table 7.3-1 Proposed aspects of the telecom sector that may continue to be under regulation.

Regulatory Aspect	**The extent of Recommended Regulation**
Access Regulation	Regulation to provide possibilities of entry, for example, by ensuring interconnection and access to essential facilities.
Technical Regulation	Regulation to set standards for communication equipment to ensure technical interoperability and public safety Regulation to ensure availability of spectrum both for bigger and younger firms
Consumer Protection	Regulation to set systems for addressing consumer concerns
Universal Services Obligations	Regulation to set frameworks to address the availability of communications services to all

Source: Developed from findings from this study

7. Since there is limited judicial accountability, it is recommended that the right to appeal from the FCT's decisions be extended to the Court of Appeal of Tanzania, the country's highest judicial organ. In so doing, the opportunity for perfecting competition policy in the sector would increase. Furthermore, being the highest court of the land, the Court of Appeal of Tanzania is the court of record, meaning that its decision binds all lower courts and other bodies involved in justice administration. By having powers to entertain competition and other regulatory matters originating from the TCRA's decision, the Court has the prospect to set a precedent that may contribute to the country's development of competition policy.

7.3.3 Institutional Design

The research findings noted that the institutional setup of the TCRA affects its ability to address competition matters effectively. Thus, it is recommended that;

1. There is a need to carry out institutional reforms to enhance the TCRA's mandate to enforce competition law. Specifically, the Authority should have a dedicated department for competition enforcement. Such a department must be organized to provide rooms for effective market monitoring and structures for active enforcement.
2. There is a need to have coordinated cooperation between the TCRA and other regulators. The cooperation should be an official forum to address joint and cross-cutting issues, share information officially, and develop shared approaches. It should further provide room for joint programs, including research projects, advocacy, enforcement, and market monitoring and evaluation.
3. There is a need to have coordinated cooperation between the TCRA and the FCC. Such cooperation will provide room for experience sharing. Further, since the FCC has a long competition enforcement culture, it will complement the TCRA's deficits on *ex-post* enforcement.

7.3.4 Resources

Since sufficiency of resources forms the backbone of any enforcement system, this sub-section recommends the following:

1. It is necessary to have stable sources of funds that do not rely on executive controls unless only to the extent public accounting principles permit. A mix of regulatory and budgetary appropriation by specific fixed amounts or percentages may prove to be useful. More importantly, the sources of funds should be carefully crafted to ensure they do not become an avenue to compromise the Authority's independence.
2. The Authority must enhance the quantity and quality of its staff to match the sector's changing nature. Specifically, the Authority must have the freedom to hire qualified staff and develop them regularly. Since the Authority is responsible for enforcing competition law, it must employ enough lawyers and economists.

Table 7.3-2 A summary of significant findings (conclusions) and recommendations

Regulatory Aspect	**Major Findings/Conclusion**	**Recommendations**
Policy setting	The government has enacted pro-competition policies that promote a market-based economy. However, recent trends show elements of a 'command-like approach' in the economy.	The government should reaffirm its support for the market economy. It should refrain from directly doing business where it becomes one of the competitors. The government should avoid policies that create monopolies in the sector. It must separate political activities (which demands political correctness) from administrative decisions (which should be based on a scientific analysis of market operations).
Legal and Regulatory Aspects	There is a presence of regulatory rules which, among others, have facilitated the introduction of competition. However, the sector is highly regulated as nothing escapes regulatory hands.	The government should reduce the extent of regulation in the sector to maintain only those rules necessary for efficient market functioning. The government should review the adopted rules of competition to avoid any

	There are also rules for *ex-post* competition enforcement. However, their design is flawed and confusing, and they have not been tested in courts of law. Additionally, the law has excluded the FCC in the sector.	possible confusion and ensure they are on par with standard rules. The government should grant the FCC jurisdiction to enforce competition in the sector, unless the TCRA is better-equipped for a meaningful *ex-post* enforcement of competition law.
Enforcement Framework	There is an enforcement gap, as no *ex-post* enforcement has been recorded so far. Also, there are no rules of procedures to govern the enforcement process. There is no room for private enforcement, which would have supplemented the weak public enforcement. Further, the framework for sanctions and remedies is also wanting.	The government should review its laws to establish exhaustive rules to govern the enforcement process. The government should amend the laws to provide room for private enforcement. The government should review the sanctions and remedy framework to ensure it has a deterrent effect. Expressly, the government should adopt a policy to guide fining and other sanctions to ensure fairness and transparency of procedures, processes, and decisions.
Institutional Framework	The TCRA has been established as a principal body to regulate the sector and to enforce cooperation. However, the Authority has no department to enforce competition, nor does it have cooperation with other enforcement bodies.	The government should amend the law to reorganize the TCRA so that there is a distinct department dealing with competition enforcement. The government should amend the law to grant the FCC jurisdiction in the sector. In order to improve efficiency, coordination between the TCRA and other competition enforcement agencies is necessary.
Independence and Accountability	Even though the TCRA operates outside the government's structure, it has limited independence. Further, the judicial accountability of the Authority is limited to only one level of appeal	The government should expressly guaranteed the Authority's independence, both in law and in practice. The government should amend the law to provide appellate rights to the Court of Appeal of Tanzania
Resources	The Authority has sufficient funds even though its sources are not	The government should establish stable sources.

	stable. There is insufficient staff competent to address competition matters	The Authority should hire competent staff (lawyers and economists) to monitor, investigate, prosecute competition concerns in the sector.

Source: Developed from the findings of this study

Appendix: Table of Respondents

Below is a list of various respondents who were contacted at different stages of this research. Since most have requested anonymity, the list includes their positions/designation instead of their actual names. There were three research visits, January to April in 2018, January to April in 2019, and January to February 2020.

S/N	Name of the Institution	Department/Section (If relevant)	Contacted person (persons)
1.	Ministry of Communications, Science, and Technology	Communications department	Communications officer
2.	Tanzania Communications Regulatory Authority (TCRA)	Human Resources	Director of human resources
		Legal Services	Director of legal services
		Licensing and Enforcement	Senior legal officer
		Finance	Director of finance
3	Fair Competition Commission (FCC)	Restrictive Trade Practices	Director of restrictive trade practices
		Enforcement	Senior legal officers (3)
4	Fair Competition Tribunal	Registry	Registrar
		Tribunal	Members of the Tribunal (2)
5	Tanzania Communications Company Limited (Now Tanzania Communication Corporation)	Legal and Regulation	Legal officer
6	Smart Tanzania Limited	Legal and Regulation	Legal and regulatory officer Telecommunication engineer
7.	MIC Tanzania Limited (Tigo)		Legal and regulatory officer

	(Now merged with Zantel		
8.	Vodacom Tanzania Limited		Legal officer
9.	Viattel Tanzania Limited (Halotel)	Legal and Regulation	Legal officers (2) Telecommunication engineer
10	Higher learning institutions (University of Dar es Salaam and University of Dodoma)		Lecturers conversant in telecommunications and competition law (5)
11	Law Offices		Practicing advocates specializing in telecommunication or competition matters (5)

List of Policies

The President's Office, Planning Commission, *The National Investment Promotion Policy* (Dar es Salaam: Government Printers, 1996).

The President's Office, Planning Commission, *The Tanzania Development Vision 2025* (Dar es Salaam: The Planning Commission, 2000).

The United Republic of Tanzania, Ministry of Communications and Transport, *National Telecommunications Policy* (Dar es Salaam: Government Printers, 1997).

The United Republic of Tanzania, Ministry of Industries and Trade, *Integrated Industrial Development Strategy 2025* (Dar es Salaam: Government Printers, 2011).

The United Republic of Tanzania, Ministry of Industries and Trade, *The National Trade Policy: For Competitive Economy and Export-Led Growth* (Dar es Salaam: Government Printers, 2003).

The United Republic of Tanzania, Ministry of Industries and Trade, *The Sustainable Industries Development Policies* (Dar-es-Salaam: Government Printers, 1996).

The United Republic of Tanzania, Ministry of Works, Transport and Communications, *National Information and Communications Technology Policy* (Dar es Salaam: Government Printers, 2016).

List of Constitutions

The Constitution of the United Republic of Tanzania of 1977, CAP 2 [R.E 2002].

The Constitution of Zanzibar of 1984. [Revised in 2010].

List of Acts of Parliament (Principle Legislation)

The Bank of Tanzania Act, ACT NO 5 OF 2006.

The Civil Aviation Act, CAP 80 [R.E 2020].

The Cybercrimes Act, ACT NO 14 OF 2015.

The Fair Competition Act, ACT NO 8 OF 2003.

The Fair Trade Practices Act, ACT NO 4 OF 1994.

The Foreign Exchange Act, ACT NO 1 OF 1992.

The Industrial Shares (Acquisition) Act, NO. 5 OF 1967.

The Insurance (Vesting of Interests and Regulation) Act, NO. 4 OF 1967.

The National Investment (Promotion and Protection) Act, ACT NO 10 OF 1990.

The National Payment Systems, ACT NO 4 OF 2015.

The Public Service Act, CAP 298 [R.E 2019].

The Public Corporations Act, ACT NO 2 OF 1992.

The Tanzania Broadcasting Services Act, ACT NO 6 OF 1993.

The Tanzania Communications Act, ACT NO 18 OF 1993.

The Tanzania Postal and Telecommunication Corporation, ACT NO 15 OF 1977.

The Tanzania Telecommunication Incorporation Company Act, ACT NO. 20 OF 1993.

The East African Community Competition Act, ACT NO 2 OF 2006.

The Electronic and Postal Communications Act, ACT NO 3 OF 2010.

The Evidence Act, CAP 6 [R.E 2019].

The Kenya Competition Act, ACT NO. 12 OF 2010.

The Law of Contract Act, CAP 345 [R.E 2019].

The National Bank of Commerce Act, ACT NO 1 OF 1967.

The Public Audit Act, CAP 418 [R.E 2020].

The State Trading Cooperation (Establishment and Vesting of Interests Act, ACT NO. 2 OF 1967.

The Tanzania Communications Act, ACT NO. 18 OF 1993.

The Tanzania Communications Regulatory Authority Act, ACT NO 12 OF 2003.

The Universal Communications Services Act, NO 11 OF 2006.

Uganda Communications Act, ACT NO 1 OF 2013.

List of Regulations (Subsidiary Legislation)

The Electronic and Postal Communications (Competition) Regulations, GN No. 26 of 2018.

The Fair Competition Tribunal Rules, GN 219 of 2012.

The Payment Systems (Electronic Money) Regulations, 2015.

The Payment Systems (Licensing and Approval) Regulations, 2015.

The Communications (Access, Co-Location, and Infrastructure Sharing) Regulations, GN No. 59 of 2018.

The Electronic and Postal Communications (Accounting Separation) Regulations, GN No. 23 of 2018.

The Electronic and Postal Communications (Central Equipment Identification Register) Regulations, GN No. 55 of 2018.

The Electronic and Postal Communications (Competition) Regulations. GN No. 420 of 2011, 2011.

The Electronic and Postal Communications (Competition) Regulations, GN No. 26 of 2018.

The Electronic and Postal Communications (Consumer Protection) Regulations, GN No. 61 of 2018.

The Electronic and Postal Communications (Electronic Communication Numbering and Address) Regulations, GN No. 62 of 2018.

The Electronic and Postal Communications (Electronic Communications Equipment Standards) Regulations, GN No. 19 of 2018.

The Electronic and Postal Communications (Interconnection) Regulations, GN No. 25 of 2018.

The Electronic and Postal Communications (Licensing) Regulations, GN No. 57 of 2018.

The Electronic and Postal Communications (Mobile Number Portability) Regulations, GN No. 20 of 2018.

The Electronic and Postal Communications (Online Content) Regulations, GN No. 133 of 2018.

The Electronic and Postal Communications (Quality of Service) Regulations, GN No 201 of 2018.

The Electronic and Postal Communications (Radio Communication and Frequency Spectrum) Regulations, GN No 24 of 2018.

The Electronic and Postal Communications (Tariff) Regulations, GN No. 22 of 2018.

The Electronic and Postal Communications (Tele-Traffic) Regulations, GN No. 14 of 2018.

The Fair Competition (Threshold for Notification of a Merger (Amendment) Order, GN No. 222 of 2017.

The Standing Orders, Parliament of Tanzania, G.N NO .626 OF 2020.

List of Laws and Regulations (other Jurisdictions)

The Consolidated Version of the Treaty on the Functioning of the European Union, [2012] OJ C326/47.

Directive 2002/20/EC of the European Parliament and of the Council of the 7th day of March 2002 on the Authorization of Electronic Communications Networks and Services (Authorization Directive), [2002] OJ L 108/21.

Directive (EU) 2019/1 of the European Parliament and of the Council of 11 December 2018 to Empower the Competition Authorities of the Member States to Be More Effective Enforcers and to Ensure the Proper Functioning of the Internal Market, [2019] OJ L 11/3).

Act against Restraints of Competition in the version published on 26 June 2013 (Bundesgesetzblatt (Federal Law Gazette) I, 2013, p. 1750, 3245), as last amended by Article 1 of the Act of 18 January 2021 (Federal Law Gazette I, p. 2).

The Sherman Act, 1890, 15 USC, §§ 1-38.

Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation), [2004] OJ L 24/1.

The Kenya Competition Act, Act No. 12 of 2010.

The Uganda Communications Act, Act No 1 of 2013.

The Independent Communications Authority of South Africa Act, Act No 13 of 2000.

The Kenya Information and Communications Act, Act No 2 of 1998.

The Kenya Information and Communications (Amendment) Act, Act No 41A of 2013.

List of Cases (Tanzania)

AG v Lohay Akonaay and Joseph Lohay [1995] TLR 80 (Court of Appeal of Tanzania).

Ahmed Omari v R, Criminal Appeal No. 154 of 2005 (Court of Appeal of Tanzania) (Unreported).

Dishoni Mtaita v DPP, Criminal Appeal No. 132 of 2004 (Court of Appeal of Tanzania) (unreported).

James Gwagilo v AG [1994] TLR 73 (High Court of Tanzania).

Juma Mpuya v Celtel Tanzania [2007] Fair Competition Tribunal at Dar es Salaam Appeal No 1 of 2007 (Unreported).

Mbeya-Rukwa Auto Parts & Transport Limited v Jestina George Mwakyoma [2003] TLR 257 (Court of Appeal of Tanzania).

Ntully Huggins v MIC Tanzania Limited and Tanzania Communication Regulatory Authority, Fair Competition Tribunal Appeal No. 3 of 2012 (Unreported).

Onesmo Nagole v Steven Kiruswa [2016], Civil Appeal No. 129 of 2016 (Court of Appeal of Tanzania) (Unreported).

Peter Ng'omango v Gerson Mwangwa and AG, [1993] TLR 77 (High Court of Tanzania).

Tanga Fresh v FCC, Fair Competition Tribunal, Appeal No. 5 of 2014 1 (Unreported).

The Principal Secretary, Ministry of Defence & National Service vs Devram Valalmbhia, [1992] TLR 185 (Court of Appeal of Tanzania).

Toyota Tsusho Corporation (Alliance Autos Ltd) V Fair Competition Commission, Fair Competition Tribunal 6 of 2013 (Unreported).

Vodacom Tanzania Limited v Tanzania Communications Regulatory Authority & Six Telecommunications Company Limited, Fair Competition Tribunal Appeal No. 2 of 2007 (Unreported).

Vodacom Tanzania PLC v Tanzania Communications Regulatory Authority, Fair Competition Tribunal Appeal No 8. of 2018 (Unreported).

List of Cases (Other Jurisdictions)

Aegean/Olympic II [2013] European Commission, Case COMP/M.6796.

Bronner v Mediaprint [1998] European Court of Justice, Case C-7/97.

Commercial Solvents v Commission [1974] European Court of Justice, Joint Cases 6 & 7/73.

Courage Ltd v Bernard Crehan [2001] European Court of Justice, Case C-453/99.

Hoffmann-La Roche v Commission [1979] European Court of Justice, Case 85/76.

Michelin v Commission [1983] European Court of Justice, Case 322/81.

Microsoft v Commission [2007] European Court of First Instance, Case T-201/04.

Mitsubishi Motors v Soler (1985) 473 US 614 (United States Supreme Court).

R v Medical Appeals Tribunal, Exp Gilmore (1957) 1 QB 574 (Queen's Bench Division).

Sea Containers v Stena Sealink [1993] European Commission, Case IV/34.689.

Spectrum Sports, Inc v McQuillan (1993) 506 US 447 (United States Supreme Court).

United Brands v Commission [1978] European Court of Justice, Case 27/76.

Verizon Communications Inc v Law Offices of Curtis V Trinko, LLP (2004) 540 US 398 (United States Supreme Court).

List of Tables

Abbreviations

2G	Second Generation (of wireless mobile technology)
3G	Third Generation (of wireless mobile technology)
4G	Fourth Generation (of wireless mobile technology)
5G	Fifth Generation (of wireless mobile technology)
AG	Attorney General (of Tanzania)
BS.	Base Station
BOT	Bank of Tanzania
CN.	Core Network
CapEx	Capital Expenditure
CEO	Chief Executive Officer
DVD	Digital Versatile Disc or Digital Video Disc
EU.	European Union
EAC	East Africa Community
EACSO	East Africa Common Services Organization
EAPTC	East Africa Post and Telecommunication Corporation
ECJ	European Court of Justice
FCC	Fair Competition Commission (of Tanzania)
FCT	Fair Competition Tribunal (of Tanzania)
FL-LRIC	Forward Looking-Long Run Incremental Costs
GPS	Global Positioning System
HC	High Court of Tanzania

HHI	Herfindahl–Hirschman Index
IP.	Internet Protocol
ICN	International Communication Network
IMF	International Monetary Fund
ITU	International Telecommunication Union
MHz	Megahertz
MS	Mobile Station
NICTBB	National Information Communication Technology Broadband Backbone
OECD	Organization for Economic Co-operation and Development
Opex	Operational Expenditure
PSTN	Public Switched Telephone Network
S	Section
SIM	Subscriber Identity Module
SMS	Short Message Service
Ss	Sections
TV.	Television
TBC	Tanzania Broadcasting Commission
TCC	Tanzania Communication Commission
TCRA	Tanzania Communication Regulatory Authority
TLR	Tanzania Law Reports
TPC	Tanzania Postal Corporation
TPTC	Tanzania Post and Telecommunication Corporation
Tsh	Tanzanian Shillings

TTCL	Tanzania Telecommunication Company Limited
UE.	User equipment
UN.	United Nations
UCSAF	Universal Communication Services Access Fund
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollars
VoIP	Voice Over Internet Protocol
WB.	World Bank

Bibliography

Books, Book Chapters, Journal Articles and Reports

A. K. Essack, 'The Arusha Declaration,' *Economic and Political Weekly*, 6.8 (1971), 488–488

ABA Section of Antitrust Law, *Federal Antitrust Guidelines for the Licensing of Intellectual Property* (USA: American Bar Association, 2010)

———, *Telecom Antitrust Handbook* (USA: American Bar Association, 2005)

Abeyratne, Ruwantissa, *Rulemaking in Air Transport: A Deconstructive Analysis* (Switzerland: Springer Nature Switzerland AG, 2016)

Abood, Richard R., and Kimberly A. Burns, *Pharmacy Practice and the Law*, Eighth edition (Burlington, MA: Jones & Bartlett Learning, 2017)

Aker, Jenny C, and Isaac M Mbiti, 'Mobile Phones and Economic Development in Africa', *Journal of Economic Perspectives*, 24.3 (2010), 207–32 <https://doi.org/10.1257/jep.24.3.207>

Akhter, Shareef, Mahmud, *Proliferation of the Internet Economy: E-Commerce for Global Adoption, Resistance, and Cultural Evolution* (Chocolate Avenue, USA: IGI Global, 2009)

Akman, Pinar, and Luke Garrod, 'When Are Excessive Prices Unfair?', *Journal of Competition Law and Economics*, 7.2 (2011), 403–26 <https://doi.org/10.1093/joclec/nhq024>

Akman, Pınar, 'International Report,' in *Abuse of Dominant Position and Globalization &Protection and Disclosure of Trade Secrets and Know-How*, ed. by Pranvera Këllezi, Bruce Kilpatrick, and Pierre Kobel, LIDC Contributions on Antitrust Law, Intellectual Property and Unfair Competition (Cham: Springer Verlag, 2017), pp. 3–26

Akujuobi, Cajetan M., and Matthew N. O. Sadiku, *Introduction to Broadband Communication Systems* (Boca Raton: Chapman & Hall/CRC, 2008)

Albors-Llorens, Albertina, *EC Competition Law and Policy* (Portland, Oregon: Willan Pub, 2002)

Alemu, Rachel, *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 (Berlin Heidelberg: Springer-Verlag, 2018)

Alese, Femi, *Federal Antitrust and EC Competition Law Analysis* (England: Ashgate Publishing, Ltd., 2008)

Alexiadis, Peter, and Martin Cave, 'Regulation and Competition Law in Telecommunications and Other Network Industries', in *The Oxford Handbook of Regulation*, ed. by Robert Baldwin, Martin Lodge, and Martin Cave (Oxford, U. K: Oxford University Press, 2012), pp. 500–522

Almăşan, Adriana, 'The Arbitrability of Articles 101 and 102 TFEU', in *The Consistent Application of EU Competition Law*, ed. by Adriana Almăşan and Peter Whelan (Cham: Springer International Publishing, 2017), IX, 141–61.

Almunia, Joaquín, '"Competition v Regulation: Where Do the Roles of Sector Specific and Competition Regulators Begin and End?', in *Center on Regulation in Europe* (presented at the Center on Regulation in Europe, Brussels: CERRE, 2010)

Amihud, Yokov, and Baruch Lev, 'Risk Reduction as a Managerial Motive for Conglomerate Mergers,' in *Mergers and Acquisitions: Motivaton*, ed. by Simon Peck and Paul Temple (London: Routledge, 2002), pp. 228–42

Anandalingam, G., and Henry C. Lucas Jr, *Beware the Winner's Curse: Victories That Can Sink You and Your Company* (New York: Oxford University Press, 2004)

Anderman, Steven D., and Hedvig Schmidt, 'EC Competition Policy and IPRs,' in *The Interface Between Intellectual Property Rights and Competition Policy*, ed. by Steven D. Anderman (Cambridge: Cambridge University Press, 2007), pp. 37–124

Anderson, J. Jonas, 'Court Capture,' *Boston College Law Review*, Vol. 59.5 (2018), 1543–94

Andrew E. Temu and Jean M. Due, 'The Business Environment in Tanzania after Socialism: Challenges of Reforming Banks, Parastatals, Taxation and the Civil Service,' *The Journal of Modern African Studies*, 38.4 (2000), 683–712

Anttalainen, Tarmo, *Introduction to Telecommunications Network Engineering*, Artech House Telecommunications Library, 2nd ed (Boston: Artech House, 2003)

Arezzo, Emanuela, 'Is There a Role for Market Definition and Dominance in an Effects-Based Approach?', in *Abuse of Dominant Position: New Interpretation, New Enforcement Mechanisms?* ed. by Mark-Oliver Mackenrodt, Beatriz Conde Gallego, and Stefan Enchelmaier (New York: Springer, 2008), pp. 21–54

Arnold, Christina, 'Do Centralized Recruitment in Tanzania Recruit Competent Staff in Local Government Authorities? A Case of Kinondoni Municipal Council' (unpublished A Dissertation Submitted in Partial Fulfillment of the Requirements for Award of the Masters of Public Administration (MPA), Mzumbe University, 2017)

Arora, Dolly, 'Independent Regulatory Authorities: Contours of the Debate and Experience', *Indian Journal of Public Administration*, 64.3 (2018), 358–72 <https://doi.org/10.1177/0019556118783050>

Assafim, João Marcelo de Lima, 'International Report', in *Antitrust Analysis of Online Sales Platforms & Copyright Limitations and Exceptions*, ed. by Bruce Kilpatrick, Pierre Kobel, and Pranvera Këllezi (New York: Springer Berlin Heidelberg, 2018)

Augustino Nkondola, Alex, 'Succession Planning Challenges in The Public Sector in Tanzania', *Global Journal of Human Resource Management*, 7.1, 59–68

Aydin, Umut, and Tim Büthe, 'Competition Law & Policy in Developing Countries: Explaining Variations in Outcomes; Exploring Possibilities and Limits', *Law and Contemporary Problems*, 79.4 (2016), 1–36

Aydin, Umut, and Kenneth P. Thomas, 'The Challenges and Trajectories of EU Competition Policy in the Twenty-First Century', *Journal of European Integration*, 34.6 (2012), 531–47 <https://doi.org/10.1080/07036337.2012.707359>

Azofra Parrondo, José Luis, and Carlos Bobillo Barbeito, 'Merger Control Enforcement in Spain: An Ongoing Saga of the Assessment of Behavioural Remedies', *Journal of European Competition Law & Practice*, 7.5 (2016), 320–25 <https://doi.org/10.1093/jeclap/lpw012>

Babonneau, F., J.-P. Vial, O. Klopfenstein, and A. Ouorou, 'Robust Capacity Assignment Solutions for Telecommunications Networks with Uncertain Demands', *Networks*, 62.4 (2013), 255–72 <https://doi.org/10.1002/net.21515>

Badran, Ahmed, 'Revisiting Regulatory Independence: The Relationship Between the Formal and De-Facto Independence of the Egyptian Telecoms Regulator', *Public Policy and Administration*, 32.1 (2017), 66–84 <https://doi.org/10.1177/0952076716643381>

Bagis Akkaya, Meltem, 'Competition Law Enforcement in Regulated Markets: When Competition Enforcement Clashes with a Regulatory Agency's Enforcement' (Turin School of Local Regulation, 2014)

Bahrini, Raéf, and Alaa A. Qaffas, 'Impact of Information and Communication Technology on Economic Growth: Evidence from Developing Countries', *Economies*, 7.1 (2019), 21 <https://doi.org/10.3390/economies7010021>

Bailey, David, and Laura Elizabeth John, *Bellamy & Child: European Union Law of Competition* (New York, NY: Oxford University Press, 2018)

Baker, Donald, 'Private and Public Enforcement: Complements, Substitutes and Conflicts-Global Perspectives', in *Research Handbook on International*

Competition Law, ed. by Ariel Ezrachi (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2012), pp. 238–65

Baldwin, Robert, Martin Cave, and Martin Lodge, 'Introduction: Regulation-The Field and the Developing Agenda.', in *The Oxford Handbook of Regulation*, ed. by Robert Baldwin, Martin Cave, and Martin Lodge (Oxford, U. K: Oxford University Press, 2012), pp. 3–16

———, *Understanding Regulation: Theory, Strategy, and Practice*, 2nd ed (New York: Oxford University Press, 2012)

Bank of Tanzania, *Tanzania Mainland's 50 Years of Independence: A Review of the Role and Functions of the Bank of Tanzania 1961-2011* (Dar es Salaam: Bank of Tanzania, 2011)

Barbier de La Serre, Eric, and Eileen Lagathu, 'The Law on Fines Imposed in EU Competition Proceedings: Time for a Refresh of the Fining Guidelines?', *Journal of European Competition Law & Practice*, 8.6 (2017), 409–19 <https://doi.org/10.1093/jeclap/lpx031>

Barkow, Rachel, 'Insulating Agencies: Avoiding Capture Through Institutional Design', *Texas Law Review*, 89.15 (2010), 15–79

Basaure, Arturo, Henna Suomi, and Heikki Hämmäinen, 'Transaction vs. Switching Costs—Comparison of Three Core Mechanisms for Mobile Markets', *Telecommunications Policy*, 40.6 (2016), 545–66 <https://doi.org/10.1016/j.telpol.2016.02.004>

Batura, Olga, *Universal Service in WTO and EU Law: Liberalisation and Social Regulation in Telecommunications*, Legal Issues of Services of General Interest (The Hague: Asser Press, 2015)

Bauer, Johannes M., 'Regulation, Public Policy, and Investment in Communications Infrastructure', *Telecommunications Policy*, Balancing Competition and Regulation, 34.1 (2010), 65–79 <https://doi.org/10.1016/j.telpol.2009.11.011>

Baumol, William J., 'On the Proper Cost Tests for Natural Monopoly in a Multiproduct Industry', *The American Economic Review*, 67.5 (1977), 809–22

Baumol, William J., and Robert D. Willig, 'Fixed Costs, Sunk Costs, Entry Barriers, and Sustainability of Monopoly', *The Quarterly Journal of Economics*, 96.3 (1981), 405–31 <https://doi.org/10.2307/1882680>

Bavasso, Antonio, *Communications in EU Law: Antitrust Market Power and Public Interest* (The Netherlands: Kluwer Law International B.V., 2003)

Beaton-Wells, Caron, 'Australia's Criminalization of Cartel: Will It Be Contagious', in *More Common Ground for International Competition Law?*, ed. by Josef Drexl,

Warren S. Grimes, and Clifford A. Jones (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2011), pp. 148–76

———, 'Substance and Process in Competition Law and Enforcement.: Why We Should Care If It's Not Fair,' in *Procedural Fairness in Competition Proceedings*, ed. by Paul Nihoul and Tadeusz Skoczny, ASCOLA Competition Law (Cheltenham, UK: Edward Elgar Publishing Limited, 2015), pp. 3–43

Behrens, Peter, 'The Ordoliberal Concept of "Abuse" of a Dominant Position and Its Impact on Article 102 TFEU', in *Abusive Practices in Competition Law*, ed. by Fabiana Di Porto and Rupprecht Podszun, ASCOLA Competition Law (Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing, 2018), pp. 5–25

Belleflamme, Paul, and Francis Bloch, 'Market Sharing Agreements and Collusive Networks', *International Economic Review*, 45.2 (2004), 387–411

Bello, Olayiwola, *Mobile Telecommunication Customer Loyalty in Nigeria: Determining Factors* (Hamburg: Diplomica Verlag, 2012)

Benson, Alvin K., ed., *Great Lives from History. Inventors & Inventions*, Great Lives from History (Pasadena, Calif: Salem Press, 2010)

BEREC (Body of European Regulators for Electronic Communications), *BEREC Report on Infrastructure Sharing* (BEREC, 14 June 2018)

Bergh, Roger van den, and Peter D. Camesasca, *European Competition Law and Economics: A Comparative Perspective* (Antwerp-Oxford: Intersentia, 2001)

Bergman, Lars, Chris Doyle, Jordi Gual, Damien Neven, and Leonard Waverman, *Europe's Network Industries: Conflicting Priorities: Telecommunications* (London: Centre for Economic Policy Research, 1998)

Bergman, Mats A., 'The Role of the Essential Facilities Doctrine', *The Antitrust Bulletin*, 46.2 (2001), 403–34 <https://doi.org/10.1177/0003603X0104600206>

Biermann, Werner, and Jumanne Wagao, 'The Quest for Adjustment: Tanzania and the IMF, 1980-1986', *African Studies Review*, 29.4 (1986), 89–103 <https://doi.org/10.2307/524008>

Bijl, Paul de, and Martin Peitz, *Regulation and Entry into Telecommunications Markets* (New York: Cambridge University Press, 2003)

Biondi, Yuri, and Pierpaolo Giannoccolo, 'Innovation and Regulation in Telecommunications Industry: A Comparative Institutional Economic Analysis', *Revue d'économie Industrielle*, 147, 2014, 11–50 <https://doi.org/10.4000/rei.5839>

Bishop, Simon, and Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, 3rd ed (London: Sweet & Maxwell, 2010)

Black, Oliver, *Conceptual Foundations of Antitrust* (Cambridge: Cambridge University Press, 2005)

Blackman, Colin, and Lara Srivastava, *Telecommunications Regulation Handbook: Tenth Anniversary Edition.* (Washington, D.C: The World Bank, 2011)

Blake, Gordon, 'EU Competition Arbitration', in *EU Competition Procedure*, ed. by Luis Ortiz Blanco, Third Edition (Oxford, New York: Oxford University Press, 2013), pp. 1075–1112

Blechman, Jason, Faith Odhiambo, and Simon Roberts, *Competition Dynamics in Mobile Money Markets in Tanzania*, Working Paper, 22/2017 (University of Johannesburg: Centre for Competition, Regulation and Economic Development, Centre for Competition, Regulation and Economic Development, 2017)

Bockel, Bas van, *The Ne Bis in Idem Principle in EU Law* (The Netherlands: Kluwer Law International B.V., 2010)

Boesen, Jannik, Kjell Havnevik, Juhani Koporen, and Rie Odgaard, 'Introduction', in *Tanzania: Crisis and Struggle for Survival*, ed. by Jannik Boesen, Kjell Havnevik, Juhani Koporen, and Rie Odgaard (Uppsala: Stockholm, Sweden: Scandinavian Institute of African Studies, 1986), pp. 19–30

Böllhoff, Dominik, 'Developments in Regulatory Regimes: Comparison of Telecommunications, Energy and Rail', in *Refining Regulatory Regimes: Utilities in Europe*, ed. by David Coen and Adrienne Windhoff-Héritier (Cheltenham, UK; Northampton, MA: E. Elgar, 2005), pp. 15–52

Bork, Robert H., *The Antitrust Paradox: A Policy at War with Itself* (New York: Free Press, 1978)

Botta, Marco, and Klaus Wiedemann, 'Exploitative Conducts in Digital Markets: Time for a Discussion after the Facebook Decision', *Journal of European Competition Law & Practice*, 10.8 (2019), 465–78 <https://doi.org/10.1093/jeclap/lpz064>

Botteman, Yves, 'Mergers, Standard of Proof and Expert Economic Evidence', *Journal of Competition Law & Economics*, 2.1 (2006), 71–100 <https://doi.org/10.1093/joclec/nhi027>

Bouckaert, Jan, and Peter M. Kort, 'Merger Incentives and the Failing Firm Defense: Merger Incentives and the Failing Firm Defense', *The Journal of Industrial Economics*, 62.3 (2014), 436–66 <https://doi.org/10.1111/joie.12053>

Bourreau, Marc, and Pinar Doğan, '"Build-or-Buy" Strategies in the Local Loop', *The American Economic Review*, 96.2 (2006), 72–76

Bovis, Christopher H., and Charles M. Clarke, 'Private Enforcement of EU Competition Law', *Liverpool Law Review*, 36.1 (2015), 49–71 <https://doi.org/10.1007/s10991-015-9164-9>

Boyer, Marcel, 'The Measure and Regulation of Competition in Telecommunications Markets', in *Regulation and the Evolution of the Global Telecommunications Industry*, ed. by Anastassios Gentzoglanis and Anders Henten (Cheltenham, Glos, UK; Northampton, MA: Edward Elgar, 2010), pp. 109–27

Braeutigam, Ronald R., and John C. Panzar, 'Effects of the Change from Rate-of-Return to Price-Cap Regulation', *The American Economic Review*, 83.2 (1993), 191–98

Braithwaite, John, *Regulatory Capitalism: How It Works, Ideas for Making It Work Better* (Cheltenham, UK; Northampton, MA: Edward Elgar, 2008)

Braithwaite, John, and Peter Drahos, *Global Business Regulation* (Cambridge: Cambridge University Press, 2000)

Brennan, Timothy, 'Regulation and Competition as Complements', in *Obtaining the Best from Regulation and Competition*, ed. by Michael Crew and Menahem Spiegel, Topics in Regulatory Economics and Policy Series, 47 (New York, NY: Kluwer Academic Publishers, 2005), pp. 1–20

Brennan, Timothy J., 'Refusing to Cooperate with Competitors: A Theory of Boycotts', *The Journal of Law & Economics*, 35.2 (1992), 247–64

Breyer, Stephen, 'Regulation and Deregulation in the United States: Airlines, Telecommunications and Antitrust', in *Deregulation or Re-Regulation? Regulatory Reform in Europe and the United States*, ed. by Giandomenico Majone (London: New York: Pinter; St. Martin's Press, 1990), pp. 7–58

Breyer, Stephen G., Richard B. Stewart, Cass R. Sunstein, Adrian Vermeule, and Michael Herz, *Administrative Law and Regulatory Policy: Problems, Text, and Cases* (New York: Wolters Kluwer Law & Business, 2017)

Brigham, Eugene F., and Joel F. Houston, *Fundamentals of Financial Management*, 13th edn (Mason, USA: South-Western Cengage Learning, 2012)

Brigitte Preissl, Justus Haucap, and Peter Curwen, 'Introduction', in *Telecommunication Markets: Drivers and Impediments*, ed. by Brigitte Preissl, Justus Haucap, and Peter Curwen (Heidelberg: Physica-Verlag, 2009), pp. 1–16

Briglauer, Wolfgang, and Carlo Cambini, *The Role of Regulation in Incentivizing Investment in New Communications Infrastructure* (Deutsche Telekom AG, 2017)

Brisimi, Vasiliki, *The Interface between Competition and the Internal Market: Market Separation under Article 102 TFEU* (Bloomsbury Publishing, 2014)

Brown, Ashley C., Jon Stern, and Bernard William Tenenbaum, *Handbook for Evaluating Infrastructure Regulatory Systems* (Washington, D.C: World Bank, 2006)

Bruneckienė, Jurgita, Irena Pekarskienė, Andrius Guzavičius, Oksana Palekienė, and Jūratė Šovienė, *The Impact of Cartels on National Economy and Competitiveness: A Lithuanian Case Study* (Switzerland: Springer International Publishing, 2015)

Buch-Hansen, Hubert, and Angela Wigger, 'Revisiting 50 Years of Market-Making: The Neoliberal Transformation of European Competition Policy', *Review of International Political Economy*, 17.1 (2010), 20–44

Buckley, John, 'Telecommunication Regulation', in *The Cable and Telecommunications Professionals' Reference: PSTN, IP and Cellular Networks, and Mathematical Techniques*, ed. by Goff Hill, 3rd ed (Amsterdam; Boston: Focal Press, 2007), pp. 11–33

———, *Telecommunications Regulation*, IEE Telecommunications Series, 50 (London, United Kingdom: Institution of Electrical Engineers, 2003)

Buckley, Peter, Duncan Clark, and Angus Kennedy, *The Rough Guide to the Internet:* (London; New York: Rough Guides, 2007)

Burke, Jarleth, *A Critical Account of Article 106(2) TFEU: Government Failure in Public Service Provision* (Oxford, UK: Bloomsbury Publishing, 2018)

Burke, Terry, Angela Genn-Bash, and Brian Haines, *Competition in Theory and Practice* (London: New York: Routledge, 1999)

Calabrese, Andrew, and Colleen Mihal, 'Liberal Fictions: The Public-Private Dichotomy in Media Policy', in *The Handbook of Political Economy of Communications*, ed. by Janet Wasko, Graham Murdock, and Helena Sousa, Global Handbooks in Media and Communication Research (Chichester, West Sussex; Malden, MA: Wiley-Blackwell, 2011), pp. 226–63

Carpenter, Daniel, *Reputation and Power: Organizational Image and Pharmaceutical Regulation at the FDA* (New Jersey: Princeton University Press, 2014)

Carr, Joseph J, Steve Winder, and Stephen J Bigelow, *Understanding Telephone Electronics (Fourth Edition)*, 4th edn (Woburn, MA: Butterworth-Heinemann, 2001)

Carrington, Paul D., 'The American Tradition of Private Law Enforcement', *German Law Journal*, 5.12 (2004), 1413–29 <https://doi.org/10.1017/S2071832200013328>

Carroll, Alex, *Constitutional and Administrative Law*, Foundation Studied in Law Series, 6th ed (Harlow Essex, England; New York: Pearson Longman, 2011)

Castaldo, Giorgio, and Aleko Bogdanov, 'The Nynas Case: The Interplay Between the Failing Firm Defence and the Counterfactual Method', *Journal of European Competition Law & Practice*, 6.5 (2015), 324–26 <https://doi.org/10.1093/jeclap/lpu120>

Castaneda, Araceli, Mark A. Jamison, and Michelle Phillips, 'Considerations for the Design and Transformation of Regulatory Systems' (Public Utility Research Center Warrington College of Business Administration University of Florida, 2014)

Catherin Waddams, 'Competition Policy and Utility Regulation: A Conceptual Framework', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George F Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 55–74

Cave, Martin, 'Encouraging Infrastructure Competition via the Ladder of Investment', *Telecommunications Policy*, 30.3 (2006), 223–37 <https://doi.org/10.1016/j.telpol.2005.09.001>

Cave, Martin, Christopher Doyle, and William Webb, *Essentials of Modern Spectrum Management* (Cambridge; New York: Cambridge University Press, 2007)

Cave, Martin, Christos Genakos, and Tommaso Valletti, 'The European Framework for Regulating Telecommunications: A 25-Year Appraisal', *Review of Industrial Organization*, 55.1 (2019), 47–62 <https://doi.org/10.1007/s11151-019-09686-6>

Cave, Martin, and Ingo Vogelsang, 'How Access Pricing and Entry Interact', *Telecommunications Policy*, Access pricing investment and entry in telecommunications, 27.10 (2003), 717–27 <https://doi.org/10.1016/j.telpol.2003.08.004>

Cave, Martin, and William Webb, *Spectrum Management: Using the Airwaves for Maximum Social and Economic Benefit* (United Kingdom: Cambridge University Press, 2015)

Caves, R. E., and M. E. Porter, 'From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition', *The Quarterly Journal of Economics*, 91.2 (1977), 241–61 <https://doi.org/10.2307/1885416>

Chaduc, Jean-Marc, and Gerard Pogorel, eds., *The Radio Spectrum: Managing a Strategic Resource* (London: Hoboken, NJ: ISTE; Wiley, 2008)

Chakraborty, Tamal, Iti Saha Misra, and Ramjee Prasad, *VoIP Technology: Applications and Challenges* (Cham: Springer, 2019)

Chelala, Santiago, 'A Note on Downward Inflexibility of Prices and the Origin of the Term «Oligopoly» in Thomas More's "Utopia"', *History of Economic Ideas*, 19.2 (2011), 97–108

Chen, Zhijun, and Patrick Rey, 'Competitive Cross-Subsidization', *The RAND Journal of Economics*, 50.3 (2019), 645–65 <https://doi.org/10.1111/1756-2171.12293>

Cheng, Thomas K., *Competition Law in Developing Countries* (United Kingdom: Oxford University Press, 2020)

Choi, Jay Pil, and Heiko Gerlach, 'Cartels and Collusion: Economic Theory and Experimental Economics', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 415–41

Christel Koop, 'Assessing the Mandatory Accountability of Regulatory Agencies', in *Accountability and Regulatory Governance: Audiences, Controls and Responsibilities in the Politics of Regulation*, ed. by Andrea Bianculli, Xavier Fernàndez-i-Marøn, and Jacint Jordana (Houndmills, Basingstoke, Hampshire; New York, NY: Palgrave Macmillan, 2015), pp. 78–104

Chu, May, Yuan-Chieh Chang, Chang-Yen Lee, and Kuo-Tai Cheng, 'Perceptions of Communications Sector Regulatory Performance in the East Asia and Pacific Region', *Utilities Policy*, 58 (2019), 128–35 <https://doi.org/10.1016/j.jup.2019.05.006>

CIPESA, *State of Internet Freedom in Africa 2016: Case Studies from Select Countries on Strategies African Governments Use to Stifle Citizens' Digital Rights* (Kampala, Uganda: CIPESA, 2016)

Clark, Emily. F., and Cecilia. E. Foss, 'When the Failing Firm Defence Fails', *Journal of European Competition Law & Practice*, 3.4 (2012), 317–31 <https://doi.org/10.1093/jeclap/lps023>

Clarke-Ferguson, Trevonne, 'Infrastructure Sharing -Towers & Poles (Co-Location Access Charge-Benchmarking Study) Towards the Development of Global Best Practices' (presented at the Regional Standardization Forum for Bridging the Standardization Gap (BSG), Hyatt Regency Trinidad, Port of Spain, Trinidad and Tobago, 2017)

Cocchia, Annalisa, 'Smart and Digital City: A Systematic Literature Review', in *Smart City*, ed. by Renata Paola Dameri and Camille Rosenthal-Sabroux (Cham: Springer International Publishing, 2014), pp. 13–43

Coe, Lewis, *The Telegraph: A History of Morse's Invention and Its Predecessors in the United States* (McFarland: Jefferson, N.C, 2003)

Cohn, Margit, 'Law and Regulation: The Role, Form and Choice of Legal Rules', in *Handbook on the Politics of Regulation*, ed. by Dāwid Lēwî-Faur (Cheltenham: Elgar, 2011), pp. 185–200

Colander, David, and Craig Freedman, *Where Economics Went Wrong: Chicago's Abandonment of Classical Liberalism* (Oxfordshire: Princeton University Press, 2018)

Colangelo, Margherita, *Creating Property Rights: Law and Regulation of Secondary Trading in the European Union* (Martinus Nijhoff Publishers, 2012)

Colin Scott, 'Independent Regulators', in *The Oxford Handbook of Public Accountability*, ed. by Mark Bovens, Robert E. Goodin, and Thomas Schillemans (Oxford: OUP Oxford, 2014), pp. 472–87

Coll, Steve, *The Deal of the Century: The Breakup of AT&T* (USA: Open Road Media, 2017)

Colombani, Antoine, Jindrich Kloub, and Ewoud Sakkers, 'Cartels', in *Faull & Nikpay: The EU Law of Competition*, ed. by Jonathan Faull, Ali Nikpay, and Deirdre Taylor, Third edition (Oxford, United Kingdom: Oxford University Press, 2014), pp. 1023–1362

Columbus, Frank H., *Asian Economic and Political Issues* (New York: Nova Publishers, 2003)

Connor, John M, *Global Price Fixing* (Berlin: Springer, 2008)

Cook, Paul, 'Competition Policy, Market Power and Collusion in Developing Countries', in *Leading Issues in Competition, Regulation, and Development*, ed. by Paul Cook, Colin Kirkpatrick, Martin Minogue, and David Parker (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2004), pp. 39–57

———, 'Utility Regulation and Competition in Developing Countries', in *International Handbook on Economic Regulation*, ed. by Michael Crew and David Parker (Cheltenham, UK; Northampton, MA: Edward Elgar, 2006), pp. 106–16

Correa, Lisa, 'The Economics of Telecommunications Regulation', in *Telecommunications Law and Regulation*, ed. by Ian Walden, 5th edn (Oxford: Oxford University Press, 2018), pp. 27–100

Correa, Paulo, Marcus Melo, Bernardo Mueller, and Carlos Pereira, 'Political Interference and Regulatory Resilience in Brazil', *Regulation & Governance*, 2019, 1–21 <https://doi.org/10.1111/rego.12274>

Coulson, Andrew, *Tanzania: A Political Economy*, Second edition (Oxford: Oxford University Press, 2013)

Cowley, John, *Communications and Networking: An Introduction*, Undergraduate Topics in Computer Science, Second Edition (London: Springer, 2012)

Cramton, Peter, Evan Kwerel, Gregory Rosston, and Andrzej Skrzypacz, 'Using Spectrum Auctions to Enhance Competition in Wireless Services', *The Journal of Law & Economics*, 54.4 (2011), S167–88 <https://doi.org/10.1086/661939>

Cramton, Peter, and Axel Ockenfels, 'The German 4G Spectrum Auction: Design and Behaviour', *The Economic Journal*, 127.605 (2017), F305–24 <https://doi.org/10.1111/ecoj.12406>

Craven, M., 'Between Law and History: The Berlin Conference of 1884-1885 and the Logic of Free Trade', *London Review of International Law*, 3.1 (2015), 31–59 <https://doi.org/10.1093/lril/lrv002>

Cremer, H., F. Gasmi, A. Grimaud, and J. J. Laffont, 'Universal Service: An Economic Perspective', *Annals of Public and Cooperative Economics*, 72.1 (2001), 5–43 <https://doi.org/10.1111/1467-8292.00158>

Cremer, Helmuth, Philippe De Donder, François Boldron, and Bernard Roy, 'Social Costs and Benefits of the Universal Service Obligation in the Postal', in *Market Competition and Regulation in the Postal and Delivery Sector*, ed. by Michael A Crew and Paul R. Kleindorfer (Edward Elgar Publishing, 2008), pp. 23–35

Crew, Michael A., 'Efficiency and Regulation: A Basis for Reform', *Managerial and Decision Economics*, 3.4 (1982), 177–87

Crew, Michael, and Paul Kleindorfer, 'Regulatory Governance and Competitive Entry', in *Regulation Under Increasing Competition*, ed. by Michael A. Crew (Norwell, USA: Springer Science & Business Media, 1999), pp. 1–16

Croley, Steven P., *Regulation and Public Interests: The Possibility of Good Regulatory Government* (Princeton, NJ: Princeton University Press, 2008)

Crompton, Samuel Willard, *Alexander Graham Bell and the Telephone: The Invention That Changed Communication*, Milestones in American History (New York: Chelsea House Publishers, 2009)

Cseres, Katalin J., *Competition Law and Consumer Protection*, European Monographs, 49 (The Hague: Kluwer Law International, 2005)

Curren, Nicolas, and Dominique Bureau, 'Establishing Independent Regulators in France', in *Regulation of Network Utilities: The European Experience*, ed. by Claude Henry, Michel Matheu, and Alain Jeunemaître (New York: Oxford University Press, 2001), pp. 143–69

Custos, Dominique, 'The Rulemaking Power of Independent Regulatory Agencies', *The American Journal of Comparative Law*, 54 (2006), 615–39

Czajkowski, Mikołaj, and Maciej Sobolewski, 'How Much Do Switching Costs and Local Network Effects Contribute to Consumer Lock-in in Mobile Telephony?', *Telecommunications Policy*, 40.9 (2016), 855–69 <https://doi.org/10.1016/j.telpol.2015.10.001>

Czapracka, Katarzyna, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches*, New Horizons in Competition Law and Economics (Cheltenham, U.K; Northampton, Mass: Edward Elgar, 2009)

Dabbah, Maher M., 'The Relationship Between Competition Authorities and Sector Regulators', *The Cambridge Law Journal*, 70.1 (2011), 113–43

Daniel Zimmer, 'The Basic Goal of Competition Law: To Protect the Opposite Side of the Market', in *The Goals of Competition Law*, ed. by Daniel Zimmer, ASCOLA Competition Law (Cheltenham, UK; Northampton, MA, USA: Edward Elgar, 2012), pp. 486–502

Datla, Kirti, and Richard L. Revesz, 'Deconstructing Independent Agencies (and Executive Agencies)', *Cornell Law Review*, 98.4 (2013), 768–844

David Potts, *Policy Reform and the Economic Development of Tanzania* (Bradford, United Kingdom: Bradford Centre for International Development, 2008)

Dawar, Kamala, and Peter Holmes, 'Trade and Competition Policy', in *The Ashgate Research Companion to International Trade Policy*, ed. by Kenneth Heydon (New York: Routledge, 2016), pp. 225–44

Decker, Christopher, *Economics and the Enforcement of European Competition Law* (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2009)

———, *Modern Economic Regulation: An Introduction to Theory and Practice* (Cambridge: Cambridge University Press, 2015)

Dee, Phillippa S, 'Possible Elements of a Reform Agenda', in *Institutions for Economic Reform in Asia*, ed. by Philippa S Dee (London: Routledge, 2011), pp. 12–35

Deloitte, *Competition Law in Africa: Maximising Competitor Advantage Consumer Value Chain Spotlight* (United Kingdom: Deloitte, 2016)

———, *Digital Inclusion and Mobile Sector Taxation 2016: The Impacts of Sector-Specific Taxes and Fees on the Affordability of Mobile Services* (London: GSMA, 2016)

Demirgüç-Kunt, Aslı, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess, *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution* (Washington, D.C: World Bank, 2018)

Derclaye, Estelle, 'Abuse of a Dominant Position and Intellectual Property Rights: A Suggestion to Reconcile the Community Courts' Case Law', in *Competition, Regulation, and the New Economy*, ed. by Cosmo Graham and Fiona Smith (Oxford; Portland: Hart Pub, 2004), pp. 55–76

Dias, Clarence, 'Tanzanian Nationalizations: 1967-1970', *Cornell International Law Journal*, 4.1 (1970), 59–80

Dodd, Annabel Z., *The Essential Guide to Telecommunications* (USA: Prentice Hall Professional, 2002)

Donou-Adonsou, Ficawoyi, Sokchea Lim, and Samuel A. Mathey, 'Technological Progress and Economic Growth in Sub-Saharan Africa: Evidence from Telecommunications Infrastructure', *International Advances in Economic Research*, 22.1 (2016), 65–75

Drahos, Peter, and Martin Krygier, 'Regulation, Institutions and Networks', in *Regulatory Theory*, ed. by Peter Drahos, 1st edn (ANU Press, 2017), pp. 1–22

Dresang, Dennis L., and Ira Sharkansky, 'Public Corporations in Single-Country and Regional Settings: Kenya and the East African Community', *International Organization*, 27.3 (1973), 303–28

Drexl, Josef, 'Economic Integration and Competition Law in Developing Countries', in *Competition Policy and Regional Integration in Developing Countries*, ed. by Josef Drexl, Mor Bakhoum, Eleanor M. Fox, Michal S. Gal, and David J. Gerber (Cheltenham, UK; Northampton, Mass: Edward Elgar, 2012)

Drucker, Peter F., 'The Deadly Sins in Public Administration', *Public Administration Review*, 40.2 (1980), 103–6 <https://doi.org/10.2307/975619>

Dubash, Navroz, and Bronwen Morgan, 'The Rise of the Regulatory State of the South', in *The Rise of the Regulatory State of the South: Infrastructure and Development in Emerging Economies*, ed. by Navroz Dubash and Bronwen Morgan, Law and Global Governance Series, 1st ed (Oxford: Oxford University Press, 2013), pp. 1–26

Ducci, Francesco, and Michael Trebilcock, 'The Revival of Fairness Discourse in Competition Policy', *The Antitrust Bulletin*, 64.1 (2019), 79–104 <https://doi.org/10.1177/0003603X18822580>

Due, Jean M., 'Liberalization and Privatization in Tanzania and Zambia', *World Development*, 21.12 (1993), 1981–88 <https://doi.org/10.1016/0305-750X(93)90070-P>

Dunne, Niamh, *Competition Law and Economic Regulation: Making and Managing Markets* (Cambridge: Cambridge University Press, 2015)

———, 'The Role of Private Enforcement within EU Competition Law', *Cambridge Yearbook of European Legal Studies*, 16 (2014), 143–87 <https://doi.org/10.1017/S1528887000002585>

Eberhard, Anton, 'The Independence and Accountability of Africa's Infrastructure Regulators: Re-Assessing Regulatory Design and Performance' (presented at the 4th AFUR Annual Conference, Livingstone, Zambia, 2007) <https://www.gsb.uct.ac.za/files/AfurKeynoteAddress.pdf> [accessed 30 April 2018]

Eckert, Sandra, 'European Regulatory State', in *Handbook on the Politics of Regulation*, ed. by Dāwid Lēwî-Faur (Cheltenham: Elgar, 2011), pp. 513–24

Edmond, Baranes and Bourreau, Marc, 'An Economist's Guide to Local Loop Unbundling' (Munich Personal RePEc Archive, 2005) <https://mpra.ub.uni-muenchen.de/2440/1/MPRA_paper_2440.pdf>

Edwards, Sebastian, *Toxic Aid: Economic Collapse and Recovery in Tanzania*, First edition (Oxford, United Kingdom: Oxford University Press, 2014)

Ellett, Rachel, *Pathways to Judicial Power in Transitional States: Perspectives from African Courts* (Oxon and New York: Routledge, 2013)

Elvidge, A. M., and J. Martucci, 'Telecommunications Network Total Cost of Ownership and Return on Investment Modelling', *BT Technology Journal*, 21.2 (2003), 184–90 <https://doi.org/10.1023/A:1024467706446>

Elzinga, Kenneth G., and David E. Mills, 'Predatory Pricing', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 40–61

Ennser-Jedenastik, Laurenz, 'The Politicization of Regulatory Agencies: Between Partisan Influence and Formal Independence', *Journal of Public Administration Research and Theory*, 26.3 (2016), 507–18 <https://doi.org/10.1093/jopart/muv022>

Esmailzadeh, Riaz, *Broadband Telecommunications Technologies and Management* (United Kingdom: John Wiley & Sons, 2016)

Esselaar, Steve, and Lishan Adam, *What Is Happening in ICT in Tanzania: A Supply- and Demand Side Analysis of the ICT Sector*, Policy Paper 11 (Cape Town: Research ICT Africa, 2013)

Evans, David S., and A. Jorge Padilla, 'Excessive Prices: Using Economics to Define Administrable Legal Rules', *Journal of Competition Law & Economics*, 1.1 (2005), 97–122 <https://doi.org/10.1093/joclec/nhi002>

Ewing, Ky P., *Competition Rules for the 21st Century: Principles from America's Experience*, International Competition Law Series, v. 9, 2nd ed (Alphen aan den Rijn: Frederick, Md: Kluwer Law International, 2006)

Ezrachi, Ariel, *EU Competition Law: An Analytical Guide to the Leading Cases*, Sixth edition (Oxford: Hart Publishing, 2018)

———, 'Sponge', *Journal of Antitrust Enforcement*, 5 (2017), 49–75 <https://doi.org/10.1093/jaenfo/jnw011>

Fair Competition Commission, 'Merger Applications Approved by the Commission from 1st July 2016 to 2nd March 2017' (Fair Competition Commission, 2017)

———, 'Merger Applications Approved by the Commission from April to July 2017' (Fair Competition Commission, 2017)

Farrell, Joseph, and Paul Klemperer, 'Coordination and Lock-In: Competition with Switching Costs and Network Effects', in *Handbook of Industrial Organization*, ed. by Mark Armstrong and Robert Porter (The Netherlands: North-Holland, 2007), III, 1967–2072 <https://doi.org/10.1016/S1573-448X(06)03031-7>

Fay, Marianne, and Mary Morrison, *Infrastructure in Latin America and the Caribbean: Recent Developments and Key Challenges* (Washington, D.C: World Bank Publications, 2007)

FCC, *Annual Report and Audited Accounts for The Year Ended On 30th June 2016* (Dar es Salaam: Fair Competition Commission, 2017)

Filippelli, Marilena, *Collective Dominance and Collusion: Parallelism in EU and US Competition Law* (Cheltenham, U.K; Northampton, Mass: Edward Elgar Publishing, 2013)

Finger, Mathias, 'Towards a European Model of Regulatory Governance', in *Handbook on the Politics of Regulation*, ed. by Dāwid Lēwî-Faur (Cheltenham: Elgar, 2011), pp. 525–36

Flanagan, Anne, 'Authorization and Licensing', in *Telecommunications Law and Regulation*, ed. by Ian Walden, Fifth edition (Oxford: Oxford University Press, 2018), pp. 285–380

Flanagan, William, *VoIP and Unified Communications: Internet Telephony and the Future Voice Network* (Hoboken, N.J.: Wiley, 2012)

Flew, Terry, 'National Media Regulations in an Age of Convergent Media: Beyond Globalisation, Neo-Liberalism and Internet Freedom Theories', in *Global Media and National Policies: The Return of the State*, ed. by Terry Flew, Petros

Iosifidis, and Jeanette Steemers (Hampshire: Palgrave Macmillan, 2016), pp. 75–91

Foer, Albert Allen, and Arthur Durst, 'The Multiple Goals of Antitrust', *The Antitrust Bulletin*, 63.4 (2018), 494–508 <https://doi.org/10.1177/0003603X18807808>

Foldvary, Fred E., *Dictionary of Free-Market Economics* (Cheltenham, UK; Northampton, MA: Edward Elgar, 1998)

Fonseca, Miguel A., and Hans-Theo Normann, 'Explicit vs. Tacit Collusion – The Impact of Communication in Oligopoly Experiments' (Düsseldorf Institute for Competition Economics (DICE), 2012)

Foros, Øystein, 'Strategic Investments with Spillovers, Vertical Integration and Foreclosure in the Broadband Access Market', *International Journal of Industrial Organization*, 22.1 (2004), 1–24 <https://doi.org/10.1016/S0167-7187(03)00079-1>

Forrester, Ian, 'A Challenge for Europe's Judges: The Review of Fines in Competition Cases', *European Law Review*, 36.2 (2011), 185–207

Fox, Eleanor, 'Monopolization and Abuse of Dominance: Why Europe Is Different', *Antitrust Bulletin*, 59.1 (2014), 129–52

———, 'Abuse of Dominance and Monopolisation: How to Protect Competition Without Protecting Competitors', in *What Is an Abuse of a Dominant Position?*, ed. by Claus-Dieter Ehlermann and Isabela Atanasiu, European Competition Law Annual, 8.2003 (Oxford: Hart Publishing, 2006), pp. 69–78

Franklin, Sergio Luis, 'Investment Decisions in Mobile Telecommunications Networks Applying Real Options', *Annals of Operations Research*, 226.1 (2015), 201–20 <https://doi.org/10.1007/s10479-014-1672-9>

Freeman, Roger, *Telecommunication System Engineering* (Hoboken, New Jersey: John Wiley & Sons, Inc, 2004)

Friedman, Milton, and Rose D. Friedman, *Capitalism and Freedom*, 40th anniversary ed (Chicago: University of Chicago Press, 2002)

Fuentelsaz, Lucio, Juan Pablo Maicas, and Yolanda Polo, 'Switching Costs, Network Effects, and Competition in the European Mobile Telecommunications Industry', *Information Systems Research*, 23.1 (2012), 93–108 <https://doi.org/10.1287/isre.1100.0303>

Funk, William F., and Richard H. Seamon, *Administrative Law*, Examples & Explanations, Fifth edition (New York: Wolters Kluwer Law & Business, 2016)

Furse, Mark, and Susan Nash, *The Cartel Offence* (Oregon: Hart Publishing, 2004)

Gabagambi, Damian Mulokozi, 'Tanzania's Growth Experience Following Economic Reforms: Comparative Perspectives with Vietnam', *International Journal of Humanities and Social Science*, 3.9 (2013), 97–106

Gal, Michael, 'Abuse of Dominance- Exploitative Abuses', in *Handbook on European Competition Law. Enforcement and Procedure*, ed. by Ioannis Lianos and Damien Geradin (Cheltenham, UK: Edward Elgar, 2013), pp. 385–422

———, *Competition Policy for Small Market Economies* (Cambridge, Mass: Harvard University Press, 2003)

Gans, Joshua, and Stephen King, 'Regulating Interconnection Pricing', in *Australian Telecommunications Regulation: The Communication Law Centre Guide*, ed. by Alasdair Grant (Australia: UNSW Press, 2004), pp. 55–85

Garcia, Jose Marino, and Tim Kelly, *The Economics and Policy Implications of Infrastructure Sharing and Mutualisation in Africa*, World Development Report (Washington, D.C: World Bank, 2015)

Gasmi, Farid, Paul Noumba, and Laura Recuero Virto, 'Political Accountability and Regulatory Performance in Infrastructure Industries: An Empirical Analysis' (The World Bank, 2006)

Gaudin, Germain, and Despoina Mantzari, *Margin Squeeze: An Above-Cost Predatory Pricing Approach* (Düsseldorf, Germany: Düsseldorf University Press, 2016)

Gelvanovska, Natalija, Michel Rogy, and Carlo Maria Rossotto, *Broadband Networks in the Middle East and North Africa: Accelerating High-Speed Internet Access* (Washington, D.C: World Bank Publications, 2014)

George Higson, *Markets and Market Failures* (United Kingdom: Economics Online, 2011)

Geradin, Damien, 'The Development of European Regulatory Agencies: Lessons from the American Experience', in *Regulation through Agencies in the EU: A New Paradigm of European Governance*, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 215–45

Geradin, Damien, Anne Layne-Farrar, and Nicolas Petit, *EU Competition Law and Economics* (Oxford, New York: Oxford University Press, 2012)

Geradin, Damien, and Robert O'Donoghue, 'The Concurrent Application of Competition Law and Regulation: The Case of Margin Squeeze Abuses in the Telecommunications Sector', *Journal of Competition Law & Economics*, 1.2 (2005), 355–425 <https://doi.org/10.1093/joclec/nhi009>

Geradin, Damien, Nicolas Petit, Mike Walker, Paul Hofer, and Frédéric Louis, *The Concept of Dominance in EC Competition Law* (Rochester, NY: Social Science

Research Network, 1 July 2005) <https://papers.ssrn.com/abstract=770144> [accessed 24 September 2019]

Geradin, Damien, and Emilio Villano, 'Arbitrability of EU Competition Law-Based Claims: Where Do We Stand After the CDC Hydrogen Peroxide Case?', *World Competition*, 40 (2017), 67–91

Giannakopoulos, Themistoklis, *Safeguarding Companies' Rights in Competition and Anti-Dumping/Anti-Subsidies Proceedings*, 2nd edn (The Netherlands: Kluwer Law International B.V., 2011)

Gilardi, Fabrizio, *Delegation in the Regulatory State: Independent Regulatory Agencies in Western Europe* (Cheltenham, UK; Northampton, MA: Edward Elgar, 2008)

Gilardi, Fabrizio, 'The Formal Independence of Regulators: A Comparison of 17 Countries and 7 Sectors', *Swiss Political Science Review*, 11.4 (2005), 139–67 <https://doi.org/10.1002/j.1662-6370.2005.tb00374.x>

Ginsburg, Douglas, and Taylor Owings, 'Due Process in Competition Proceedings', *Competition Law International*, 1.11 (2015), 39–49

Giocoli, Nicola, *Predatory Pricing in Antitrust Law and Economics: A Historical Perspective*, The Economics of Legal Relationships, 20 (Milton Park, Abingdon, Oxon; New York, NY: Routledge, 2014)

Gladden, E. N., 'The East African Common Services Organization', *Parliamentary Affairs*, XVI.4 (1963), 428–39 <https://doi.org/10.1093/oxfordjournals.pa.a054027>

Goleniewski, Lillian, *Telecommunications Essentials: The Complete Global Source for Communications Fundamentals, Data Networking and the Internet, and Next-Generation Networks* (Boston: Pearson Education, 2002)

González, Fernando Herrera, 'The Causes of Market Power: A Market Process Perspective', in *Monopolies: Theory, Effectiveness and Regulation*, ed. by Robert W Karlsen and Michael A Pettyfer (New York: Nova Science Publishers, 2011), pp. 27–60

Gormsen, Liza Lovdahl, *A Principled Approach to Abuse of Dominance in European Competition Law* (United Kingdom: Cambridge University Press, 2010)

van Gorp, Annemijn, and Carleen Maitland, 'Regulatory Innovations in Tanzania: The Role of Administrative Capabilities and Regulatory Governance', *Info*, 11.1 (2009), 64–77 <https://doi.org/10.1108/14636690910933000>

Gorshe, Steve, Arvind Raghavan, Thomas Starr, and Stefano Galli, *Broadband Access: Wireline and Wireless--Alternatives for Internet Services* (Chichester, West Sussex, United Kingdom: Wiley, 2014)

Gosling, Willium, *Radio Spectrum Conservation* (Oxford; Boston: Newnes, 2000)

Goyder, D. G., *EC Competition Law*, 4th ed (Oxford; New York: Oxford University Press, 2003)

Goyder, Joanna, and Albertina Albors-Llorens, *Goyder's EC Competition Law*, Oxford EC Law Library, 5th ed (Oxford; New York: Oxford University Press, 2009)

Graack, Cornelius, 'Deregulation, Privatization and Internationalization of European Telecoms Markets', in *Towards Competition in Network Industries: Telecommunications, Energy and Transportation in Europe and Russia*, ed. by Paul Welfens, George Yarrow, Ruslan Grinberg, and Cornelius Graack (Heidelberg: Springer-Verlag Berlin, 1999), pp. 79–114

Grajek, Michael, and Lars-Hendrik Röller, 'Regulation and Investment in Network Industries: Evidence from European Telecoms', *The Journal of Law & Economics*, 55.1 (2012), 189–216 <https://doi.org/10.1086/661196>

Green, Edward J., Leslie M. Marx, and Robert C. Marshall, 'Cartels and Collusion: Economic Theory and Experimental Economics', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 464–98

Grossman, Peter, 'Is Anything Naturally a Monopoly?', in *The End of a Natural Monopoly: Deregulation and Competition in the Electric Power Industry*, ed. by Peter Grossman and Daniel H. Cole, The Economics of Legal Relationships, v. 7 (Amsterdam; Boston: JAI, 2003), pp. 9–38

Grover, Kenneth C., *Foundations of Business Telecommunications Management*, Approaches to Information Technology (New York: Plenum Press, 1986)

Gruber, Harald, *The Economics of Mobile Telecommunications* (Cambridge, UK: Cambridge University Press, 2005)

———, *Digital Transformation in Tanzania: The Role of Mobile Technology and Impact on Development Goals* (London: GSMA, 2019)

———, *Mobile Infrastructure Sharing* (London: GSMA, 2012)

———, *Powering Telecoms: East Africa Market Analysis Sizing the Potential for Green Telecoms in Kenya, Tanzania and Uganda* (London: GSMA, 2012)

———, *The Mobile Economy 2019* (London: GSMA Intelligence, 2019)

———, *The Mobile Economy: Sub-Saharan Africa 2020* (London, United Kingdom: The GSMA Association, 2020)

Gundlach, Gregory T., and Diana Moss, 'The Role of Efficiencies in Antitrust Law: Introduction and Overview', *The Antitrust Bulletin*, 60.2 (2015), 91–102 <https://doi.org/10.1177/0003603X15591991>

Haldorai, Anandakumar, and Umamaheswari Kandaswamy, *Intelligent Spectrum Handovers in Cognitive Radio Networks* (Switzerland: Springer Nature Switzerland AG, 2019)

Hanrahan, Hu, *Network Convergence: Services, Applications, Transport, and Operations Support* (Chichester, England: John Wiley & Sons Ltd, 2007)

Hanretty, Chris, Pierre Larouche, and Andreas Reindl, *Independence, Accountability and Perceived Quality of Regulators*, A CERRE Study (Brussels: Center on Regulation in Europe, 6 March 2012)

Harding, Christopher, 'Business Collusion as a Criminological Phenomenon: Exploring the Global Criminalisation of Business Cartels', *Critical Criminology*, 14.2 (2006), 181–205 <https://doi.org/10.1007/s10612-006-9000-6>

Harlow, Barbara, 'The Scramble for Africa', in *Archives of Empire: Volume 2. The Scramble for Africa*, ed. by Barbara Harlow and Mia Carter (United Kingdom: Duke University Press, 2003), pp. 1–9

Harlow, Carol, and Richard Rawlings, *Law and Administration*, Law in Context, 3rd ed (Cambridge; New York: Cambridge University Press, 2009)

Hartmann, Jeannette, 'Development Policy-Making in Tanzania 1962-1982: A Critique of Sociological Interpretations' (unpublished Thesis submitted for the Degree of Doctor of Philosophy, University of Hull, 1983)

Haucap, Justus, Ulrich Heimeshoff, and Luis Manuel Schultz, *Legal and Illegal Cartels in Germany between 1954 and 2004*, 2010 <https://nbn-resolving.org/urn:nbn:de:101:1-20110104150> [accessed 20 August 2021]

Hausman, Jerry A., and William E. Taylor, 'Partial Deregulation in Telecommunications: An Update', *Journal of Competition Law and Economics*, 2016 <https://doi.org/10.1093/joclec/nhw019>

———, 'Telecommunication in the US: From Regulation to Competition (Almost)', *Review of Industrial Organization*, 42.2 (2013), 203–30 <https://doi.org/10.1007/s11151-012-9366-4>

———, 'Telecommunications Deregulation', *American Economic Review*, 102.3 (2012), 386–90 <https://doi.org/10.1257/aer.102.3.386>

Havnevik, Kjell J., *Tanzania: The Limits to Development from Above* (Uppsala, Sweden and Dar es Salaam, Tanzania: Nordiska Afrikainstitutet, in cooperation with Mkuki na Nyota Publishers, 1993)

Hawthorne, Ryan, 'The Effects of Lower Mobile Termination Rates in South Africa', *Telecommunications Policy*, 42.5 (2018), 374–85 <https://doi.org/10.1016/j.telpol.2018.02.007>

Hazlett, Thomas Winslow, *The Political Spectrum: The Tumultuous Liberation of Wireless Technology, from Herbert Hoover to the Smartphone* (Yale University Press, 2017)

Hazlewood, Arthur, 'The Territorial Incidence of the East African Common Services1', *Bulletin of the Oxford University Institute of Economics & Statistics*, 27.3 (1965), 161–76 <https://doi.org/10.1111/j.1468-0084.1965.mp27003001.x>

Heimler, Alberto and Kurtikumar Mehta, 'Monopolization in Developing Countries', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol (New York: Oxford University Press, 2015), II, 234–52

Helios Towers, *Helios Towers Annual Report 2017* (Mauritius: Helios Towers)

Hellström, Per, Frank Maier-Rigaud, and Friedrich Wenzel Bulst, 'Remedies in European Antitrust Law', *Antitrust Law Journal*, 76.1 (2009), 43–63

Hellwig, Martin, 'Competition Policy and Sector-Specific Regulation for Network Industries', in *Competition Policy in the EU: Fifty Years on from the Treaty of Rome*, ed. by Xavier Vives (Oxford; New York: Oxford University Press, 2009), pp. 203–35

Hertog, Johan den, *Review of Economic Theories of Regulation*, Discussion Paper Series 10-18 (The Netherlands: Utrecht School of Economics, 2010)

———, *Public and Private Interests in Regulation: Essays in the Law and Economics of Regulation* (The Netherlands: University of Utrecht, 2003)

Higgins, John H, and Bryan L Smith, *10 Steps to a Digital Practice in the Cloud* (New York: John Wiley & Sons, Inc, 2015)

Hilbert, Martin R., *From Industrial Economics to Digital Economics: An Introduction to the Transition* (Chile: United Nations Publications, 2001)

Hochfelder, David, *The Telegraph in America, 1832–1920* (Baltimore, Maryland: JHU Press, 2012)

Hoernig, Steffen, and Tommaso Valletti, 'Mobile Telephony', in *The Oxford Handbook of the Digital Economy*, ed. by Martin Peitz and Joel Waldfogel (New York: Oxford University Press, 2012), pp. 136–60

Hoffmann, Bert, *The Politics of the Internet in Third World Development: Challenges in Contrasting Regimes with Case Studies of Costa Rica and Cuba* (New York & London: Routledge, 2004)

Holzweber, Stefan, 'Tying and Bundling in the Digital Era', *European Competition Journal*, 14.2–3 (2018), 342–66 <https://doi.org/10.1080/17441056.2018.1533360>

Hovenkamp, Herbert, *Federal Antitrust Policy: The Law of Competition and Its Practice*, 5th edn (USA: West Group, 2016)

Huang, Ivan, Roc Guo, Harry Xie, and Zhengxiang Wu, 'The Convergence of Information and Communication Technologies Gains Momentum', in *The Global Information Technology Report 2012: Living in a Hyper Connected World*, ed. by Soumitra Dutta and Beñat Bilbao-Osorio (Geneva: World Economic Forum, 2012), pp. 35–45

Hudson, Heather E., 'Using Data for Policy Development: Designing a Universal Service Fund for Tanzania', in *Beyond Broadband Access: Developing Data-Based Information Policy Strategies* (Fordham University Press, 2013), pp. 209–27

Hughes, Nick, and Susie Lonie, 'M-PESA: Mobile Money for the "Unbanked" Turning Cell Phones into 24-Hour Tellers in Kenya', *Innovations: Technology, Governance, Globalization*, 2.1–2 (2007), 63–81 <https://doi.org/10.1162/itgg.2007.2.1-2.63>

Hunter, Emma, *Political Thought and the Public Sphere in Tanzania.* (New York: Cambridge University Press, 2015)

Hunter, Helen-Louise, *Zanzibar: The Hundred Days Revolution: The Hundred Days Revolution* (California: ABC-CLIO, 2009)

Huntington, Hillard, 'Market-Based US Electricity Prices: A Multi-Model Evaluation', in *Electricity Pricing in Transition*, ed. by Ahmad Faruqui and Kelly Eakin (New York: Springer Science & Business Media, 2012), pp. 297–314

Hurst, Christopher, 'Liberalization and Regulation of Telecommunications: Some Observations on the UK Experience', *Utilities Policy*, 2.1 (1992), 13–24 <https://doi.org/10.1016/0957-1787(92)90049-O>

Hüschelrath, Kai, and Sebastian Peyer, 'Public and Private Enforcement of Competition Law – A Differentiated Approach' (Centre for European Economic Research, 2013) <http://ftp.zew.de/pub/zew-docs/dp/dp13029.pdf>

Hydén, Göran, *Beyond Ujamaa in Tanzania: Underdevelopment and an Uncaptured Peasantry* (Berkeley and Los Angeles: University of California Press, 1980)

Hylton, Keith N, *Antitrust Law: Economic Theory and Common Law Evolution* (Cambridge, UK; New York: Cambridge University Press, 2003)

Iliffe, John, *A Modern History of Tanganyika*, 1st edn (Cambridge: Cambridge University Press, 1979) <https://doi.org/10.1017/CBO9780511584114>

Impavido, Gregorio, Esperanza Lasagabaster, and Manuel Garcia-Huitron, *New Policies for Mandatory Defined Contribution Pensions: Industrial Organization Models and Investment Products* (Washington, D.C: World Bank Publications, 2010)

Ingold, Karin, and Frédéric Varone, 'Regulation of the Telecommunications in Switzerland: A Network Approach to Assess the Regulatory Agencies' Independence', in *Multi-Level Regulation in the Telecommunications Sector*, ed. by David Aubin and Koen Verhoest (London: Palgrave Macmillan UK, 2014), pp. 137–61

International Organization for Migration, *World Migration 2005 Costs and Benefits of International Migration* (New Delhi: Academic Foundation, 2006)

International Telecommunication Union, *Quality of Service Regulation Manual* (Geneva: International Telecommunication Union, 2017)

Intven, Hank, Jeremy Oliver, and Erdgardo Sepúlveda, *Telecommunications Regulation Handbook*. (Washington, D.C.: World Bank, infoDev Program, 2000)

Iosifidis, Petros, *Global Media and Communication Policy* (Hampshire; New York: Palgrave Macmillan, 2011)

Ishengoma, Esther Kokunywanisa, *Firm's Resources as Determinants of Manufacturing Efficiency in Tanzania: Managerial and Econometric Approach* (Münster: LIT Verlag, 2005)

ITU, 'Key ICT Indicators for Developed and Developing Countries and The World (Totals and Penetration Rates 2005-2018)' (ITU Publishing, 2019)

———, *Measuring Digital Development Facts and Figures 2020* (Switzerland Geneva: International Telecommunication Union, 2020)

———, *Radio Regulations Articles* (Geneva: ITU Publishing, 2020)

———, *Regulation and Consumer Protection in a Converging Environment* (Switzerland: ITU, March 2013)

———, *Regulatory Incentives to Achieve Digital Opportunities*, Trends in Telecommunication Reform, 16.2016 (Geneva: ITU, 2016)

ITU-R, *Economic Aspects of Spectrum Management* (Geneva, Switzerland: ITU, June 2016)

Jaag, Christian, and Urs Trinker, 'A General Framework for Regulation and Liberalization in Network Industries', in *International Handbook of Network Industries: The Liberalization of Infrastructure*, ed. by Matthias Finger and Rolf Kunneke (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2011), pp. 26–53

Jaffe, Louis, 'James Landis and the Administrative Process', *Harvard Law Review*, 78.2 (1964), 319–28

Jamison, Mark, 'A Further Look at Proper Cost Tests for Natural Monopoly' (Public Utility Research Center Warrington College of Business Administration University of Florida, 1998)

———, *Industry Structure and Pricing: The New Rivalry in Infrastructure* (New York: Springer Science & Business Media, 2013)

Jasser, Adam, 'Independence and Accountability', *Journal of European Competition Law & Practice*, 6.2 (2015), 71–72 <https://doi.org/10.1093/jeclap/lpu117>

Jayaweera, Sudharman K., *Signal Processing for Cognitive Radios* (Hoboken, N.J: John Wiley & Sons, 2014)

Jean Tirole, 'Telecommunications and Competition', in *The Economics of Antitrust and Regulation in Telecommunications: Perspectives for the New European Regulatory Framework*, ed. by Pierre-André Buigues and Patrick Rey (Cheltenham, UK; Northampton, MA: Edward Elgar, 2004), pp. 260–65

Jenny, Frederic, 'Abuse of Dominance by Firms Charging Excessive or Unfair Prices: An Assessment', in *Excessive Pricing and Competition Law Enforcement*, ed. by Yannis Katsoulacos and Frédéric Jenny (Cham: Springer International Publishing, 2018), pp. 5–70

———, 'The Institutional Design of Competition Authorities: Debates and Trends', in *Competition Law Enforcement in the BRICS and in Developing Countries*, ed. by Frederic Jenny and Yannis Katsoulacos, International Law and Economics (Switzerland: Springer International Publishing, 2016), pp. 1–57

Jerath, Kinshuk, and Qitian Ren, 'Consumer Rational (In)Attention to Favorable and Unfavorable Product Information, and Firm Information Design', *Journal of Marketing Research*, 58.2 (2021), 343–62 <https://doi.org/10.1177/0022243720977830>

Jiang, Tiancheng, *China and EU Antitrust Review of Refusal to License IPR*, Maklu Competition Series, 3 (Antwerpen; Portland: Maklu, 2015)

Jilani, Syed Atif, 'Spectrum Allocation Methods: Studying Allocation through Auctions', *Journal of Economics, Business and Management*, 3.7 (2015), 742–45 <https://doi.org/10.7763/JOEBM.2015.V3.278>

John M. Clark, 'Toward a Concept of Workable Competition', *The American Economic Review*, 30.2 (1940), 241–56

———, 'What Is Competition?', *The University Journal of Business*, 3.3 (1925), 217–40

Johnston, Jane, 'The Public Interest: A New Way of Thinking for Public Relations?', *Public Relations Inquiry*, 6.1 (2017), 5–22 <https://doi.org/10.1177/2046147X16644006>

Jones, Alison, 'A Dominant Firm's Duty to Deal: EC and US Antitrust Law Compared', in *Handbook of Research in Trans-Atlantic Antitrust*, ed. by Philip Marsden, Elgar Original Reference (Cheltenham, UK: Elgar, 2006), pp. 236–86

———, 'Identifying an Unlawful Margin Squeeze: The Recent Judgments of the Court of Justice in Deutsche Telekom and TeliaSonera', *Cambridge Yearbook of European Legal Studies*, 13 (2011), 161–93 <https://doi.org/10.5235/152888712801752942>

Jones, Alison, and Brenda Sufrin, *EU Competition Law: Text, Cases, and Materials*, Fifth edition (Oxford, United Kingdom; New York, NY: Oxford University Press, 2014)

Jones, Alison, Brenda Sufrin, and Niamh Dunne, *EU Competition Law: Text, Cases and Materials*, 7th edn (United Kingdom: Oxford University Press, 2019)

Jordana, Jacint, and David Levi-Faur, 'The Politics of Regulation in the Age of Governance', in *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*, ed. by Jacint Jordana and David Levi-Faur, The CRC Series on Competition, Regulation and Development (Cheltenham, UK; Northampton, MA, USA: E. Elgar, 2004), pp. 1–30

Jordana, Jacint, and Carles Ramió, 'Delegation, Presidential Regimes, and Latin American Regulatory Agencies', *Journal of Politics in Latin America*, 2.1 (2010), 3–30

Joseph, Charles Lynn, and Santiago Bernal, *Modern Devices: The Simple Physics of Sophisticated Technology* (Hoboken, New Jersey: Wiley, 2016)

Joskow, Paul, and Roger C. Noll, 'Regulation in Theory and Practice: An Overview', in *Studies in Public Regulation*, ed. by Garry Fromm (MA: MIT Press, 1981)

Kaczorowska, Alina, *European Union Law*, 3rd edn (Oxon: Routledge, 2013)

Kalufya, Nuru, Francis Michael, and Henry Chalu, 'Human Resource Management Reforms and Public Sector Governance in Tanzania: An Application of Decentralization Perspective', *ORSEA Journal*, 8.1, 51–67

Kaplow, Louis, *Competition Policy and Price Fixing* (Princeton, New Jersey: Princeton University Press, 2013)

Kapur, Devesh, and Madhav Khosla, 'The Reality of Indian Regulation', in *Regulation in India: Design, Capacity, Performance*, ed. by Devesh Kapur and Madhav Khosla (Oxford: Bloomsbury Publishing, 2019), pp. 3–32

Karacuka, Mehmet, A. Nazif Çatık, and Justus Haucap, 'Consumer Choice and Local Network Effects in Mobile Telecommunications in Turkey', *Telecommunications Policy*, 37.4 (2013), 334–44 <https://doi.org/10.1016/j.telpol.2012.10.005>

Katz, Raul L., 'The Impact of Broadband on Jobs and the German Economy', *Intereconomics*, 45.1 (2010), 26–34 <https://doi.org/10.1007/s10272-010-0322-y>

Kauzya, John-Mary, 'Comparative Perspectives of the Challenges and Prospects of the Civil Services Reforms in Kenya, Tanzania and Uganda', in *International Handbook on Civil Service Systems*, ed. by Andrew Massey (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2011), pp. 178–224

Kawabata, E., *Contemporary Government Reform in Japan: The Dual State in Flux* (New York: Palgrave Macmillan, 2006)

Kelly, Tim, and Carlo Maria Rossotto, eds., *Broadband Strategies Handbook* (Washington, D.C: World Bank, 2012)

Kent, Penelope, *Law of the European Union*, Frameworks, 3. ed (England: Pearson Education Limited, 2001)

Khoury, Sarkis J., *Transnational Mergers and Acquisitions in the United States* (Washington, D.C: Beard Books, 2002)

Kim, Byung-Keun, *Internationalizing the Internet: The Co-Evolution of Influence and Technology* (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2005)

Kim, Hyungjin, and Hyunchul Kim, *Analysis on Lock-in Effects by Estimating for the Switching Costs in Telecommunications Bundles*, Proceedings of International Academic Conferences (International Institute of Social and Economic Sciences, November 2016) <https://ideas.repec.org/p/sek/iacpro/5306986.html> [accessed 18 February 2020]

Kim, Jihwan, Yunhee Kim, Noel Gaston, Romain Lestage, Yeonbae Kim, and David Flacher, 'Access Regulation and Infrastructure Investment in the Mobile Telecommunications Industry', *Telecommunications Policy*, 35.11 (2011), 907–19 <https://doi.org/10.1016/j.telpol.2011.08.004>

King, Roger, *Regulatory State in an Age of Governance: Soft Words and Big Sticks*. (New York: Palgrave Macmillan, 2014)

Kirchner, Christian, 'Regulating towards What? The Concepts of Competition in Sector-Specific Regulation, the Likelihood of Their Realisation and of Their Sustainability, and Their Relationship to Rendering Public Infrastructure Services', in *The Evolution of European Competition Law: Whose Regulation, Which Competition?*, ed. by Hanns Ullrich, ASCOLA Competition Law (Cheltenham, UK ; Northampton, MA: Edward Elgar, 2006), pp. 241–55

Kirkpatrick, Colin, 'Economic Regulation in Developing Countries', in *Leading Issues in Competition, Regulation, and Development*, ed. by Paul Cook and David Parker,

The CRC Series on Competition, Regulation and Development (Cheltenham; Northampton, MA, USA: E. Elgar, 2004), pp. 92–103

Kiwara, Magreth, 'Institutional Strength of the Public Service Recruitment Secretariat in Managing the Recruitment and Selection Functions in Tanzania' (unpublished A Thesis Submitted to the School of Public Administration and Management in Partial Fulfillment of the Requirements for the Degree of Master of Science in Human Resource Management, Mzumbe University, 2015)

Klein, Michael, *Competition in Network Industries* (Washington, D.C: The World Bank, Private Sector Development Department, 1996)

Knieps, Günter, *Network Economics: Principles, Strategies, Competition Policy*, Springer Texts in Business and Economics (Cham: Springer, 2015)

Kolasky, William, 'Single-Firm Conduct: The Search for the Holy Grail of Administratable Procompetitive Standards', in *On the Merits: Current Issues in Competition Law and Policy; Liber Amicorum Peter Plompen*, ed. by Paul Lugard and Peter Plompen (Antwerpen: Intersentia, 2005), pp. 59–70

Komninos, Assimakis and Jan Jeram, 'Changing Mind in Changed Circumstances: Aegean/Olympic II and the Failing Firm Defence', *Journal of European Competition Law & Practice*, 5.9 (2014), 605–15 <https://doi.org/10.1093/jeclap/lpu040>

Koop, Christel, and Chris Hanretty, 'Political Independence, Accountability, and the Quality of Regulatory Decision-Making', *Comparative Political Studies*, 51.1 (2018), 38–75 <https://doi.org/10.1177/0010414017695329>

Kotakorpi, Kaisa, 'Access Price Regulation, Investment and Entry in Telecommunications', *International Journal of Industrial Organization*, 24.5 (2006), 1013–20 <https://doi.org/10.1016/j.ijindorg.2005.11.007>

Kovacic, William, 'Competition Agencies, Independence, and the Political Process', in *Competition Policy and the Economic Approach Foundations and Limitations*, ed. by Josef Drexl, Wolfgang Kerber, and Rupprecht Podszun (Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing, 2011), pp. 291–311

———, 'Distinguished Essay: Good Agency Practice and the Implementation of Competition Law', in *European Yearbook of International Economic Law 2013*, ed. by Christoph Herrmann, Markus Krajewski, and Jörg Philipp Terhechte, European Yearbook of International Economic Law (Berlin, Heidelberg: Springer, 2013), pp. 3–22

———, *Rating the Competition Agencies: What Constitutes Good Performance?* (Rochester, NY: Social Science Research Network, 8 March 2012) <https://papers.ssrn.com/abstract=2018710> [accessed 11 December 2019]

———, *The Digital Broadband Migration and the Federal Trade Commission: Building the Competition and Consumer Protection Agency of the Future* (Rochester, NY: Social Science Research Network, 8 March 2012) <https://papers.ssrn.com/abstract=2018734> [accessed 11 December 2019]

Kovacic, William E., and Marianela Lopez-Galdos, 'Lifecycles of Competition Systems: Explaining Variation in the Implementation of New Regimes | Law & Contemporary Problems', *Law and Contemporary Problems*, 79 (2016), 85–122

Kovacic, William E, Robert C Marshall, Leslie M Marx, and Halbert L White, 'Plus Factors and Agreement in Antitrust Law', *Michigan Law Review*, 110 (2011), 393–436

Krafft, Jackie, and Evens Salies, 'Why and How Should New Industries with High Consumer Switching Costs Be Regulated? The Case of Broadband Internet in France', in *Regulation, Deregulation, Reregulation: Institutional Perspectives*, ed. by Michel Ghertman and Claude Ménard, Advances in New Institutional Analysis Series (Cheltenham, UK; Northampton, MA: Edward Elgar, 2009), pp. 327–50

Kroes, Neelie, 'The Interface between Regulation and Competition Law', in *Bundeskartellamt Conference on 'Dominant Companies – The Thin Line between Regulation and Competition Law* (presented at the *Bundeskartellamt* Conference on 'Dominant Companies – The Thin Line between Regulation and Competition Law, Hamburg, 2009)

Kroon, Peter, 'Speech and Audio Compression', in *The Internet Encyclopedia*, ed. by Hossein Bidgoli (Hoboken, N.J.: John Wiley & Sons, 2004), pp. 307–19

Laffont, Jean-Jacques, *Regulation and Development* (Cambridge: Cambridge University Press, 2005)

Laffont, Jean-Jacques, Antonio Estache, and Xinzhu Zhang, *Universal Service Obligations in Developing Countries*, Policy Research Working Papers (The World Bank, 2004)

Laffont, Jean-Jacques, and Jean Tirole, *Competition in Telecommunications* (MIT Press, 2001)

Laltaika, Eliamani, 'Legal and Institutional Aspects of Fair Competition in Tanzania', *Open University Law Journal*, 5.1 (2014), 58-68.

Landolt, Phillip Louis, *Modernised EC Competition Law in International Arbitration* (The Netherlands: Kluwer Law International, 2006)

Larouche, Pierre, *Competition Law and Regulation in European Telecommunications* (Hart Publishing, 2000)

Lavrijssen, Saskia, and Fatma Çapkurt, 'Who Guards the Guardians? Judicial Oversight of the Authority Consumer and Market's Energy Regulations in the Netherlands', in *Judicial Review of Administrative Discretion in the Administrative State*, ed. by Jurgen de Poorter, Ernst Hirsch Ballin, and Saskia Lavrijssen (The Hague: T.M.C. Asser Press, 2019), pp. 133–71

Levenstein, Margaret C., and Valerie Y. Suslow, 'Cartels and Collusion: Economic Theory and Experimental Economics', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 442–63

Lévêque, François, 'Innovation, Leveraging and Essential Facilities: Interoperability Licensing in the EU Microsoft Case', in *Antitrust, Patents, and Copyright: EU and US Perspectives*, ed. by François Lévêque and Howard A. Shelanski, New Horizons in Competition Law and Economics (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2005)

Levi-Faur, David, 'Regulation and Regulatory Governance', in *Handbook on the Politics of Regulation*, ed. by David Levi-Faur (Cheltenham: Elgar, 2011), pp. 1–25

———, 'Regulatory Capitalism and the Reassertion of the Public Interest', *Policy and Society*, 27.3 (2009), 181–91 <https://doi.org/10.1016/j.polsoc.2008.10.002>

Levin, Harvey J., *The Invisible Resource: Use and Regulation of the Radio Spectrum* (Routledge, 2013)

Lewis, David, *The Politics of Presidential Appointments: Political Control and Bureaucratic Performance.* (Princeton: Princeton University Press, 2010)

Liebowitz, Stanley, and Stephen Margolis, 'Network Effects', in *Handbook of Telecommunications Economics*, ed. by Martin Cave, Sumit Kumar Majumdar, and Ingo Vogelsang (Amsterdam; Boston: Elsevier, 2002), pp. 76–97

Liffen, John, 'Epsom, Britain's First Public Automatic Telephone Exchange', *The International Journal for the History of Engineering & Technology*, 82.2 (2012), 210–32 <https://doi.org/10.1179/175812111X13188557854080>

Lin, Ping, and Hiroshi Ohashi, 'Treatments of Monopolization in Japan and China', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol (New York: Oxford University Press, 2015), II, 188–233

Lindsay, Alistair, and Alison Berridge, *The EU Merger Regulation: Substantive Issues* (London: Sweet & Maxwell, 2012)

Lipczynski, John, and John Wilson, *The Economics of Business Strategy* (England: Pearson Education, 2004)

Liston, Catherine, 'Price-Cap versus Rate-of-Return Regulation', *Journal of Regulatory Economics*, 5.1 (1993), 25–48 <https://doi.org/10.1007/BF01066312>

Listra, Enn, 'The Concept of Competition and the Objectives of Competitors', *Procedia - Social and Behavioral Sciences*, 213 (2015), 25–30 <https://doi.org/10.1016/j.sbspro.2015.11.398>

Liwenga, Benedict, 'Wakurungenzi Wa TCRA Wasimamishwa', *HabariLeo Newspapers* (Dar es Salaam, 19 February 2016)

Loomis, David, 'The Telecommunications Industry', in *Handbook of Computer Networks: Key Concepts, Data Transmission, and Digital and Optical Networks*, ed. by Hossein Bidgoli (Hoboken, N.J: John Wiley & Sons, Inc, 2008), pp. 1–18

Lorenz, Moritz, *An Introduction to EU Competition Law* (Cambridge: Cambridge University Press, 2013)

Lowe, Philip, 'The Design of Competition Policy Institutions for the 21st Century — the Experience of the European Commission and DG Competition', *Competition Policy Newsletter,* 2008

Luhanga, Mathew, and Adollar Mapunda, 'Telecommunications: Current Status and Rationale for Reforms in Tanzania', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 95–110

Lütkebohmert, Eva, *Concentration Risk in Credit Portfolios*, EAA Lecture Notes (Berlin; London: Springer, 2009)

Lutz, Clemens H. M., Ron G. M. Kemp, and S. Gerhard Dijkstra, 'Perceptions Regarding Strategic and Structural Entry Barriers', *Small Business Economics*, 35.1 (2010), 19–33 <https://doi.org/10.1007/s11187-008-9159-1>

Macrory, Richard, 'Reforming Regulatory Sanctions-Designing Systematic Approach', in *The Regulatory State: Constitutional Implications*, ed. by Dawn Oliver, Tony Prosser, and Richard Rawlings (Oxford; New York: Oxford University Press, 2010), pp. 229–42

Madden, Gary, Anirudha Banerjee, and Grant Coble-Neal, 'Measuring Telecommunication System Network Effects', in *Frontiers of Broadband, Electronic and Mobile Commerce*, ed. by Russel Cooper and Gary Madden, Contributions to Economics (Heidelberg; New York: Physica-Verlag, 2004), pp. 195–220

Maggetti, Martino, 'De Facto Independence after Delegation: A Fuzzy-Set Analysis', *Regulation & Governance*, 1.4 (2007), 271–94 <https://doi.org/10.1111/j.1748-5991.2007.00023.x>

———, ‘Legitimacy and Accountability of Independent Regulatory Agencies: A Critical Review’, *Living Reviews in Democracy*, 2010, 1–9

Maggetti, Martino, Karin Ingold, and Frédéric Varone, ‘Having Your Cake and Eating It, Too: Can Regulatory Agencies Be Both Independent and Accountable?’, *Swiss Political Science Review*, 19.1 (2013), 1–25 <https://doi.org/10.1111/spsr.12015>

Maggiolino, Mariateresa, ‘The Regulatory Breakthrough of Competition Law: Definitions and Worries’, in *Competition Law as Regulation*, ed. by Josef Drexl and Fabiana Di Porto (London & USA: Edward Elgar Publishing Limited, 2015), pp. 3–26

Mäihäniemi, Beata, *Competition Law and Big Data: Imposing Access to Information in Digital Markets*, New Horizons in Competition Law and Economics (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2020)

Majone, Giandomenico, ‘From the Positive to the Regulatory State: Causes and Consequences of Changes in the Mode of Governance’, *Journal of Public Policy*, 17.2 (1997), 139–67

———, ‘Introduction’, in *Deregulation or Re-Regulation? Regulatory Reform in Europe and the United States*, ed. by Giandomenico Majone (London: New York: Pinter; St. Martin’s Press, 1990), pp. 1–6

———, ‘Regulation and Its Modes’, in *Regulating Europe*, ed. by Giandomenico Majone, European Public Policy Series (London; New York: Routledge, 1996), pp. 9–27

Malanga, Alex, ‘Government Earns Hundreds of Billions in Dividends’, *The Citizen Newspaper*, 24 July 2018

Malinauskaite, Jurgita, *Harmonisation of EU Competition Law Enforcement*, 2020

Manenti, Fabio M., and Antonio Scialà, ‘Access Regulation, Entry and Investments in Telecommunications’, *Telecommunications Policy*, 37.6 (2013), 450–68 <https://doi.org/10.1016/j.telpol.2012.11.002>

Manner, Jennifer A., *Global Telecommunications Market Access* (Boston and London: Artech House, 2002)

Mano, Miguel de la, Renato Nazzini, and Hans Zenger, ‘Article 101’, in *Faull & Nikpay: The EU Law of Competition*, ed. by Jonathan Faull and Ali Nikpay, Third edition (Oxford, United Kingdom: Oxford University Press, 2014), pp. 329–538

Mantzari, Despoina, ‘Judicial Scrutiny of Regulatory Decisions at the UK’s Specialist Competition Appeal Tribunal’, in *Judicial Review of Administrative Discretion in*

the Administrative State, ed. by Jurgen de Poorter, Ernst Hirsch Ballin, and Saskia Lavrijssen (The Hague: T.M.C. Asser Press, 2019), pp. 63–80

Manyele, Asinta, and Deograsias Moyo, 'Impacts of the Tanzanian 2013 - 2017 Glide Path Implementation Phase on Telecom Voice Call Pricing', *International Journal of Scientific & Engineering Research*, 10.6 (2019), 1–5

Mark Addleson, 'Competition', in *The Elgar Companion to Austrian Economics*, ed. by P. J. Boettke (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 1998)

Markham, Jesse W., 'An Alternative Approach to the Concept of Workable Competition', *The American Economic Review*, 40.3 (1950), 349–61

Markova, Ekaterina, *Liberalization and Regulation of the Telecommunications Sector in Transition Countries: The Case of Russia*, Contributions to Economics (Heidelberg: Physica-Verlag, 2009)

Martin, Stephen, *Industrial Organization in Context* (Oxford; New York: Oxford University Press, 2010)

Masamila, Bossi, 'State of Mobile Banking in Tanzania and Security Issues', *International Journal of Network Security & Its Applications*, 6.4 (2014), 53–64 <https://doi.org/10.5121/ijnsa.2014.6405>

Mashala, Lameck Yusuph, and Wang Guohua, 'Challenges for Implementing New Public Management Reforms in Local Government in Tanzania: Evidence from Six Selected Local Government Authorities', *Public Policy and Administration Research*, 7.6, 32–45

Matheson, Thornton, and Patrick Petit, *Taxing Telecommunications in Developing Countries* (IMF, 2017)

Mattern, Max, and Claudia McKay, 'Building Inclusive Payment Ecosystems in Tanzania and Ghana', *Focus Note*, 110 (2018), 1–36

Mawenya, Awadhi, 'Regulating the Communications Sector in Tanzania: Experiences and Lessons', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 111–24

Mayer-Schönberger, Victor, and Mathias Strasser, 'A Closer Look at Telecom Deregulation: The European Advantage', *Harvard Journal of Law and Technology*, 12.3 (1999), 562–86

Mbogoni, Lawrence Ezekiel Yona, *Aspects of Colonial Tanzania History* (Dar es Salaam: Mkuki na Nyota, 2013)

Mbowe, George, 'An Overview of Divestiture Process and Progress in Tanzania', in *Competition Policy and Utility Regulation*, ed. by Mark Mwandosya, George F Mbowe, and Peter Young, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997), pp. 3–12

McAfee, R. Preston, Hugo M. Mialon, and Michael A. Williams, 'What Is a Barrier to Entry?', *The American Economic Review*, 94.2 (2004), 461–65

McDonald, James Ted, and Christopher Worswick, 'High-Skilled Immigration in a Globalized Labour Market', in *Handbook of the Economics of International Migration*, ed. by Barry Chiswick and Paul Miller (Elsevier, 2014), pp. 537–84

McKenzie, Richard B., and Dwight R. Lee, *In Defense of Monopoly* (USA: University of Michigan Press, 2008)

McMaster, Susan E., *The Telecommunications Industry* (Westport, USA: Greenwood Publishing Group, 2002)

Medeisis, Arturas, and Oliver Holland, 'State-of-the-Art in Policy and Regulation of Radio Spectrum', in *Cognitive Radio Policy and Regulation*, ed. by Arturas Medeisis and Oliver Holland (Cham: Springer International Publishing, 2014), pp. 1–48

Mehta, Pradeep S., 'Economic Regulations, Competition, and Consumer Protection in Ancient India', *The Antitrust Bulletin*, 63.3 (2018), 316–29 <https://doi.org/10.1177/0003603X18780557>

Mejía, Luis E., 'Judicial Review of Regulatory Decisions: Decoding the Contents of Appeals against Agencies in Spain and the United Kingdom', *Regulation & Governance*, 2020, 1–25 <https://doi.org/10.1111/rego.12302>

Mercer, David, *The Telephone: The Life Story of a Technology* (Westport, CN: Greenwood Press, 2006)

Merten Reglitz, 'Why Internet Access Has Become a Human Right', *The Independent* (UK, 19 November 2019) <https://www.independent.co.uk/news/science/internet-access-human-right-politics-labour-party-uk-government-a9208841.html> [accessed 20 October 2020]

Mfalila, Lameck, 'Twenty-Five Years of the Court of Appeal and the Independence of the Judiciary', in *Law and Justice in Tanzania: Quarter a Century of the Court of Appeal*, ed. by Chris Maina Peter and Helen Kijo-Bisimba (Dar es Salaam: Mkuki na Nyota, 2007), pp. 81–98

Middleton, Kirsty, and Kirsty Middleton, eds., *Cases and Materials on UK and EC Competition Law*, 2nd ed (Oxford; New York: Oxford University Press, 2009)

Militzer, Kenneth H., and Martin H. Wolf, 'Deregulation in Telecommunications', *Business Economics*, 20.3 (1985), 27–33

Millicom, *2018 Millicom Integrated Report* (Luxembourg: Millicom, 2018)

———, *2019 Millicom Integrated Report* (Luxembourg: Millicom, 2019)

Mitschke, Andreas, *The Influence of National Competition Policy on the International Competitiveness of Nations: A Contribution to the Debate on International Competition Rules*, Contributions to Economics (Heidelberg: Physica-Verlag, 2008)

Mkapa, Benjamin William, 'The Legal System Should Be More Accessible and Affordable to More Tanzanians', in *Law and Justice in Tanzania: Quarter a Century of the Court of Appeal*, ed. by Chris Maina Peter and Helen Kijo-Bisimba (Dar es Salaam: Mkuki na Nyota, 2007), pp. 33–42

Molestina, Julia, *Regional Competition Law Enforcement in Developing Countries* (Germany: Springer Verlag GmbH, 2019)

Molinuevo, Martín, and Sebastián Sáez, *Regulatory Assessment Toolkit: A Practical Methodology for Assessing Regulation on Trade and Investment in Services* (Washington, D.C: World Bank Publications, 2014)

Möllers, Thomas M. J, and Andreas Heinemann, *The Enforcement of Competition Law in Europe.* (Cambridge: Cambridge University Press, 2008)

Monti, Giorgio, *EC Competition Law*, Law in Context (Cambridge: Cambridge University Press, 2007)

———, 'The Concept of Dominance in Article 82', *European Competition Journal*, 2.sup1 (2006), 31–52 <https://doi.org/10.5235/ecj.v2n1s.31>

Morgan, Bronwen, and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials*, The Law in Context Series (Cambridge, UK; New York: Cambridge University Press, 2007)

Möschel, Wernhard, 'Regulation and Deregulation in Telecommunications', *European Business Organization Law Review*, 5.2 (2004), 353–61 <https://doi.org/10.1007/BF03354631>

Mothobi, Onkokame, 'The Impact of Telecommunication Regulatory Policy on Mobile Retail Price in Sub-Saharan African Countries' (presented at the 3rd Annual Competition & Economic Regulation (ACER) Conference, Dar es Salaam, 2017)

Motta, Massimo, *Competition Policy: Theory and Practice* (Cambridge; New York: Cambridge University Press, 2004)

Mramba, Clara, and Nicholas Nditi, 'Legal Regulation of Mobile Money Transfer Service in Tanzania', *Eastern Africa Law Review*, 42.2 (2015)

Mrutu, Lukio Lawrence, and Adam Othaman Ngowi, 'How Centralized Recruitment Influence Employee's Turnover in Tanzania Local Government Authorities: Experience from Moshi Municipal Council', *International Journal of Academic Research in Business and Social Sciences*, 6.9 (2016), Pages 334-343 <https://doi.org/10.6007/IJARBSS/v6-i9/2314>

Mtaho, Adam B., and Fredrick Romanus Ishengoma, 'Factors Affecting QoS in Tanzania Cellular Networks', *International Journal of Computer Science and Network Solutions*, 2.4 (2014), 29–36

Muente-Kunigami, Arturo, and Juan Navas-Sabater, *Options to Increase Access to Telecommunications Services in Rural and Low-Income Areas* (Washington, D.C: World Bank Publications, 2010)

Muganda, Anna, 'Tanzania's Economic Reforms— and Lessons Learned', in *Scaling Up Poverty Reduction: A Global Learning Process and Conference* (presented at the Reducing Poverty, Sustaining Growth—What Works, What Doesn't, and Why A Global Exchange for Scaling Up Success, Shanghai: The International Bank for Reconstruction and Development / The World Bank, 2004)

Mukherjee, Sampat, Mallinath Mukherjee, and Amitava Ghose, *Microeconomics* (Delhi: PHI Learning Pvt. Ltd., 2004)

Mukhopadhyay, Subhas Chandra, ed., *Internet of Things: Challenges and Opportunities*, Smart Sensors, Measurement and Instrumentation, volume 9 (Switzerland: Springer International Publishing, 2014)

Müller-Jentsch, Daniel, *The Development of Electricity Markets in the Euro-Mediterranean Area: Trends and Prospects for Liberalization and Regional Integration* (Washington, D.C: World Bank Publications, 2001)

Mumuni, Alhassan G., Mushtaq Luqmani, and Zahir A. Quraeshi, 'Telecom Market Liberalization and Service Performance Outcomes of an Incumbent Monopoly', *International Business Review*, 26.2 (2017), 214–24 <https://doi.org/10.1016/j.ibusrev.2016.06.008>

Muris, Timothy J., 'Principles for a Successful Competition Agency', *The University of Chicago Law Review*, 72.1 (2006), 165–87

Mustafa, Mohammad A., Bruce Laidlaw, and Mark Brand, *Telecommunications Policies for Sub-Saharan Africa* (World Bank Publications, 1997)

Mutu, Adriana, 'The Regulatory Independence of Audiovisual Media Regulators: A Cross-National Comparative Analysis', *European Journal of Communication*, 33.6 (2018), 619–38 <https://doi.org/10.1177/0267323118790153>

Muzzini, Elisa, *Consumer Participation in Infrastructure Regulation: Evidence from the East Asia and Pacific Region* (Washington, D.C: World Bank Publications, 2005)

Mwakatumbula, Hilda Jacob, Goodiel Charles Moshi, and Hitoshi Mitomo, 'Consumer Protection in the Telecommunication Sector: A Comparative Institutional Analysis of Five African Countries', *Telecommunications Policy*, 43.7 (2019), 1–8 <https://doi.org/10.1016/j.telpol.2019.02.002>

Mwakikagile, Godfrey, *The Union of Tanganyika and Zanzibar: Formation of Tanzania and Its Challenges* (Dar es Salaam: New Africa Press, 2016)

Mwandosya, J. M., George F. Mbowe, and Peter Young, eds., *Competition Policy and Utility Regulation*, CEEST Research Report Series, no. 6 (Dar-es-Salaam: Centre for Energy, Environment, Science and Technology, 1997)

Mwashiuya, Elias, 'Examining Application of Competition Rules in the Tanzania Real Estate Market' (unpublished A Thesis Submitted in Fulfilment of the Requirements for the Degree of Doctor of Philosophy (Law) of the University of Dar es Salaam, University of Dar es Salaam, 2019)

Mynbaev, Djafar K., and Lowell L. Scheiner, *Essentials of Modern Communication* (Hoboken, NJ, USA: John Wiley & Sons, 2020)

Nacimiento, Grace, 'The European Regulatory Framework for the Administration of Scarce and Finite Resources: The Case of Spectrum Management', in *EC Competition and Telecommunications Law*, ed. by Christian Koenig, International Competition Law Series, v. 6, 2nd ed (Austin: Alphen aan den Rijn, The Netherlands: Frederick, MD: Wolters Kluwer Law & Business, 2009), pp. 569–616

Nagarajan, Vijaya, *Discretion and Public Benefit in a Regulatory Agency* (Australia: ANU Press, 2013)

National Audit Office, *Kuwasilisha Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2010/2011* (Dar es Salaam: National Audit Office, 2012)

———, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2009/2010* (Dar es Salaam: National Audit Office, 2011)

———, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2011/2012* (Dar es Salaam: National Audit Office, 2013)

———, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2012/2013* (Dar es Salaam: National Audit Office, 2014)

———, *Ripoti Ya Mwaka Ya Mdhibiti Na Mkaguzi Mkuu Wa Hesabu Za Serikali Kuhusu Ukaguzi Wa Mashirika Ya Umma Kwa Mwaka Wa Fedha 2013/2014* (Dar es Salaam: National Audit Office, 2015)

National Bureau of Statistics, *2016 Tanzania in Figures, National Bureau of Statistics* (Dar es Salaam: NBS, 2017)

Ndalichako, Joyce L., Eustela P. Bhalalusesa, and Hashim M. Twaakyondo, 'Factors Shaping Successful Public Private Partnership in The ICT Sector in Developing Countries: The Case of Tanzania', 2002

Needham, David, *Business for Higher Awards* (Oxford: Heinemann, 1999)

Ngowi, Prosper, 'Economic Development and Change in Tanzania Since Independence: The Political Leadership Factor', in *Political and Managerial Leadership for Change and Development in Africa* (presented at the 29th AAPAM Annual Roundtable Conference, Mbabane, Swaziland: African Association for Public Administration and Management, 2007), p. 23

Nicolas Petit, 'The Oligopoly Problem in EU Competition Law', in *Handbook on European Competition Law: Substantive Aspects*, ed. by Ioannis Lianos and Damien Geradin (Edward Elgar Publishing, 2013), pp. 259–349

———, 'The Proliferation of National Regulatory Authorities alongside Competition Authorities: A Source of Jurisdictional Confusion', in *Regulation Through Agencies in the EU: A New Paradigm of European Governance*, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 180–214

Nihoul, Paul, and Peter Rodford, *EU Electronic Communications Law: Competition & Regulation in the European Telecommunications Market*, Second Edition (Oxford, New York: Oxford University Press, 2011)

Nikolinakos, Nikos Th, *EU Competition Law and Regulation in the Converging Telecommunications, Media and IT Sectors* (The Netherlands: Kluwer Law International B.V., 2006)

Njovu, Felister Bruno, 'Experience of Decentralized and Centralized Recruitment Systems in Local Government Authorities of Tanzania: A Case Study of Two Local Government Authorities in Morogoro Region' (unpublished A Research Paper Presented in Partial Fulfilment of the Requirements for Obtaining the Degree of Master of Arts in Development Studies, The Netherlands, 2013)

Noam, Eli, 'Interconnection Practices', in *Handbook of Telecommunications Economics*, ed. by Martin Cave, Sumit Kumar Majumdar, and Ingo Vogelsang, 1st ed (Amsterdam; Boston: Elsevier, 2002), pp. 387–423

———, *Interconnecting the Network of Networks* (USA: MIT Press, 2001)

———, 'Introduction', in *Telecommunications in Africa*, ed. by Eli Noam (New York: Oxford University Press, 1999), pp. 3–12

———, *Telecommunications in Africa* (New York: Oxford University Press, 1999)

———, *Telecommunications in Europe*, Communication and Society (New York: Oxford University Press, 1992)

Noll, Roger G., and Mary M. Shirley, 'Telecommunications Reform in Sub-Saharan Africa: Politics, Institutions and Performance' <https://projects.iq.harvard.edu/files/wcfia/files/656_nollshirley.pdf> [accessed 10 December 2019]

Noor, Halima, *The State of Play of Competition Policy and Law Reform: The Case of Tanzania* (Nairobi.: CUTS International, 2015)

Ntully Huggins v MIC Tanzania Limited and Tanzania Communication Regulatory Authority

Nyerere, Julius Kambarage, *The Arusha Declaration Ten Years After* (Dar es Salaam: Government Printer, 1977)

O'Donoghue, Robert, and A. Jorge Padilla, *The Law and Economics of Article 102 TFEU*, Second Edition (Oxford, United Kingdom: Hart Publishing, 2013)

Odudu, Okeoghene, 'The Wider Concerns of Competition Law', ed. by Christopher Townley, *Oxford Journal of Legal Studies*, 30.3 (2010), 599–613

OECD, *Access Pricing in Telecommunications* (Paris: OECD, 2004)

———, *Alternative Local Loop Technologies: A Review* (Paris: OECD, 1996)

———, *Barriers to Entry* (Paris: OECD Publishing, 2005)

———, *Better Regulation in Europe; Portugal* (Paris: OECD Publishing, 2010)

———, *Better Regulation in Europe; The Netherlands* (Paris: OECD Publishing, 2010)

———, *Better Regulation in Europe; United Kingdom* (Paris: OECD Publishing, 2010)

———, *Convergence and Next Generation Networks, OECD Ministerial Meeting on the Future of Internet Economy* (Seoul, Korea: OECD, 2008)

———, *Creating a Culture of Independence: Practical Guidance against Undue Influence*, The Governance of Regulators (OECD, 2017) <https://doi.org/10.1787/9789264274198-en>

———, *Developments in Local Loop Unbundling* (Paris: OECD Publishing, 2003)

———, *Digital Convergence and Beyond: Innovation, Investment, and Competition in Communication Policy and Regulation for the 21st Century* (Paris: OECD Publishing, 2016)

———, *Driving Performance at Ireland's Commission for Regulation of Utilities*, The Governance of Regulators (Paris: OECD Publishing, 2018)

———, *Enhancing Competition in Telecommunications: Protecting and Empowering Consumers* (Seoul, Korea: OECD Publishing, 2008)

———, 'Independent Sector Regulators – Background Note' (OECD Publishing, 2019)

———, *Interconnection and Local Competition* (Paris: OECD Publishing, 2001)

———, *Making Reform Happen Lessons from OECD Countries* (Paris: OECD Publishing, 2010)

———, *OECD Communications Outlook 1999* (Paris: OECD Publishing, 1999)

———, *OECD Communications Outlook 2001* (Paris: OECD Publishing, 2001)

———, *OECD Digital Economy Outlook 2017* (Paris: OECD Publishing, 2017)

———, *OECD Investment Policy Reviews: Tanzania 2013* (Paris: OECD Publishing, 2013)

———, *OECD Principles for Internet Making Policy* (Paris: OECD, 2014)

———, *OECD Recommendation of the Council on Consumer Protection in E-Commerce* (Paris: OECD Publishing, 2016) <https://doi.org/10.1787/9789264255258-en>

———, *OECD Regulatory Policy Outlook 2018* (Paris: OECD Publishing, 2018)

———, *OECD Review of Telecommunication Policy and Regulation in Colombia* (OECD Publishing, 2014)

———, *OECD Review of Telecommunication Policy and Regulation in Mexico* (Paris: OECD, 2012)

———, *OECD Reviews of Regulatory Reform: Brazil 2008 Strengthening Governance for Growth: Strengthening Governance for Growth* (Paris: OECD Publishing, 2008)

———, *OECD Reviews of Regulatory Reform: France 2004 Charting a Clearer Way Forward* (OECD Publishing, 2004)

———, *OECD Reviews of Regulatory Reform: Germany 2004 Consolidating Economic and Social Renewal: Consolidating Economic and Social Renewal* (Paris: OECD Publishing, 2004)

———, *OECD Reviews of Regulatory Reform: Regulatory Reform in Ireland 2001* (Paris: OECD Publishing, 2001)

———, *Policy Framework for Investment A Review of Good Practices: A Review of Good Practices* (Paris: OECD Publishing, 2006)

———, *Promoting Trade in Services Experience of the Baltic States: Experience of the Baltic States* (Paris: OECD Publishing, 2004)

———, *Refusal to Deal* (Paris: OECD Publishing, 2009)

———, *Regulation Reform in Greece: The Role of Competition Policy in Regulatory Reform* (Paris: OECD Publishing, 2001)

———, *Regulatory Institutions: A Blueprint for the Russian Federation* (Paris: OECD, 2008) <https://doi.org/10.1787/241530366501>

———, *Regulatory Institutions: A Blueprint for the Russian Federation*, 1 May 2008 <https://doi.org/10.1787/241530366501>

———, 'Regulatory Management Capacities of Member States of the EU That Joined the Union on 1 May 2004', 2007 <https://doi.org/10.1787/5kml60q573g6-en>

———, *Regulatory Policy and Governance: Supporting Economic Growth and Serving the Public Interest* (Paris: OECD Publishing, 2011) <https://doi.org/10.1787/9789264116573-en>

———, *Regulatory Policy in Peru Assembling the Framework for Regulatory Quality: Assembling the Framework for Regulatory Quality*, OECD Reviews of Regulatory Reform (Paris: OECD Publishing, 2016)

———, *Regulatory Reform in the Netherlands* (Paris: OECD Publishing, 1999)

———, *Regulatory Reforms in the United States* (Paris: OECD Publishing, 1999)

———, *Remedies and Sanctions in Abuse of Dominance Cases* (Paris: OECD, 2006) <https://www.oecd.org/competition/abuse/38623413.pdf>

———, *Report on Consumer Protection in Online and Mobile Payments* (Paris: OECD Publishing, 2012)

———, *Report on Experiences with Structural Separation* (Paris: OECD Publishing, 2011)

———, *Taking Stock of Regulatory Reform a Multidisciplinary Synthesis: A Multidisciplinary Synthesis* (Paris: OECD Publishing, 2008)

———, *Telecommunication Regulatory Institutional Structures and Responsibilities*, 11 January 2006 <https://doi.org/10.1787/231741271464>

———, *The Divestiture of Assets as a Competition Remedy: Stocktaking of International Experiences* (Paris: OECD Publishing, 2019)

———, *The Failing Firm Defence* (Paris: OECD, 2009)

———, *The Governance of Regulators: Being an Independent Regulator* (Paris: OECD Publishing, 2016)

———, *The Governance of Regulators: OECD Best Practice Principles for Regulatory Policy* (Paris: OECD Publishing, 2014)

———, *The Seoul Declaration for the Future of the Internet Economy* (Seoul, Korea: OECD, 2008)

———, *United States - The Role of Competition Policy in Regulatory Reform* (Paris: OECD Publishing, 1998)

OECD and IDB, *Broadband Policies for Latin America and the Caribbean: A Digital Economy Toolkit* (Paris: OECD Publishing, 2016)

Office of Communication, the UK, *Review of the Universal Service Obligation* (United Kingdom: Office of Communications, 14 March 2016)

Ogola, George, 'Threats to Media Freedom in Africa: Some Old Methods and Some New', *The Conversation*, 3 October 2018 <http://theconversation.com/threats-to-media-freedom-in-africa-some-old-methods-and-some-new-104168> [accessed 5 September 2019]

Ogus, Anthony I., *Regulation: Legal Form and Economic Theory* (Bloomsbury Publishing, 2004)

Olingo, Allan, 'Tanzania Allows Airtel to Defer Listing on DSE', *The East African Newspaper* (East Africa, 30 June 2019)

Olingo, Allan, 'Vodacom, The Largest Share of Telecom Sector in EA', *The East African* (Dar es Salaam, 20 August 2017)

Oliver, Dawn, 'Regulation, Democracy, and Democratic Oversight in the UK', in *The Regulatory State: Constitutional Implications*, ed. by Dawn Oliver, Tony Prosser, and Richard Rawlings (Oxford; New York: Oxford University Press, 2010), pp. 243–66

Orbach, Barak, and Raphael Avraham, 'Squeezing Claims: Refusal to Deal, Essential Facilities, and Price Squeezes', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York.: Oxford University Press, 2015), pp. 120–31

O'Riordan, Timothy, Ray Kemp, and Michael Purdue, *Sizewell B: An Anatomy of Inquiry* (Hampshire and London: The Macmillan Press, 1988)

Orji, Uchenna Jerome, *Telecommunications Law and Regulation in Nigeria* (Cambridge Scholars Publishing, 2018)

Ottow, Annetje, *Market and Competition Authorities: Good Agency Principles* (Oxford: Oxford University Press, 2015)

Pahl, John, *Interference Analysis: Modelling Radio Systems for Spectrum Management* (Chichester, UK; Hoboken, NJ: John Wiley & Sons, 2016)

Pandit, Shweta, and Ghanshyam Singh, *Spectrum Sharing in Cognitive Radio Networks: Medium Access Control Protocol Based Approach* (Cham: Springer International Publishing Imprint: Springer, 2017)

Papendropoulus, Penelope, 'The Implementation of an Effects-Based Approach Under Article 82: Principles and Application', in *The Reform of EC Competition Law: New Challenges*, ed. by Ioannis Kokkoris and Ioannis Lianos (The Netherlands: Kluwer Law International, 2010), pp. 419–33

Park, Donghyun, 'The Meaning of Competition: A Graphical Exposition', *The Journal of Economic Education*, 29.4 (1998), 347–57 <https://doi.org/10.1080/00220489809595927>

Park, Eun-A., 'Explicating Barriers to Entry in the Telecommunications Industry', *Info*, 2009 <https://doi.org/10.1108/14636690910932984>

Parpworth, Neil, and Nicola Padfield, eds., *Constitutional and Administrative Law*, Core Text Series, 7th ed (Oxford: Oxford University Press, 2012)

Paul Healy, 'The Effect of Changes in Corporate Control of Firms Performance', in *Transforming Organizations*, ed. by Thomas A. Kochan and Michael Useem (New York: Oxford University Press, 1992), pp. 61–79

Pazi, Shaban Msafiri, 'Assessment of Broadband Access Technologies in Tanzanian Rural Areas', *International Journal of Internet of Things*, 8.1 (2019), 1–9

Pazi, Shaban Msafiri, and Chris Chatwin, 'Assessing the Economic Benefits and Challenges of Tanzania's National ICT Broadband Backbone (NICTBB)', *International Journal of Information and Computer Science*, 2.7 (2013), 117-126.

Peeperkorn, Luc, 'Price Discrimination and Exploitation', in *International Antitrust Law & Policy: Fordham Competition Law 2008*, ed. by Barry E. Hawk (New York: Juris Publishing, Inc., 2009), pp. 611–34

Persson, Lars, 'The Failing Firm Defense', *Journal of Industrial Economics*, 53.2 (2005), 175–201 <https://doi.org/10.1111/j.0022-1821.2005.00251.x>

Philip, George, and Shao Hing Tsoi, 'Regulation and Deregulation of Telecommunications: The Economic and Political Realities. Part I: The United

States', *Journal of Information Science*, 14.5 (1988), 257–64 <https://doi.org/10.1177/016555158801400502>

Pierce, Richard J., and Ernest Gellhorn, *Regulated Industries in a Nutshell*, West Nutshell Series, 4th ed (St. Paul, Minn: West Group, 1999)

Pitsch, Peter K., and Arthur W. Bresnahan, 'Common Carrier Regulation of Telecommunications Contracts and the Private Carrier Alternative', *Federal Communications Law Journal*, 48.3 (1996), 447–86

Podszun, Rupprecht, 'Introduction', in *Competition Policy and the Economic Approach: Foundations and Limitations*, ed. by Josef Drexl, Wolfgang Kerber, and Rupprecht Podszun (Cheltenham Northampton, MA: Edward Elgar, 2011), pp. 1–10

———, 'State-Related Restraints of Competition and Supranational Antitrust Law: How a Harmonised Regional Competition Framework Can Shape a More Market- Oriented Economy', in *Harmonisation of Laws in the East African Community: The State of Affairs with Comparative Insights from the European Union and Regional Economic Communities*, ed. by Johannes Döveling, Hamudi Majamba, Richard Frimpong Oppong, and Ulrike Wanitzek, TGCL Series, 5 (Nairobi, Kenya: LawAfrica Publishing (K) Ltd, 2018), pp. 265–96

Posner, Richard, 'Natural Monopoly and Its Regulation', *Stanford Law Review*, 21.3 (1969), 548 <https://doi.org/10.2307/1227624>

———, *Natural Monopoly and Its Regulation* (Washington, D.C: Cato Institute, 1999)

———, 'Theories of Economic Regulation', *The Bell Journal of Economics and Management Science*, 5.2 (1974), 335–58 <https://doi.org/10.2307/3003113>

Poudou, Jean-Christophe, and Michel Roland, 'Equity Justifications for Universal Service Obligations', *International Journal of Industrial Organization*, 52 (2017), 63–95 <https://doi.org/10.1016/j.ijindorg.2017.01.007>

Pozdnakova, Alla, *Liner Shipping and EU Competition Law* (The Netherlands: Kluwer Law International B.V., 2008)

Prasad, Rohit, Varadharajan Sridhar, and Alison Bunel, 'An Institutional Analysis of Spectrum Management in India', *Journal of Information Policy*, 6 (2016), 252–93 <https://doi.org/10.5325/jinfopoli.6.2016.0252>

Prosser, Tony, 'Regulation and Social Solidarity', *Journal of Law and Society*, 33.3 (2006), 364–87 <https://doi.org/10.1111/j.1467-6478.2006.00363.x>

———, 'Regulatory Agencies, Regulatory Legitimacy, and European Private Law', in *Making European Private Law: Governance Design*, ed. by Fabrizio Cafaggi and

Horatia Muir Watt (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2010), pp. 235–53

———, *The Regulatory Enterprise: Government, Regulation, and Legitimacy* (Oxford; New York: Oxford University Press, 2010)

Puije, Patrick D. Van der, *Telecommunication Circuit Design* (New York: J. Wiley, 2002)

PWC, *Sustaining the Momentum National Budget Bulletin 2019/20* (Dar es Salaam: PWC, June 2019)

Raitt, George, *The Metaphysics of Market Power: The Zero-Sum Competition and Market Manipulation Approach* (Oxford: Bloomsbury Publishing, 2019)

Rappaport, T.S., A. Annamalai, R.M. Buehrer, and W.H. Tranter, 'Wireless Communications: Past Events and a Future Perspective', *IEEE Communications Magazine*, 40.5 (2002), 148–61 <https://doi.org/10.1109/MCOM.2002.1006984>

Rawlings, Richard, 'Introduction: Testing Times', in *The Regulatory State: Constitutional Implications*, ed. by Dawn Oliver, Tony Prosser, and Richard Rawlings (Oxford; New York: Oxford University Press, 2010), pp. 1–14

Reeves, Tony, and Ninette Dodoo, 'Standards of Proof and Standards of Judicial Review in European Commission Merger Law', *Fordham International Law Journal*, 29.5 (2005), 1034–67

Renda, Andrea, 'Competition–Regulation Interface in Telecommunications: What's Left of the Essential Facility Doctrine', *Telecommunications Policy*, 34.1–2 (2010), 23–35 <https://doi.org/10.1016/j.telpol.2009.11.005>

Ricketts, Martin, 'Economic Regulation: Principles, History and Methods', in *International Handbook on Economic Regulation*, ed. by Michael A. Crew and David Parker (Cheltenham, UK; Northampton, MA: Edward Elgar, 2006), pp. 34–59

Riley, Geoff, *AQA A2 Economics Module 5 & 6 Digital Textbook* (West Yorkshire: Tutor2u Limited, 2004)

Ritter, Cyril, 'How Far Can the Commission Go When Imposing Remedies for Antitrust Infringements?', *Journal of European Competition Law & Practice*, 7.9 (2016), 587–98 <https://doi.org/10.1093/jeclap/lpw037>

Ritter, Lennart, and W. David Braun, *European Competition Law: A Practitioner's Guide* (The Hague: Kluwer Law International B.V., 2005)

Robb, Genna, Isaac Tausha, and Thando Vilakazi, 'Competition and Regulation in Zimbabwe's Emerging Mobile Payments Markets', in *Competition Law and Economic Regulation in Southern Africa Addressing Market Power in Southern*

Africa, ed. by Imraan Valodia, Simon Roberts, and Jonathan Klaaren (Baltimore, Maryland: Project Muse, 2019), pp. 215–33

Roberts, Simon, 'Assessing Excessive Pricing: The Case of Flat Steel in South Africa', *Journal of Competition Law and Economics*, 4.3 (2008), 871–91 <https://doi.org/10.1093/joclec/nhn005>

Rodine-Hardy, Kirsten, *Global Markets and Government Regulation in Telecommunications* (Cambridge: Cambridge University Press, 2013)

Rodríguez Bolívar, Manuel Pedro, 'Smart Cities: Big Cities, Complex Governance?', in *Transforming City Governments for Successful Smart Cities*, ed. by Manuel Pedro Rodríguez-Bolívar (Switzerland: Springer International Publishing, 2015), VIII, 1–7 <https://doi.org/10.1007/978-3-319-03167-5_1>

Rogers, Mike, and Xavier Pedros, *Taxing Mobile Connectivity in Sub-Saharan Africa: A Review of Mobile Sector Taxation and Its Impact on Digital Inclusion* (London: GSMA, 2017)

Röller, Lars-Hendrick, 'Efficiencies in EU Merger Control: Do They Matter?', in *European Competition Law Annual 2010: Merger Control in European and Global Perspective*, ed. by Philip Lowe and Mel Marquis (Oxford; Portland, Oregon: Hart Publishing, 2013), pp. 61–70

Rott, Peter, 'The EU Legal Framework for the Enforcement of Consumer Law', in *Enforcement and Effectiveness of Consumer Law*, ed. by Hans-W. Micklitz and Geneviève Saumier, Ius Comparatum - Global Studies in Comparative Law (Cham: Springer International Publishing, 2018), pp. 249–85

Rouse, Michael J., *Institutional Governance and Regulation of Water Services* (London: IWA Publishing, 2013)

Rustichini, Aldo, and Nicholas Yannelis, 'What Is Perfect Competition', in *Equilibrium Theory in Infinite Dimensional Spaces*, ed. by M. Ali Khan and Nicholas C. Yannelis (Heidelberg: Springer Verlag, 2013), pp. 249–66

Sabby, Francis, 'Approximation of Competition Rules within the EAC Partner States: A Case Study of Tanzania, Kenya and Uganda' (unpublished A Thesis Submitted in Fulfilment of the Requirements for the Degree of Doctor of Philosophy (Ph.D) in Law of the University of Dar es Salaam, University of Dar es Salaam, Dar es Salaam)

Sagi, Guy, 'A Comprehensive Economic and Legal Analysis of Tying Arrangements', *Seattle University Law Review*, 38.1 (2014), 1–35

Salamon, Lester, 'Economic Regulation', in *The Tools of Government: A Guide to New Governance*, ed. by Lester Salamon (Oxford, New York: Oxford University Press, 2002), pp. 117–55

Salop, Steven, 'Economic Analysis of Exclusionary Vertical Conduct: Where Chicago Has Overshoot the Mark', in *How the Chicago School Overshot the Mark: The Effect of Conservative Economic Analysis on U.S. Antitrust*, ed. by Robert Pitofsky (New York: Oxford University Press, 2008), pp. 114–55

Sander Johannsen, Katja, *Regulatory Independence in Theory and Practice– a Survey of Independent Energy Regulators in Eight European Countries* (Copenhagen: AKF Forlaget, 2003)

Sandra Marco Colino, *Competition Law of the EU and UK*, 8th edn (United Kingdom: Oxford University Press, 2019)

Sappington, David, and Joseph Stiglitz, 'Information and Regulation', in *Public Regulation: New Perspectives on Institutions and Policies*, ed. by Elizabeth Bailey, MIT Press Series on the Regulation of Economic Activity, 14 (Cambridge, Mass: MIT Press, 1987), pp. 1–43

Sauter, Wolf, *Coherence in EU Competition Law*, Oxford Studies in European Law, First edition (Oxford, United Kingdom: Oxford University Press, 2016)

Schedl, Hans, 'Sector-Specific Regulation: Transitory or Ad Infinitum? An International Status Report on Regulatory Institutions', *Journal for Institutional Comparisons*, 5.4 (2007), 35–40

Schlossberg, Robert S., *Mergers and Acquisitions: Understanding the Antitrust Issues* (Washington, D.C: American Bar Association, 2004)

Schmidt, Hedvig K. S., 'Private Enforcement – Is Article 82 EC Special?', in *Abuse of Dominant Position: New Interpretation, New Enforcement Mechanisms?*, ed. by Mark-Oliver Mackenrodt, Beatriz Conde Gallego, and Stefan Enchelmaier (Springer Science & Business Media, 2008), pp. 137–63

Schütze, Robert, *European Union Law* (California: Cambridge University Press, 2018)

Schwartz, Robert M., 'Confusing Bundling with Tying under Article 82 EC: Batteries Included or It Only Comes with Fries', *Hastings Business Law Journal*, 6.1 (2010)

Schwarz, Tim, and David Satola, *Telecommunications Legislation in Transitional and Developing Economies* (Washington, D.C: World Bank Publications, 2000)

Scott Colin, 'Accountability in the Regulatory State', *Journal of Law and Society*, 27.1 (2000), 38–60

Sebalu, Paulo, 'The East African Community', *Journal of African Law*, 16.3 (1972), 345–63

Sedoyeka, Eliamani, 'Quality of Service Perception in Telecom Business in Tanzania', *International Journal of Computing and ICT Research*, 9.2 (2015), 9–20

Segan, James, 'Arbitration Clauses and Competition Law', *Journal of European Competition Law & Practice*, 9.7 (2018), 423–30 <https://doi.org/10.1093/jeclap/lpy039>

Semboja, Joseph, and S. M. H. Rugumisa, 'Price Control in the Management of an Economic Crisis: The National Price Commission in Tanzania', *African Studies Review*, 31.1 (1988), 47–65 <https://doi.org/10.2307/524583>

Seplaki, Les, *Cost and Competition in American Medicine: Theory, Policy, and Institutions* (Maryland: University Press of America, 1994)

Shalala, Donna E., 'Guest Editorial: Are Large Public Organizations Manageable', *Public Administration Review*, 58.4 (1998), 284–89 <https://doi.org/10.2307/977557>

Sharon Gillett, 'The End of The Phone System', *Journal of Information Policy*, 2 (2012), 242–47 <https://doi.org/10.5325/jinfopoli.2.2012.0242>

Shelanski, Howard A., 'The Case for Rebalancing Antitrust and Regulation', *Michigan Law Review*, 109.5 (2011), 683–732

Sherman, Roger, *The Regulation of Monopoly* (Cambridge: Cambridge University Press, 1989)

Shi, Zhongzhi, *Advanced Artificial Intelligence* (World Scientific, 2011)

Shinder, Debra Littlejohn, *Computer Networking Essentials* (Indianapolis, USA: Cisco Press, 2001)

Shivji, Issa G., *Tanzania: The Legal Foundations of the Union* (Dar es Salaam: Dar es Salaam University Press, 2009)

Shleifer, Andrei, 'Understanding Regulation', *European Financial Management*, 11.4 (2005), 439–51 <https://doi.org/10.1111/j.1354-7798.2005.00291.x>

Sidak, J. Gregory, and Daniel F. Spulber, *Deregulatory Takings and the Regulatory Contract: The Competitive Transformation of Network Industries in the United States* (USA: Cambridge University Press, 1998)

Siddique, Rukhasa, 'Socialism and Ujamaa Ideology', in *Capitalism, Socialism and the Development Crisis in Tanzania*, ed. by Norman O'Neill and Kemal Mustafa (United Kingdom: Gower Publishing Company, 1990), pp. 22–56

Simpson, Brian P., *Markets Don't Fail!* (Oxford: Lexington Books, 2005)

Sims, Martin, Toby Youell, and Richard Womersley, *Understanding Spectrum Liberalisation* (Boca Rto: CRC Press, 2016)

Singh, Rajendra, and Siddhartha Raja, *Convergence in Information and Communication Technology: Strategic and Regulatory Considerations* (Washington, D.C: World Bank, 2010)

Singham, Shanker, *A General Theory of Trade and Competition: Trade Liberalisation and Competitive Markets* (London: Cameron May, 2007)

Siragusa, Mario, and Fausto Caronna, 'A Reassessment of the Relationship between Competition Law and Sector-Specific Regulation', in *Competition Law as Regulation*, ed. by Josef Drexl and Fabiana Di Porto (UK& US: Edward Elgar Publishing, 2015), pp. 153–73

Sirili, Nathanael, Angwara Kiwara, Obadia Nyongole, Gasto Frumence, Avemaria Semakafu, and Anna-Karin Hurtig, 'Addressing the Human Resource for Health Crisis in Tanzania: The Lost in Transition Syndrome', *Tanzania Journal of Health Research*, 16.2 (2014) <https://doi.org/10.4314/thrb.v16i2.6>

Sivakumaran, Mayuran, *Taxing Mobile Connectivity in Asia Pacific: A Review of Mobile Sector Taxation and Its Impact on Digital Inclusion* (London: GSMA, 2017)

Smith, Allan, 'History of the East African Posts and Telecommunications Administration 1837 to 1967' (unpublished Doctor of Philosophy, University of Nairobi, 1971) <http://erepository.uonbi.ac.ke/handle/11295/26809> [accessed 3 February 2020]

Smith, Peter L, and Björn Wellenius, 'Strategies for Successful Telecommunications Regulation in Weak Governance Environments', 1999

Snow, Marcellus S., 'Regulation to Deregulation: The Telecommunications Sector and Industrialization', *Telecommunications Policy*, 9.4 (1985), 281–90 <https://doi.org/10.1016/0308-5961(85)90021-7>

Solomon, Talya, and Iris Achmon, 'Excessive Pricing in Israel—How to Deal with A "Hot Potato"?', *Journal of European Competition Law & Practice*, 8.10 (2017), 660–67 <https://doi.org/10.1093/jeclap/lpx066>

Sosnick, Stephen H., 'Toward a Concrete Concept of Effective Competition', *American Journal of Agricultural Economics*, 50.4 (1968), 827–53 <https://doi.org/10.2307/1237622>

Srinuan, Pratompong, Chalita Srinuan, and Erik Bohlin, 'An Empirical Analysis of Multiple Services and Choices of Consumer in the Swedish Telecommunications Market', *Telecommunications Policy*, Special issue on: Selected papers from the 10th Conference in Telecommunications, Media and Internet Techno-economics, 38.5 (2014), 449–59 <https://doi.org/10.1016/j.telpol.2014.03.002>

Steiner, Mark, *Economics in Antitrust Policy: Freedom to Contract vs. Freedom to Compete* (Boca Raton, Florida: Dissertation.com, 2007)

Stephen, Kapunda, *Industrial and Development Economics: An African Perspective* (Dakar, Senegal: CODESRIA, 2017)

Stevens, Rosalind, *Regulation and Consumer Protection in a Converging Environment* (ITU, March 2013) <https://www.itu.int/ITU-D/finance/Studies/consumer_protection.pdf>

Stewart-Smith, Martin C., *Industry Structure and Regulation* (Washington, D.C: World Bank Publications, 1999)

Stigler, George J., 'Perfect Competition, Historically Contemplated', *Journal of Political Economy*, 65.1 (1957), 1–17

Stiglitz, Joseph E., *Whither Socialism?* (Cambridge, Massachusetts; London, England: MIT Press, 1996)

Stone, Merlin, 'The Evolution of the Telecommunications Industry — What Can We Learn from It?', *Journal of Direct, Data and Digital Marketing Practice*, 16.3 (2015), 157–65 <https://doi.org/10.1057/dddmp.2014.80>

Stork, Christoph, *Mobile Termination Benchmarking: The Case of Namibia*, Towards Evidence-Based ICT Policy and Regulation (Cape Town: Research ICT Africa, 2010)

Stoyanova, Milena, *Competition Problems in Liberalized Telecommunications: Regulatory Solutions to Promote Effective Competition* (The Netherlands: Kluwer Law International B.V., 2008)

Streel, Alexandre De, 'Remedies in the Electronic Communication Sector', in *Remedies in Network Industries: EC Competition Law Vs. Sector-Specific Regulation*, ed. by Damien Geradin (Antwerp-Oxford: Intersentia nv, 2004), pp. 67–124

Strother, S. C, *Telecommunications Cost Management* (Boston: Artech House, 2002)

Strunz, Balthasar, *The Interface of Competition Law, Industrial Policy and Development Concerns: The Case of South Africa*, 1st edition (New York, NY: Springer Berlin Heidelberg, 2018)

Stucke, Maurice E., 'What Is Competition?', in *The Goals of Competition Law*, ed. by Daniel Zimmer, ASCOLA Competition Law the Fifth ASCOLA Workshop on Comparative Competition Law (Cheltenham, UK; Northampton, MA: Edward Elgar Publishing, 2012)

Subrato Dasgupta, Paolo, 'The Independence of Regulatory Agencies in Practice: The Case of Telecommunications Regulators in the United Kingdom and France' (unpublished A thesis submitted to the Department of Government of the London School of Economics and Political Science for the degree of Doctor of Philosophy, The London School of Economics and Political Science, 2009) <http://etheses.lse.ac.uk/2750/1/U615699.pdf>

Sullivan, Thomas, 'Antitrust Remedies in the U.S. and EU: Advancing a Standard of Proportionality', *The Antitrust Bulletin*, 48.2 (2003), 377–425 <https://doi.org/10.1177/0003603X0304800205>

Suntum, Ulrich van, *The Invisible Hand: Economic Thought Yesterday and Today* (Germany: Springer Berlin Heidelberg, 2005)

Szydło, Marek, 'Judicial Review of Decisions Made by National Regulatory Authorities: Towards a More Coherent Application of EU Sector-Specific Regulation', *International Journal of Constitutional Law*, 12.4 (2014), 930–53 <https://doi.org/10.1093/icon/mou069>

Szyszczak, Erika M., *The Regulation of the State in Competitive Markets in the EU*, Modern Studies in European Law, no. 11 (Oxford; Portland, Or: Hart, 2007)

Taylor, Jim, *Deep Space Communications* (Hoboken, New Jersey: John Wiley & Sons, 2016)

Taylor, Martyn, 'Access Regulation versus Infrastructure Investment: Important Lessons from Australia', in *Regulation and the Evolution of the Global Telecommunications Industry*, ed. by Anastassios Gentzoglanis (Cheltenham: Elgar, 2010), pp. 63–82

TCRA, 'About Us', *TCRA Website*, 2020 <https://www.tcra.go.tz/about-tcra/departments> [accessed 17 November 2020]

———, *Annual Report for the Year Ended 30th June 2011* (Dar es Salaam: TCRA, 2012)

———, *Annual Report for the Year Ended 30th June 2015* (Dar es Salaam: TCRA, 2016)

———, *Annual Report for the Year Ended 30th June 2016* (Dar es Salaam: TCRA, 2017)

———, 'Cancellation of Licenses Granted to Six Telecoms Company Limited' (TCRA, 2020)

———, *Competition Assessment in Tanzania Communications and Broadcasting Markets* (Dar es Salaam: TCRA, December 2018)

———, 'Enforcement Guidelines' (TCRA, 2012)

———, *Hatua Dhidi Ya Watoa Huduma Kwa Kushindwa Kuzingatia Utaratibu Wa Usajili Wa Namba/Laini Za Simu Za Kiganjani*' (Dar es Salaam: TCRA, 2017)

———, *Hatua Dhidi Ya Watoa Huduma Kwa Kushindwa Kuzingatia Utaratibu Wa Usajili Wa Namba/Laini Za Simu Za Kiganjani* (Dar es Salaam: TCRA, 2019)

———, *Maelezo Ya Kaimu Mkurugenzi Mkuu, Mamlaka Ya Mawasiliano Tanzania, Eng. James Kilaba Kuhusu Uamuzi Kuhusu Ukiukwaji Wa Masharti Ya Usajili Wa Namba/Laini Za Simu Za Mkononi* (Dar es Salaam: TCRA, 2016)

———, 'National Frequency Allocation Table' (Tanzania Communications Regulatory Authority, 2020)

———, 'Public Notice on the Issue of Tariffs in the ICT Sector' (TCRA, 2015)

———, *Quality of Service Report for Cellular Mobile Operators for Arusha, Dar Es Salaam and Mwanza Service Areas for The Period of January March 2016* (Dar es Salaam: TCRA, 2016)

———, *Quarterly Communication Statistics: January to March 2020* (Dar es Salaam: TCRA, 2020)

———, *Quarterly Communications Statistics April-June 2015* (Dar es Salaam: TCRA, 2015)

———, *Quarterly Communications Statistics: July-September 2017* (Dar es Salaam: TCRA, 2018)

———, *Quarterly Communications Statistics: October-December 2016* (Dar es Salaam: TCRA, 2017)

———, *Quarterly Communications Statistics: October-December 2017* (Dar es Salaam: TCRA, 2018)

———, *Quarterly Communications Statistics: October-December 2018* (Dar es Salaam: TCRA, 2018)

———, *Quarterly Communications Statistics: October-December 2019* (Dar es Salaam: TCRA, 2020)

———, 'Tanzania Communication Regulatory Authority Code of Conduct' (TCRA, 2015)

———, *TCRA Annual Report 2017* (Dar es Salaam, 2018)

———, *Telecommunications Statistics from 2000 to 2010* (Dar es Salaam: TCRA, 2010)

———, *Telecommunications Statistics from September to December 2010* (Dar es Salaam: TCRA, 2010)

———, *The Tanzania Communications (Interconnection Rates Determinations)*, 2017, NO 5 OF 2017

———, *The Tanzania Communications (Interconnection Rates Determinations)*, 2004, NO 1 OF 2004

———, *The Tanzania Communications (Interconnection Rates Determinations)*, 2007, NO 2 OF 2007

———, *The Tanzania Communications (Interconnection Rates Determinations)*, 2013, NO 3 OF 2013

Teece, David J, 'Telecommunications in Transition: Unbundling, Reintegration, and Competition', 1, 33

Temu, Goodluck, 'Reflections on the Enforcement of Competition Rules in Tanzania', *The East Africa Law Review*, 41.2 (2015), 86–110

Tenbücken, Marc, and Volker Schneider, 'Divergent Convergence: Structures and Functions of National Regulatory Authorities in the Telecommunications Sector', in *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*, ed. by Jacint Jordana and David Levi-Faur, The CRC Series on Competition, Regulation and Development (Cheltenham, UK; Northampton, MA, USA: E. Elgar, 2004), pp. 271–94

Terhechte, Jörg Philipp, *International Competition Enforcement Law Between Cooperation and Convergence* (Berlin, Heidelberg: Springer Berlin Heidelberg, 2011)

Tewari, D. D., *Principles of Microeconomics* (New Delhi: New Age International, 2003)

Thatcher, Mark, 'Independent Regulatory Agencies and Elected Politicians in Europe', in *Regulation through Agencies in the EU: A New Paradigm of European Governance*, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 47–66

The Bundeskartellamt Annual Report 2017 (Bonn: The Bundeskartellamt, July 2018)

The World Bank, *Private Solutions for Infrastructure in Angola* (Washington, D.C: World Bank Publications, 2005)

The World Bank, *Tanzania at the Turn of the Century: From Reforms to Sustained Growth and Poverty Reduction* (Washington, D.C: World Bank Publications, 2001)

The World Bank, *World Development Report 1994: Infrastructure for Development* (Washington, D.C: Oxford University Press for the World Bank, 1994)

Thomann, Eva, 'The Notions of Regulation and Self-Regulation in Political Science', *Journal of Self-Regulation and Regulation*, 3 (2017), 55–75 <https://doi.org/10.11588/josar.2017.0.40136>

Top, Seyfi, Serkan Dilek, and Nurdan Çolakoğlu, 'Perceptions of Network Effects: Positive Or Negative Externalities?', *Procedia - Social and Behavioral Sciences*, 24 (2011), 1574–84 <https://doi.org/10.1016/j.sbspro.2011.09.033>

Tor, Avishalom, 'Justifying Competition Law in the Face of Consumers' Bounded Rationality', in *New Developments in Competition Law and Economics*, ed. by Klaus Mathis and Avishalom Tor (Cham: Springer International Publishing, 2019), pp. 3–25

Townsend, David, 'The Vital Role of Regulation in the Telecommunications Sector', in *Implementing Reforms in the Telecommunications Sector: Lessons from Experience*, ed. by Bjorn Wellenius and Peter A. Stern (Washington, D.C: World Bank Publications, 1994), pp. 505–10

Train, Kenneth, *Optimal Regulation: The Economic Theory of Natural Monopoly* (Cambridge, Mass: MIT Press, 1991)

Tremblay, Victor J., and Carol Horton Tremblay, *New Perspectives on Industrial Organization: With Contributions from Behavioral Economics and Game Theory* (New York: Springer Science & Business Media, 2012)

Trubnikov, Dmitrii, 'The Russian Telecommunications Experience: A Positive Outcome of the Competitive Order in the Industry', *Journal of Industry, Competition and Trade*, 2019, 1–24 <https://doi.org/10.1007/s10842-019-00304-5>

Tse, David, and Pramod Viswanath, *Fundamentals of Wireless Communication* (Cambridge: Cambridge University Press, 2005)

Tucker, Irvin, *Microeconomics for Today* (USA: Cengage Learning, 2008)

Turner, Donald F., 'Conglomerate Mergers and Section 7 of the Clayton Act', *Harvard Law Review*, 78.7 (1965), 1313–95 <https://doi.org/10.2307/1338906>

Tyler, Tom R., 'What Is Procedural Justice? Criteria Used by Citizens to Assess the Fairness of Legal Procedures', *Law & Society Review*, 22.1 (1988), 103–35 <https://doi.org/10.2307/3053563>

UNCTAD, *Appropriate Sanctions and Remedies* (Geneva: UNCTAD, 8 November 2010) <https://unctad.org/en/Docs/tdrbpconf7d5_en.pdf>

———, *Investment Policy Review: The United Republic of Tanzania*, Investment Policy Review Series (Geneva: United Nations, 2002)

———, *Voluntary Peer Review of Competition Law and Policy: United Republic of Tanzania* (New York & Geneva: The United Nations, 2012)

United States Congress, *Bills and Debates in Congress Relating to Trusts: Fiftieth Congress to Fifty-Seventh Congress, First Session, Inclusive* (Washington, D.C: U.S. Government Printing Office, 1902)

United States Department of the Treasury, *Report of the Secretary of the Treasury on Government Sponsored Enterprises* (Washington, D.C: Department of the Treasury, 1991)

Uri, Noel D., *The Economics of Telecommunications Systems* (New York: Nova Publishers, 2004)

Utz, Robert J., *Sustaining and Sharing Economic Growth in Tanzania* (Washington, D.C: World Bank Publications, 2008)

Utz, Robert, and Allister Moon, 'Coordination of Economic Policy Formulation and Implementation', in *Sustaining and Sharing Economic Growth in Tanzania*, ed. by Robert J. Utz (Washington, DC: World Bank, 2008), pp. 303–12

Uukkivi, R, M Ots, and O Koppel, 'Systematic Approach to Economic Regulation of Network Industries in Estonia', *Trames. Journal of the Humanities and Social Sciences*, 18.3 (2014), 221 <https://doi.org/10.3176/tr.2014.3.02>

Valaskova, Katarina, Marek Durica, Maria Kovacova, Elena Gregova, and George Lazaroiu, 'Oligopolistic Competition among Providers in the Telecommunication Industry: The Case of Slovakia', *Administrative Sciences*, 9.3 (2019), 49 <https://doi.org/10.3390/admsci9030049>

Valdar, Andy, *Understanding Telecommunications Networks*, IET Telecommunications Series, 71, 2nd edition (London, United Kingdom: The Institution of Engineering and Technology, 2017)

Valletti, Tommaso M., 'Is Mobile Telephony a Natural Oligopoly?', *Review of Industrial Organization*, 22.1 (2003), 47–65 <https://doi.org/10.1023/A:1022191701357>

Vasconcelos, Helder, 'Can the Failing Firm Defence Rule Be Counterproductive?', *Oxford Economic Papers*, 65.2 (2013), 567–93 <https://doi.org/10.1093/oep/gps034>

Veljanovski, Cento, 'Economic Approach to Regulation', in *The Oxford Handbook of Regulation*, ed. by Robert Baldwin, Martin Cave, and Martin Lodge (Oxford, U. K: Oxford University Press, 2012), pp. 17–38

Vickers, John, 'Concepts of Competition', *Oxford Economic Papers*, 47.1 (1995), 1–23

Viscusi, W. Kip, John M. Vernon, and Joseph Emmett Harrington, *Economics of Regulation and Antitrust*, 2nd ed (Cambridge, Mass: MIT Press, 1995)

Vogelsang, Ingo, 'Convergence and Net Neutrality', in *Communications Regulation in the Age of Digital Convergence: Legal and Economic Perspectives*, ed. by Jan Krämer and Stefan Seifert (Karlsruhe: Karlsruhe Universität Verlag, 2009), pp. 19–28

Voigt, Stefan, and André Schmidt, *Making European Merger Policy More Predictable* (Springer Science & Business Media, 2005)

Vos, Ellen, 'Independence, Accountability and Transparency of European Regulatory Agencies', in *Regulation through Agencies in the EU: A New Paradigm of*

European Governance, ed. by Damien Geradin, Rodolphe Muñoz, and Nicolas Petit (Cheltenham, UK; Northampton, MA: Edward Elgar, 2005), pp. 120–40

Walden, Ian, 'Access and Interconnection', in *Telecommunications Law and Regulation*, ed. by Ian Walden, Fifth edition (Oxford: Oxford University Press, 2018), pp. 435–90

Wang, Qiong, 'Pricing and Equilibrium in Communication Networks', in *Handbook of Optimization in Telecommunications*, ed. by Mauricio G. C. Resende and Panos M. Pardalos (USA: Springer Science & Business Media, 2008), pp. 545–69

Wang Wei, 'Structural Remedies in EU Antitrust and Merger Control', *World Competition*, 344.4 (2011), 571–96

Wang, Wei, and Matti Rudanko, 'EU Merger Remedies and Competition Concerns: An Empirical Assessment: EU Merger Remedies and Competition Concerns', *European Law Journal*, 18.4 (2012), 555–76 <https://doi.org/10.1111/j.1468-0386.2012.00610.x>

Watts, Tim J, 'Baby Bells', in *Post-War America: An Encyclopaedia of Social, Political, Cultural, and Economic History*, ed. by James Ciment (New York: Routledge Taylor & Francis Group, 2015), I–IV, 107–8

Waverman, Leonard, Meloria Meschi, Benoit Reillier, and Kalyan Dasgupta, *Access Regulation and Infrastructure Investment in the Telecommunications Sector: An Empirical Investigation* (London: LECG Ltd, 2007)

Webb, Sidney, and Beatrice Webb, *The History of Liquor Licensing in England Principally from 1700 to 1830* (London: Longmans, Green and Co, 1903)

Weber, Rolf H., and Romana Weber, *Internet of Things: Legal Perspectives*, 49 (Heidelberg: Springer-Verlag Berlin, 2010)

Weiser, Phil, 'The Relationship of Antitrust and Regulation in a Deregulatory Era', *U of Colorado Law Legal Studies Research Paper No. 06-19*, 50 (2005), 549–79

Weld, William, 'Telecommunications and the Competitive Advantage of Massachusetts', *Federal Communication Law Journal*, 47.2 (1994), 295–400

Welfens, Paul J. J., *Digital Integration, Growth and Rational Regulation* (Heidelberg: Springer Berlin Heidelberg, 2007)

Wellenius, Björn, and David Townsend, 'Telecommunications and Economic Development', in *Technology Evolution and the Internet*, ed. by Sumit Kumar Majumdar, Ingo Vogelsang, and Martin Cave, Handbook of Telecommunications Economics, Vol. 2, 3. ed (The Netherlands: Elsevier, 2008), pp. 557–621

Wheatley, Jeffery J., *World Telecommunications Economics* (London, United Kingdom: IET, 1999)

Whelan, Peter, *The Criminalization of European Cartel Enforcement: Theoretical, Legal, and Practical Challenges* (United Kingdom: Oxford University Press, 2014)

Whish, Richard, *Competition Law*, Ninth edition (Oxford, United Kingdom: Oxford University Press, 2018)

White, Lawrence, 'Monopoly and Dominant Firms: Antitrust Economics and Policy Approaches', in *The Oxford Handbook of International Antitrust Economics*, ed. by Roger D. Blair and D. Daniel Sokol, Oxford Handbooks (Oxford, UK; New York, NY: Oxford University Press, 2015), I, 313–44

Wibisono, Gunawan, Muhammad Suryanegera, Ajib S Arifin, and Perzil Yurdis, 'Design of IP Interconnection Regulation for Multiplication Indonesia Telecommunication', *Journal of Physics: Conference Series*, 1175 (2019), 1–6 <https://doi.org/10.1088/1742-6596/1175/1/012109>

Williams, Indogesit, and Benjamin Kwofie, 'The Impact of Liberalization on the Mobile Telephony Market in Africa: The Case of Ghana, Nigeria and Kenya', in *The African Mobile Story*, ed. by Knud Erik Skouby and Idongesit Williams, River Publishers Series in Communications (Aalborg: River Publishers, 2014), pp. 17–42

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

Willner, Johan, 'Privatization: A Skeptical Analysis', in *International Handbook on Privatization*, ed. by David Parker and David S. Saal (Cheltenham, UK; Northampton, Mass: Edward Elgar, Pub, 2003), pp. 60–86

Wils, Wouter, 'Leniency in Antitrust Enforcement; Theory and Practice', *World Competition*, 30.1 (2007), 25–63

Wilson, Kevin G., *Deregulating Telecommunications: U.S. and Canadian Telecommunications, 1840-1997* (USA: Rowman & Littlefield, 2000)

Winkler, Kay, and Glen Baumgarten, 'The Framework for Network Access and Interconnection', in *EC Competition and Telecommunications Law*, ed. by Christian Koenig, International Competition Law Series, v. 6, 2nd ed (Austin: Alphen aan den Rijn, The Netherlands: Frederick, MD: Wolters Kluwer Law & Business, 2009), pp. 421–69

Winn, Jane K., and Louis de Koker, 'Introduction to Mobile Money in Developing Countries: Financial Inclusion and Financial Integrity Conference Special Issue', *Washington Journal of Law, Technology & Arts*, Mobile Money Symposium 2013, 8.3 (2013), 155–63

Witt, Anne C., 'The European Court of Justice and the More Economic Approach to EU Competition Law—Is the Tide Turning?', *The Antitrust Bulletin*, 64.2 (2019), 172–213 <https://doi.org/10.1177/0003603X19844637>

Wobst, Peter, *Structural Adjustment and Intersectoral Shifts in Tanzania: A Computable General Equilibrium Analysis* (Washington, D.C: Intl Food Policy Res Inst, 2001)

Woods, Donncadh, Ailsa Sinclair, and David Ashton, 'Private Enforcement of Community Competition Law: Modernisation and The Road Ahead', *Competition Policy Newsletter*, 2 (2004), 31–37

Woodward-Carlton, Julia, and Adam Collinson, 'The Sectoral Regulation', in *UK Competition Law: The New Framework*, ed. by Ros Kellaway, Rhodri Thompson, and Christopher Brown (Oxford, New York: Oxford University Press, 2015), pp. 139–74

Wu, Yulei, Haojun Huang, Cheng-Xiang Wang, and Yi Pan, *5G-Enabled Internet of Things* (Boca Raton: CRC Press, 2019)

Wueller, Joshua R., 'Mergers of Majors: Applying the Failing Firm Doctrine in the Recorded Music Industry', *Brooklyn Journal of Corporate, Financial & Commercial Law*, 7.2 (2013), 589–612

Wurmnest, Wolfgang, 'Assimakis P. Komninos, EC Private Antitrust Enforcement: Decentralised Application of EC Competition Law by National Courts (Oxford and Portland/ Oregon, Hart Publishing 2008)

Wurmnest, Wolfgang, 'Predatory Pricing: From Price/Cost Comparisons to Post-Chicago Thinking', in *Structure and Effects in EU Competition Law: Studies on Exclusionary Conduct and State Aid*, ed. by Jürgen Basedow and Wolfgang Wurmnest, International Competition Law Series, vol. 47 (Alphen aan den Rijn: Frederick, MD: Kluwer Law International; Sold and distributed in North, Central, and South America by Aspen Publishers, 2011)

Xavier, Patrick, 'Price Cap Regulation for Telecommunications: How Has It Performed in Practice?', *Telecommunications Policy*, 19.8 (1995), 599–617 <https://doi.org/10.1016/0308-5961(95)00040-D>

———, 'Switching Costs and Consumer Behaviour: Implications for Telecommunications Regulation', *Info*, 2008 <https://doi.org/10.1108/14636690810887517>

Xavier, Patrick, and Dimitri Ypsilanti, 'Behavioral Economics and Telecommunications Policy', in *Regulation and the Evolution of the Global Telecommunications Industry*, ed. by Anastassios Gentzoglanis and Anders Henten (Cheltenham, Glos, UK; Northampton, MA: Edward Elgar, 2010), pp. 83–108

Yanrong, Kang, Pascal Schumacher, Bernd Holznagel, and Xu Junqi, 'General Telecommunications Regulatory Policy', in *Regulating Telecommunications in the EU and China: What Lessons to Be Learned?*, ed. by Bernd Holznagel, Junqi Xu, and Thomas Hart (Münster: LIT Verlag, 2009), pp. 7–84

Yi, Changyan, and Jun Cai, *Market-Driven Spectrum Sharing in Cognitive Radio* (Cham: Springer, 2016)

Zaballos, Antonio García and Nathalia Foditsch, *Spectrum Management the Key Lever for Achieving Universality* (Washington, D.C: Inter-American Development Bank, 2015)

Zaki, Yasir, *Future Mobile Communications: LTE Optimization and Mobile Network Virtualization*, Advanced Studies, Mobile Research Center Bremen (Wiesbaden: Springer Vieweg, 2013)

Zantel, 'Zantel Ezypesa', 2020 <https://zantel.co.tz/ezypesa> [accessed 19 February 2020]

Zeadally, Sherali, and Farhan Siddiqui, 'Voice Over Internet Protocol', in *Handbook of Computer Networks: Key Concepts, Data Transmission, and Digital and Optical Networks*, ed. by Hossein Bidgoli (Hoboken, N.J: John Wiley & Sons, Inc, 2008), pp. 468–86

Zhu, Ge, Shan Ao, and Jianhua Dai, 'Estimating the Switching Costs in Wireless Telecommunication Market', *Nankai Business Review International*, 2011 <https://doi.org/10.1108/20408741111139954>

Zywicki, Toddy J, and James C Cooper, 'The US Federal Trade Commission & Competition Advocacy: Lessons for Latina America Competition Policy', in *Competition Law and Policy in Latin America*, ed. by Eleanor Fox and Daniel Sokol (Portland, Oregon: Bloomsbury Publishing, 2009), pp. 351–76

Websites, Online documents and other sources

'Abuse of Dominance and Monopolisation - OECD' <http://www.oecd.org/daf/competition/abuse/> [accessed 24 September 2019]

African Development Bank, 'EASSy: The Eastern Africa Submarine Cable System', *African Development Bank - Building Today, a Better Africa Tomorrow*, 2019 <https://www.afdb.org/en/projects-and-operations/selected-projects/eassy-the-eastern-africa-submarine-cable-system-156> [accessed 28 February 2020]

Africanews, ‘African, Global Telecom Giants Bid to Enter Ethiopia Market’, 2020 <https://www.africanews.com/2020/06/27/monopoly-distancing-ethiopia-moves-to-liberalize-telecoms-sector//> [accessed 20 August 2020]

Anyimike, Anastazia, ‘Wasion Na Vitambulisho Kutokuzimiwa Simu’, *HabariLeo Newspaper* (Dar es Salaam, 14 November 2019) <https://habarileo.co.tz/habari/2019-11-145dcce3183c86b.aspx> [accessed 27 November 2019]

Aurea Simtowe, ‘Magufuli Ataja Sababu Za Kumng’oa Bosi TCRA’, *Mwananchi* (Dar es Salaam, 18 January 2019) <https://www.mwananchi.co.tz/habari/kitaifa/Magufuli-ataja-sababu-za-kumng-oa-bosi-TCRA/1597296-4940668-138cyh2/index.html> [accessed 3 December 2019]

Balakrishnan, Karen Gilchrist, Anita, ‘EU Hits Google with a Record Antitrust Fine of $2.7 Billion’, *CNBC*, 2017 <https://www.cnbc.com/2017/06/27/eu-hits-google-with-a-record-antitrust-fine-of-2-point-7-billion.html> [accessed 25 November 2019]

BBC Swahili, ‘Magufuli aivunja bodi ya TCRA’, *BBC News Swahili*, 2016 <https://www.bbc.com/swahili/habari/2016/04/160426_magufuli_yahaya_sack> [accessed 3 December 2019]

Benatia, Nathalie, ‘Jean Tirole - Markets That Are Perfect Are like Fish That Can Fly’, *Investors’ Corner*, 2019 <https://investors-corner.bnpparibas-am.com/thought-leadership/investment-forum/jean-tirole-markets-perfect-fish-fly/> [accessed 8 November 2019]

British Telecom, ‘TV & Broadband Packages | Cheap Broadband and TV Deals | BT’ <https://www.bt.com/tv/packages/> [accessed 30 September 2019]

Bundeskartellamt, ‘Guidance on Remedies in Merger Control’ (Bundeskartellamt, 2017) <http://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Leitlinien/Guidance%20on%20Remedies%20in%20Merger%20Control.pdf?__blob=publicationFile&v=3> [accessed 1 June 2020]

Clement, J, ‘App Stores: Number of Apps in Leading App Stores 2019’, *Statista*, 2020 <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/> [accessed 18 February 2020]

Daily News Reporter, ‘Azam Mobile Network in Pipeline’, *Daily News* (Dar es Salaam, 25 June 2018) <https://www.dailynews.co.tz/news/2018-06-255b30c5a54d9f5.aspx> [accessed 7 October 2019]

DePillis, Lydia, and Ivory Sherman, ‘Amazon’s Extraordinary 25-Year Evolution’, 2018 <https://www.cnn.com/interactive/2018/10/business/amazon-history-timeline/index.html> [accessed 27 September 2019]

EAC, 'EAC History' <https://www.eac.int/eac-history> [accessed 2 October 2019]

EACA, 'Five Commissioners of the EAC Competition Authority Sworn in at the EAC', 2016 <https://www.eacompetition.org/resources/view/five-commissioners-of-the-eac-competition-authority-sworn-in-at-the-eac> [accessed 20 August 2021]

———, 'East African Competition Authority Begins Operations to Check on Malpractices', *East African Community Competition Authority*, 2017 <https://www.eacompetition.org/resources/view/east-african-competition-authority-begins-operations-to-check-on-malpractices> [accessed 20 August 2021]

EACO, 'Dr. Ally Yahaya Simba: EACO Executive Secretary', 2020 <http://www.eaco.int/pages/exsec> [accessed 4 June 2020]

ERGA, *ERGA Report on the Independence of NRAs* (ERGA, 2015) <http://erga-online.eu/wp-content/uploads/2016/10/report_indep_nra_2015.pdf> [accessed 16 October 2019]

European Commission, 'Antitrust: Commission Fines Google €4.34 Billion for Abuse of Dominance Regarding Android Devices', *European Commission - European Commission*, 2018 <https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4581> [accessed 25 November 2019]

———, 'Benefits of Competition Policy – European Commission', 2012 <https://ec.europa.eu/competition/consumers/why_en.html> [accessed 19 November 2019]

———, 'Statement by Commissioner Vestager on Fining Scania for Participating in Trucks Cartel', *European Commission - European Commission*, 2017 <https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_17_3509> [accessed 25 November 2019]

Financial Times Reporter, 'Halotel, TTCL Play Catch up as "big 3" Extend Dominance', *Financial Times* (Dar es Salaam, 30 January 2019) <https://www.ippmedia.com/en/business/halotel-ttcl-play-catch-big-3-extend-dominance> [accessed 30 July 2019]

'Finland Makes Broadband a "Legal" Right', *BBC News*, 2020 <https://www.bbc.com/news/10461048>

Gold, Hadas, 'Appeals Court Backs AT&T Acquisition of Time Warner', *CNN*, 2019 <https://www.cnn.com/2019/02/26/media/att-time-warner-merger-ruling/index.html> [accessed 30 September 2019]

'Goodbye to the Hello Girls: Automating the Telephone Exchange', *Science Museum*, 2018 <https://www.sciencemuseum.org.uk/objects-and-stories/goodbye-hello-girls-automating-telephone-exchange> [accessed 12 February 2020]

GSMA, 'Using Auctions to Support Effective Pricing of Spectrum' (Nairobi, Kenya, 2017) <https://www.gsma.com/spectrum/wp-content/uploads/2017/11/6-Day-1-Session-2-Using-auctions-to-support-effective-pricing-of-spectrum-Richard-Marsden.pdf> [accessed 20 February 2020]

Halotel, 'Halotel', 2020 <https://halotel.co.tz/halopesa> [accessed 19 February 2020]

Helios Towers Plc, *Helios Towers Plc: Annual Report and Financial Statements* (London: Helios Towers Plc, 2019) <https://www.heliostowers.com/media/1786/ht-ar-2019.pdf> [accessed 17 June 2020]

HHT Infraco Ltd, 'Project Detail - HTT Infraco Limited', 2020 <https://www.fmo.nl/project-detail/43223> [accessed 28 February 2020]

Holmes, Simon, 'Climate Change, Sustainability and Competition Law-Climate Change Is an Existential Threat: Competition Law Must Be Part of the Solution and Not Part of the Problem', 2019 <https://www.law.ox.ac.uk/sites/files/oxlaw/simon_holmes.pdf> [accessed 2 June 2020]

'How African Governments Try to Control What Is Said Online', *The Economist*, 19 April 2018 <https://www.economist.com/middle-east-and-africa/2018/04/19/how-african-governments-try-to-control-what-is-said-online> [accessed 6 September 2019]

Ibáñez Colomo, Pablo, *Intersections of Antitrust: Policy and Regulation* (London: London School of Economics and Political Science Law Department, 2016) <http://eprints.lse.ac.uk/66573/1/__lse.ac.uk_storage_LIBRARY_Secondary_libfile_shared_repository_Content_LSE%20Working%20Paper_EU%20Competition%20Law_Ibabez_Colomo_EU_Competition_Law_Author.pdf> [accessed 9 December 2019]

ICN, 'Development of Private Enforcement of Competition Law in ICN Jurisdictions' (ICN-Cartel Working Group, 2019) <https://www.internationalcompetitionnetwork.org/wp-content/uploads/2019/07/CWG_Privateenforcement-2019.pdf> [accessed 11 November 2019]

International Telecommunication Union, *Regulatory Challenges and Opportunities in the New ICT Ecosystem* (Geneva: International Telecommunication Union, 2018) <http://handle.itu.int/11.1002/pub/81118c75-en> [accessed 18 February 2020]

‘Interview with Andreas Mundt, President of the German Bundeskartellamt (Federal Cartel Office)’, *The Antitrust Source*, 2016 <https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Interviews/the_antitrust_source%20-%20An_interview_with_Andreas_mundt.pdf?__blob=publicationFile&v=3> [accessed 29 August 2021]

ITU, ‘Statistics’ (ITU, 2018) <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> [accessed 26 September 2019]

———, *World Telecommunication Development Conference (WTDC-17) 9-20 October 2017* (Buenos Aires, Argentina: ITU, 2018) <https://www.itu.int/en/ITU-D/Conferences/WTDC/WTDC17/Documents/WTDC17_final_report_en.pdf> [accessed 18 February 2020]

Kamndaya, Samuel, ‘Tigo Finally Acquires Zantel - The Citizen’, *The Citizen* (Dar es Salaam, 6 June 2015) <https://www.thecitizen.co.tz/news/Tigo-finally-acquires-Zantel/1840340-2742156-9lywaf/index.html> [accessed 7 October 2019]

Kosmopoulos, Chris, ‘Why Telcos Are Acquiring Ad Tech and Media Companies’, *Marfeel*, 2018 <https://www.marfeel.com/blog/why-telcos-are-acquiring-ad-tech-and-media-companies/> [accessed 18 September 2019]

Kotsios, Panagiotis, ‘Regulatory Barriers to Entry in Industrial Sectors’, in *International Conference in International Business*, 2010 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1737250> [accessed 18 May 2020]

Laura Stevens, ‘What Is a Smart Home’, *BT.Com*, 2018 <http://home.bt.com/tech-gadgets/internet/connected-home/what-is-a-smart-home-11364214165664> [accessed 21 February 2020]

Makwetta, Herieth, ‘Rais Magufuli Aongeza Siku 20 Usajili Laini Za Simu, Atoa Agizo Kwa TCRA - Mwananchi’, *Mwananchi Newspaper* (Dar es Salaam, 27 December 2019) <https://www.mwananchi.co.tz/habari/kitaifa/Rais-Magufuli-aongeza-siku-20-usajili-laini-za-simu-/1597296-5399334-kmallm/index.html> [accessed 30 March 2020]

Mauldin, John, ‘America Has a Monopoly Problem’, *Forbes*, 11 April 2019 <https://www.forbes.com/sites/johnmauldin/2019/04/11/america-has-a-monopoly-problem/> [accessed 8 November 2019]

Merchant, Brian, ‘A Revolving Door of Telecom Lobbyists Is Paving a Fast Lane Over the Open Web’, *Vice*, 2014 <https://www.vice.com/en_us/article/kbzbqn/a-revolving-door-of-telecom-lobbyists-is-paving-a-fast-lane-over-the-open-web> [accessed 31 October 2019]

Metzenbaum, Shelley H., and Gaurav Vasisht, 'What Makes a Regulator Excellent?' (Unpublished Discussion Paper for the Penn Program on Regulation's International Expert Dialogue on "Defining and Measuring Regulatory Excellence", University of Pennsylvania Law School, 2015) <https://www.law.upenn.edu/live/files/4387-metzenbaumvasishtdiscussion-draftmarch-2015pdf1pdf> [accessed 16 October 2019]

Mfungahema, Raynold, 'Policy and Regulatory Approach on The Next Generation Networks: The Case of Tanzania' (presented at the ITU-Regional Workshop on the Next Generation Networks (NGN), Markham Suite Hotel, Dar es Salaam, 2006) <https://www.itu.int/ITU-T/worksem/ngn/200610/presentations/npr-p2.pdf> [accessed 17 September 2019]

Moshiro, Simon, 'Licensing in the Era of Liberalization and Convergence: The Case Study of The Republic of Tanzania' (ITU, 2005) <https://www.itu.int/ITU-D/treg/Case_Studies/Licensing/TANZANIA_CS.pdf> [accessed 20 February 2020]

Mpapalika, John, 'A Market Led Approach to Digital Dividend Review for Financing Digital Broadcasting Migration', in *9th Annual Digital Switchover Forum Africa* (presented at the 9th Annual Digital Switchover Forum Africa, Arusha, Tanzania, 2014) <https://cto.int/media/events/pst-ev/2014/DBSF/Dr%20John%20Andrew%20Mpapalika.pdf> [accessed 23 September 2019]

Mwakalebela, Leonard, 'Tanzania: Tritel to Surrender Its Licence Next Week', *Business Times* (Dar es Salaam, 31 January 2003) <https://allafrica.com/stories/200301310560.html> [accessed 7 October 2019]

Mwikola, Anna, 'TTCL Yavuna Wateja 300,000, Wamo Watumishi Wa Umma' (Dar es Salaam, 8 November 2019) <https://habarileo.co.tz/habari/2019-11-085dc5219985f7e.aspx> [accessed 15 May 2020]

NBS, 'National Bureau of Statistics - Home', 2020 <https://www.nbs.go.tz/index.php/en/> [accessed 30 July 2020]

OECD, 'Abuse of Dominance and Monopolisation', 2020 <http://www.oecd.org/competition/abuse/> [accessed 3 June 2020]

———, 'Economic and Social Benefits of Internet Openness', in *2016 Ministerial Meeting* (presented at the Digital Economy: Innovation, Growth and Social Prosperity, Cancun-Mexico: OECD Publishing, 2016) <https://www.oecd.org/internet/ministerial/meeting/Economic-and-Social-Benefits-of-Internet-Openness-discussion-paper.pdf> [accessed 25 September 2019]

———, *Internet Convergence, Pricing and Communication Regulation* (Paris: OECD) <https://www.oecd.org/sti/broadband/2758623.pdf> [accessed 29 September 2019]

Ofcom, *Trading Guidance Notes* (London: Ofcom, 2018) <https://www.ofcom.org.uk/__data/assets/pdf_file/0029/88337/Trading-guidance-notes.pdf> [accessed 20 February 2018]

Our Bureau, 'Interconnection to RJio: DoT Okays ₹3,050-Crore Penalty on Airtel, Voda Idea', *The Hindu Businessline*, 2019 <https://www.thehindubusinessline.com/info-tech/dcc-clears-imposing-penalty-on-airtel-voda-idea-seeks-trai-view-on-fine-amount/article27993124.ece> [accessed 9 March 2020]

'Public Service Recruitment Secretariat – PSRS' <https://www.ajira.go.tz/> [accessed 5 August 2019]

PWC, 'Doing Business in Africa Focus on Tanzania and Uganda' (PWC, 2018) <https://www.pwc.com/ug/en/assets/pdf/doing-business-in-africa-tz-ug.pdf> [accessed 18 September 2019]

'Rais Magufuli Abatilisha Muda Wa Usajili Wa Laini Za Simu Kama Ilivyotangazwa Awali Na TCRA', *JamiiForums* <https://www.jamiiforums.com/threads/rais-magufuli-abatilisha-muda-wa-usajili-wa-laini-za-simu-kama-ilivyotangazwa-awali-na-tcra.1577401/> [accessed 30 July 2019]

Rajan, Amol, 'Why Comcast Wanted Sky so Badly', *BBC News*, 2018 <https://www.bbc.com/news/entertainment-arts-45634303> [accessed 30 September 2019]

Satariano, Adam, 'Google Fined $1.7 Billion by E.U. for Unfair Advertising Rules', *The New York Times*, 20 March 2019, section Business <https://www.nytimes.com/2019/03/20/business/google-fine-advertising.html> [accessed 25 November 2019]

Simone Schlindwein, 'Uganda: One Year of Social Media Tax', *Deutsche Welle Website*, 2019 <https://www.dw.com/en/uganda-one-year-of-social-media-tax/a-49672632> [accessed 30 October 2020]

Southwood, Russell, 'Top 5 Telco Monopolies Hurting Africa', *Business Tech*, February 2014 <https://businesstech.co.za/news/telecommunications/52592/top-5-telco-monopolies-hurting-africa/> [accessed 8 November 2019]

Spanier, Gideon, 'Why Britain's Telecom Companies Are Expanding into Media Operations', *The Independent*, 8 December 2014 <http://www.independent.co.uk/news/media/opinion/gideon-spanier-why-britain-s-telecom-companies-are-expanding-into-media-operations-9909071.html> [accessed 18 September 2019]

Sraders, Anne, 'What Is Artificial Intelligence? Examples and News in 2019', *TheStreet*, 2019 <https://www.thestreet.com/technology/what-is-artificial-intelligence-14822076> [accessed 21 February 2020]

Stefen Kafeero, 'Ugandans Paying Highest for Mobile Data in E. Africa - Survey', *Daily Monitor* (Kampala, Uganda, 22 September 2019) <https://www.monitor.co.ug/News/National/Ugandans-paying-highest-for-mobile-data-in-E--Africa/688334-5282268-s90bmv/index.html> [accessed 3 March 2020]

'Tanzania's Leading Provider of Prepaid, Post-paid Mobile, Internet Services & Mobile Money.', *Airtel* <http://www.airtel.co.tz/> [accessed 19 February 2020]

TCRA, 'Cancellation of Licence Granted to Augere Tanzania Limited (Issued under Section 22 of the Electronic and Postal Communications Act, Cap. 306)', 2016 <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/284-cancellation-of-licence-granted-to-augere-tanzania-limited> [accessed 5 August 2019]

———, 'Directorate of Industry Affairs', 2019 <https://www.tcra.go.tz/index.php/about-tcra/departments/2-tcra/81-department-consumer-and-industry-affairs> [accessed 30 July 2019]

———, 'Licensed Operators › Network Services Licences', *Tanzania Communications Regulatory Authority*, 2020 <https://www.tcra.go.tz/licensing/licensed-operators/network-services-licenses> [accessed 14 May 2020]

———, 'Public Notice: Outstanding Payment of Regulatory Fees', 2016 <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/287-public-notice-oustanding-payment-of-regulatory-fees> [accessed 5 August 2019]

———, 'Public Notice: Regulatory Action Taken Against Operators' (TCRA, 2015) <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/263-public-notice-regulatory-action-taken-against-operators> [accessed 30 July 2019]

———, 'Taarifa Kwa Umma Kuhusu Kusudio La Kufuta Leseni Ya Kampuni Ya 4G Mobile Limited' <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/282-taarifa-kwa-umma-kuhusu-kusudio-la-kufuta-leseni-ya-kampuni-ya-4g-mobile-limited> [accessed 17 September 2019]

———, 'Taarifa Kwa Umma Kuhusu Kusudio La Kufuta Leseni Ya Kampuni Ya Mycell Company Limited', *TCRA Website* <https://www.tcra.go.tz/index.php/archive-panel/headlines-archive/283-taarifa-kwa-umma-kuhusu-kusudio-la-kufuta-leseni-ya-kampuni-ya-mycell-company-limited> [accessed 17 September 2019]

———, ‘TCRA Board Members’, 2021 <https://www.tcra.go.tz/administration/board-members> [accessed 16 August 2021]

———, ‘TCRA Organization Structure 2021’ <https://www.tcra.go.tz/uploads/text-editor/files/TCRA%20Organisation%20Structure_1622544286.pdf> [accessed 16 August 2021]

———, ‘TCRA Profile’ <https://www.tcra.go.tz/index.php/about-tcra/tcra-profile> [accessed 6 September 2019]

The Commission of European Communities, ‘Communications from the Commission; the Operating Framework for the European Regulatory Agencies’ (The Commission of European Communities, 2002) <https://publications.europa.eu/en/publication-detail/-/publication/fa3ad044-8751-408c-8735-a7e52925e059/language-en> [accessed 6 December 2018]

The Editor, ‘Why the First EA Community Collapsed’, *Daily Monitor*, 2012 <https://www.monitor.co.ug/OpEd/Letters/Why-the-first-EA-Community-collapsed-/806314-1653726-arwsdy/index.html> [accessed 20 November 2019]

The Guardian Reporter, ‘Mobile Call Rates May Fall as Govt Plans to Slash Interconnect Fees’ (Dar es Salaam, 2 December 2017), The Guardian edition <https://www.ippmedia.com/en/news/mobile-call-rates-may-fall-govt-plans-slash-interconnect-fees> [accessed 19 September 2019]

The Reporter, ‘Tanzania PM: 5 million Villagers Enjoy Phone Services after Sh118 Billion Investment’, *The Citizen* <https://www.thecitizen.co.tz/news/Tanzania-PM--5-million-villagers-enjoy-phone-services-after/1840340-5095330-93ogym/index.html> [accessed 4 September 2019]

Tigo Tanzania, ‘Tigo Announces Combination with Zantel’, *Tigo Tanzania*, 2019 <https://www.tigo.co.tz/news/tigo-announces-combination-with-zantel> [accessed 7 November 2019]

———, ‘Tigo Pesa’, *Tigo Tanzania*, 2020 <https://www.tigo.co.tz/tigo-pesa> [accessed 19 February 2020]

Tim Smith, ‘Disruptive Technology’, 2020 <https://www.investopedia.com/terms/d/disruptive-technology.asp> [accessed 20 October 2020]

TTCL, ‘TTCL Pesa - TTCL’, 2020 <https://www.ttcl.co.tz/ttclpesa_index.asp> [accessed 19 February 2020]

UK Competition Network, 'UK Competition Network', *GOV.UK* <https://www.gov.uk/government/groups/uk-competition-network> [accessed 30 July 2019]

UNCTAD Secretariat, 'Foundations of an Effective Competition Agency', in *Trade and Development Commission Intergovernmental Group of Experts on Competition Law and Policy* (presented at the United Nations Conference on Trade and Development, Geneva: UNCTAD, 2011) <https://unctad.org/en/Docs/ciclpd8_en.pdf> [accessed 11 January 2019]

———, 'The Benefit of Competition Policy for Consumers', in *United Nations Conference on Trade and Development* (presented at the Intergovernmental Group of Experts on Competition Law and Policy Fourteenth session, Geneva: UNCTAD, 2014) <https://unctad.org/meetings/en/SessionalDocuments/ciclpd27_en.pdf> [accessed 19 October 2019]

Wilson, Thomas, 'Merger Remedies - Is It Time to Go More Behavioural?', *Kluwer Competition Law Blog*, 2020 <http://competitionlawblog.kluwercompetitionlaw.com/2020/02/21/merger-remedies-is-it-time-to-go-more-behavioural/> [accessed 1 June 2020]

WTO, 'Telecommunications Services: Reference Paper 24 April 1996 Negotiating Group on Basic Telecommunications' (WTO, 1996) <https://www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm> [accessed 30 July 2019]

Zacharia, Alfred, '"Smart" Quits Tanzania Market', *The Citizen* (Dar es Salaam, 7 October 2019) <https://www.thecitizen.co.tz/news/1840340-5301700-9r90ua/index.html> [accessed 17 June 2020]

———, 'Why State-Run Telco Needs Sh1.7 Trillion', *The Citizen* (Dar es Salaam, 22 May 2019) <https://www.thecitizen.co.tz/news/1840340-5126040-8pexdm/index.html> [accessed 17 June 2020

Declaration

I, Goodluck Temu, declare that I have not previously submitted this thesis at the University of Bayreuth or any other university for the award of the degree of *Dr. iuris* or any other similar award. I further declare that all sources used, referred to or quoted, have been duly acknowledged.

Goodluck Temu

Bayreuth, 29.11.2021