REGULATION OF TARIFFS IN THE TELECOMMUNICATIONS INDUSTRY IN ZAMBIA: WILL PRICE CONTROL UNDERMINE INVESTOR CONFIDENCE?

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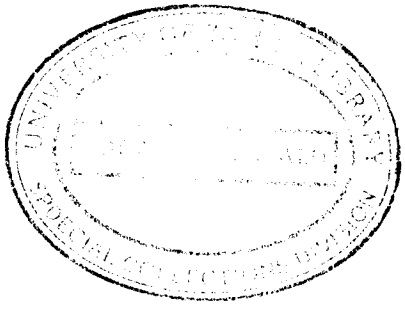

May 2012

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ABSTRACT

This dissertation considers the effect of tariff regulation in the telecommunications industry in Zambia on investor confidence. Firstly, the dissertation traces the background to regulatory intervention, in form of price control, in the telecommunications sector.

This inquiry reveals that price control is employed as the market conditions in the industry transition from the status of monopoly to that of liberalisation, with the primary aim of preventing the abuse of dominance.

This paper seeks to determine whether regulation of tariffs and interconnection charges in telecommunications may bring about the side effect of undermining investor confidence. To authenticate or dispel such a prospect, this essay compares, from one perspective how tariffs are regulated in telecoms with the way it is done in water supply and sanitation and energy industries. From another perspective, the paper compares tariff regulation in telecommunications in Zambia with similar regulations in three other jurisdictions.

The dissertation, mainly through such comparative analysis found that rather than undermining investor confidence in telecommunications, the current form of tariff regulation has, to a large extent, curtailed anticompetitive practices such as arbitrary pricing, thereby safeguarding and creating certainty and long-term investor confidence.

Despite the largely positive appraisal of the current regulatory policy and practice, this paper
reform in the legal and institutional framework in order to enhance the
industry to both local and foreign private investors

ACKNOWLEDGEMENTS

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Finally, I would like to thank all those who, though not expressly mentioned above, contributed in one way or another in bringing this research to its successful completion.

DEDICATION

This work is dedicated to:

All the young people of this digital generation. May ICT be more of a force for good in their delicate lives!

LIST OF ABBREVIATIONS AND ACRONYMS

ATF:	Automatic Tariff Adjustment Formula
CAZ:	Communications Authority of Zambia
CEC:	Copperbelt Energy Corporation
CPM:	Cost-plus model
CU:	Commercial Utility
ECA:	Electronic Communications Act
ERB:	Energy Regulation Board
GNCA:	Ghana National Communications Authority
ICASA:	Independent Communications Authority of South Africa
ICT:	Information and Communications Technology
NCA:	Nigeria Communications Act
NCC:	Nigeria Communications Commission
NITEL:	Nigeria Telecoms Plc
NTP:	National Telecommunications Policy
NWASCO:	National Water and Sanitation Council
PSTN:	Public Switched Telephone Network
ROR:	Rate of return
SMP:	Significant Market Power
TRE:	Telecommunications Regulatory Environment
WLL:	Wireless Local Loop
WSS:	Water Supply and Sanitation
ZAMTEL:	Zambia Telecommunications Ltd
ZESCO:	Zambia Electricity Supply Corporation
ZICTA:	Zambia Information and Communications Technology Authority

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CHAPTER ONE

BACKGROUND TO REGULATORY INTERVENTION IN THE TELECOMMUNICATIONS INDUSTRY

1.0 General Introduction

Zambia, like other sub-Saharan African countries, is recording steady growth in the Information and Communications Technology (ICT) industry generally, particularly in the telecommunications sector. This development owes its origin to the liberalisation of the economy, which came with the new multi-party political era in the early 1990s.

Many state-owned telecommunications operators were privatized and the sector "experienced a trend of liberalization worldwide, motivated by the evolution of new technologies and services, the growing importance of telecommunications for national economies and the development of international trade in telecommunications services."[1] The significant consequence of this was that the telecommunications sector fundamentally changed in structure, from that of state monopoly to competition. In Zambia, for instance, the then state-owned Posts and Telecommunications Corporation (PTC) monopolised telecommunications services subject to very limited regulation because the Government was effectively acting as both operator and regulator.

As liberalisation slowly became established, Government had to authorise the entry of new service providers into the telecommunications market. In Zambia, this enabling environment was created through the enactment of the Telecommunications Act in 1994. Through this legislation, the postal and telecommunications functions in the Posts and Telecommunications Corporation (PTC) were separated. Two commercial entities were then

[1] Telecommunications Management Group, Inc, *ICT Regulation Toolkit: Module 6. Legal and Institutional Framework*, (Geneva: *infoDev*/ITU, 2006), 1, accessed on 11/01/2012, http://www.ictregulationtoolkit.org

created, namely the Zambia Telecommunications Ltd (ZAMTEL) and the Zambia Postal Corporation (ZAMPOST). The functions which had hitherto been performed by the PTC, were transferred to the newly established and independent regulatory agency, the Communications Authority of Zambia (CAZ).

The opening up of the sector to a potential multiplicity of competing players necessitated a new enhanced institutional, legal and regulatory framework aimed at ensuring that rights and obligations of all stakeholders are protected and fulfilled respectively. Thus the Information and Communication Technologies Act of 2009 (hereinafter, the "ICT Act") was enacted to enforce the principles and objectives of the National ICT Policy formulated in 2006[2], to establish a new institutional, legal and regulatory environment. One stated core objective of the Act is to "protect the rights and interests of service providers and consumers."[3] The ICT Act also renamed the CAZ as the Zambia Information and Communications Technology Authority (ZICTA).[4]

One crucial aspect of the regulatory mechanism is the regulation of tariffs and interconnection rates which are fundamentally aimed at preventing the abuse of dominance.[5] Tariffs are regulated in order to address dominance under two kinds of market conditions: non-competitive or monopoly markets and competitive markets. In markets where a dominant operator does not face effective competition, the regulator's role is to ensure that "prices are not set substantially above operational cost so that the operator earns a monopoly level of profit."[6]

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[2] Government of Zambia, *National Information and Communication Technology Policy*, (Lusaka: Ministry of Communications and Transport, 2006)

[3] ICT Act 2009, preamble

[4] ibid, preamble and s. 4 (1)

[5] Telecommunications Management Group, Inc, *ICT Regulation Toolkit: Module 6*, subsection 7.1.5

[6] Telecommunications Management Group, Inc, subsection 7.1.5

It is from this background that this paper aims broadly at determining the extent to which the current form of tariff regulation is likely, if at all, to affect investor confidence in the telecommunications industry in Zambia. To assess this, regulation of tariffs in the Zambian telecoms has been compared with similar forms of regulation in the water supply and sanitation (WSS) industry and energy (power) industry. Further, a close comparison has been made between tariff regulation in the Zambian telecoms and similar regulatory mechanisms in Ghana, Nigeria and South Africa.

1.1 Statement of the Problem

According to economic theory[7], in the free market economy the determination of prices in any industry should be left to the market forces (price mechanism) — otherwise investors cannot have (or have less) confidence to invest in such an industry. ZICTA is specially mandated under the ICT Act to do both economic and technical regulation of information and communication technology. It is empowered, *inter alia*, to regulate tariffs[8]— in other words, to control prices for telecommunications services — partly to ensure that the service providers do not exploit the consumers (subscribers). Free market economists would argue that leaving prices to the market forces will make the industry more appealing to the investors (raise their confidence) which will in turn attract more investors to the industry, causing a rise in competition and ultimately lower prices and higher quality of service.

Despite this intervention from the regulator, in Zambia the industry is, nonetheless, attractive and it does not appear that investors do not have enough confidence to invest or continue investing in this industry. On the surface, this seems paradoxical.

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[7] As propounded by Adam Smith, founder of modern economics and proponent of absolute economic liberalism. See: Jim Manis, (ed), *An Inquiry into the Nature and Causes of the Wealth of Nations*, (Hazleton, PA: The Pennsylvania State University *Electronic Classics Series*, 2005), 51–55

[8] ICT Act, ss. 47 and 48 [as amended by the *ICT (Amendment) Act No. 3 of 2010*]

Thus, to address this paradox this research undertook both inter-industrial and inter-jurisdictional comparative analyses to assess the impact of regulation of tariffs on investor confidence in the telecommunications sector.

1.2 Purpose and Objectives of the Study

The purpose and broad objectives of the research were:

- To determine the extent to which the current form of tariff regulation affects investor confidence in the telecommunications industry in Zambia; and
- To determine the likely impact of deregulation of telecommunications tariffs on investor confidence in Zambia, through a comparison with countries where some measure of deregulation has been effected.

Specific objectives are reflected in the following research questions:

1.3 Research Questions

This study was undertaken with a view of attempting to answer the following research questions:

- What is the economic rationale for tariff regulation?
- Is the current Zambian legal framework able to adequately meet the objectives of price regulation in telecommunications?
- How does tariff regulation in telecommunications fare against tariff regulation in other utility industries in Zambia?
- How does regulation of tariffs for telecommunications services in Zambia compare with telecommunications tariff regulation in certain other Sub-Saharan African countries?
- What impact does the current method of tariff regulation employed by ZICTA have on telecom firms' incentive to invest or continue investing?

1.4 Significance of the Study

In capitalism, the most effective way of determining prices is to leave price determination to market forces (supply and demand) so that competition may take its natural course. However, there is something about the telecommunications networks which constrain competition, especially before liberalisation fully runs its course, and thus provide a rationale for continued price regulation of dominant operators in the sector.[9] This paper's significance lies in trying to show that, even though it may be important to leave price determination in an industry to the free market forces, some form of economic regulation, through a broader legal and institutional regulatory framework, has proved necessary in telecommunications.

1.5 Methodology

This study drew on both primary and secondary data. Sources for primary data included interviews with personnel of ZICTA, National Water Supply and Sanitation Council (NWASCO) and other relevant authorities. A significant part of this research undertaking has been accomplished through desk research whereby secondary data was gathered from statutes, subsidiary legislation in form of regulations, national policy documents, text books, industrial regulation handbooks, professional research papers, consultancy study reports, online articles and other publications.

1.6 Outline of Chapters

This research paper has been broken down into chapters as follows:

Chapter one is the general introduction. It provides the background to the regulatory intervention in the telecommunications industry. Chapter two shall give an overview of the telecommunications regulatory environment, having particular regard to the institutional, legal and regulatory framework. Chapter three seeks to make comparisons between

[9] Hank Intven, ed., *Telecommunications Regulation Handbook*, 1st ed, module 4, (Washington: Infodev/World Bank, 2000), Appendix B, B-1, accessed on 18/12/2011, www.infodev.org/projects/314regulationhandbook

telecommunications and some other industries in Zambia with respect to tariff regulation. Chapter four will look at how tariff regulation in the Zambian telecoms compares with similar regulatory mechanisms in countries like Ghana, Nigeria and South Africa. The final Chapter will state the findings, make recommendations and draw conclusions.

1.7 Conclusion

In conclusion, this chapter has given the general introduction; it has set out the general objectives of this study and has stated the significance of the study. Furthermore, it has described the methodology through which this study was conducted and has outlined the content of each chapter.

CHAPTER TWO

TELECOMMUNICATIONS REGULATORY ENVIRONMENT IN ZAMBIA

2.0 Introduction

The focus of this chapter is the Zambian regulatory environment, within which telecom operators and potential new entrants function, hereinafter designated as the "Telecom Regulatory Environment" (TRE). One's assessment of the weaknesses or strengths of the TRE must incorporate a number of factors. The most fundamental of the factors are the legitimacy and effectiveness of the particular regulatory action or regulatory regime. These can be checked, to a large extent, by determining the quality of the legal framework in place, the professional caliber and the extent of the independence of the regulatory authority.

2.1 Legal and Regulatory Framework

The current legal and regulatory framework for the telecommunications industry in Zambia is rooted in one of the three core areas that were sought to be addressed in the National ICT Policy launched in 2007. The said National ICT Policy was to create an effective legal and regulatory framework. Specifically, the thirteenth pillar of the ICT Policy has the objective of the development of appropriate institutional, legal and regulatory systems in order to support the development of a competitive local ICT sector. In 2009 new legislation was enacted. The relevant piece of new legislation as far as this research is concerned, is the ICT Act, which provides for the economic and technical regulation of information and communication technology, facilitates access to ICTs; "protects the rights and interest of service providers and consumers"[1], among other things.

[1] ICT Act, 2009, preamble

2.1.2 Zambia Information and Communications Technology Authority (ZICTA)

This regulatory authority is what used to be called CAZ under the Telecommunications Act, 1994 (hereinafter the "repealed Act"). ZICTA appears to have more statutory autonomy than its predecessor. The ICT Act expressly provides that the Authority shall be an autonomous body and shall not be subject to the direction of any other person or authority[2]. On the contrary, the repealed Act expressly provided that "In the exercise and performance of its powers and functions, the Authority shall be subject to the control and direction of the Minister."[3]

However, certain aspects of the current legislation with respect to the autonomy and independence of the regulatory body are at variance with international reform models in telecommunications. For instance, the internationally accepted practice is that of having an independent and legally autonomous body for a regulator. In Zambia, the Communications Minister, apart from being in charge of policy matters, is still responsible for oversight over the regulator. He appoints members and chairperson of the Board of Regulators and may also issue general directives, which the Board is obliged to effect.[4]

The general functions of ZICTA (hereinafter, the Authority or regulatory Authority) are outlined under section six of the ICT Act. The Authority's mandate includes regulation of tariffs and interconnection rates. This statutory provision is complemented by section fifty on how the Authority does its *ex ante* regulation of tariffs. Basically, this section subjects a telecom operator's set tariff or charge for any service to approval by the Authority before such tariff or charge is imposed on the subscribers. Part of the basic enforcement mechanism

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[2] ICT Act, 2009, s. 5

[3] Telecommunications Act of 1994 (repealed) , s. 5 (4)

[4] See s. 6 (3) I C T Act, 2009

on the aspect of *ex post* regulation of tariffs is provided by section fifty two of the Act, which penalises the application of unapproved tariffs.

Regulation of tariffs and interconnection rates is a new function for the Authority which came with the new legislation. Prior to the enactment of the new Act, the regulatory authority's mandate did not include tariff regulation and telecommunications firms were free to set tariffs at whatever rate they felt was reasonable. The closest the regulator got to tariff regulation was to promote the interests of the disabled or those who are of pensionable age in respect of the prices charged for, and the quality and variety of telecommunication services.[5] As will be seen later in this chapter and chapter 3, the rationale for introducing tariff regulation was to curb the anti-competitive practices among telecoms firms, as regards pricing, such as excessive and discriminatory pricing.

2.1.3 Dispute Resolution

Part IX of the Act stipulates general provisions for dispute resolution. ZICTA has the authority to resolve disputes between operators in accordance with the procedures stipulated in the guidelines issued by it.[6] There is also provision for any person aggrieved with any decision of the Authority to appeal, within thirty days of such decision to an *ad hoc* Tribunal set up by the Minister. If one is not satisfied with the decision of Tribunal, an appeal can be made to the High Court.

Since statutes are generally not intended to provide all the technical details on how bodies created by or under them should carry out their activities, other aspects of their functions are left to subsidiary legislation and other administrative mechanisms put in place by such entities themselves. For instance, the Authority is empowered to make such guidelines as are

[5] Repealed Act, s. 5 (2) (b)
[6] S. 75 (6)

necessary for the better carrying out of the provisions of the Act, provided they are published in the press of general circulation in Zambia and such guidelines are deemed to have the force of law in that they are binding on all persons regulated under the Act.[7]

As for the objectives of tariff regulation and approaches thereto, it is assumed that the Authority would adopt internationally set objectives as well as widely accepted models of regulation as it seeks to execute its mandate of tariff regulation. Accordingly, subsection four of section fifty of the Act sets out conditions and principles on which tariff rates are to be based as determined by the Authority. Two of the conditions are that "tariff rates shall be structured and levels set to attract investments into the communications industry"[8], and that "A licensee shall, in setting any tariffs..., ensure that the tariffs are transparent and nondiscriminatory, and are based on costs not greater than the cost of providing the service."[9]

The following subsections look at the said objectives and models of tariff regulation.

2.2 Tariff Regulation and its Main Objectives[10]

A telecommunications tariff is an open contract between a telecommunications service provider and the public, filed with a regulating body. Such tariffs outline the terms and conditions of providing telecommunications services to the public including rates, fees, and charges.[11] Notwithstanding this technical definition of a telecoms tariff, the terms *tariff* and *price* are used interchangeably.

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[7] See s. 7

[8] S. 50 (4) (a)

[9] S. 47 (2) I C T Act, 2009, as amended by ICT (Amendment) Act No.3 of 2010

[10] Most of the economic concepts in the following subsection and subsequent ones are courtesy of Hank Intven, ed. *Telecommunications Regulation Handbook*, Module 4, 1–4

[11] Wikipedia online encyclopedia, *Telecommunications Tariff*, visited on 24/11/2011, http//:www.wikipedia.com

There are certain basic approaches to price regulation that have been devised following the shift in the telecoms sector from monopoly to competition. Having identified the benefits associated with competition in an industry, regulators have opted to regulate prices where competition is either deficient or non-existent so as to take advantage of those benefits.

The socially desirable objectives of tariff regulation are broadly classified as follows: Financing objectives, Efficiency objectives, and Equity objectives.

Financing Objectives:

Under this set of objectives the idea is to facilitate the earning of sufficient revenue by the regulated operators to sustain ongoing operations and plan for future investments. The minimum amount of revenue associated with the financial objective is known as the "revenue requirement."

Efficiency Objectives:

Price regulation aims, *inter alia*, to encourage efficiency in the supply of telecoms services. Efficiency is determined by looking at different aspects of regulation, namely, allocative efficiency, dynamic efficiency and productive efficiency. However, only the first two are considered below.

Allocative efficiency demands that prices of services in a market reflect and equal the underlying costs incurred to produce and provide those services. In telecommunications, for instance, international and long-distance services have traditionally been priced substantially above their cost, whereas prices for local calls are set below their cost.

Dynamic efficiency is realised when firms have the indispensable incentives to invest in new technologies and rise to improved productivity. It entails gradual improvement from one type of efficient use of resources to another type of efficient use.

Equity Objectives

These are generally about the fair distribution of welfare benefits among members of society. Regulators of telecommunications mainly preoccupy themselves with two aspects of equity in the regulation of prices, namely, operator-consumer and consumer-consumer equity.

Operator-consumer equity has to do with the distribution of benefits between consumers and the regulated operator. This aspect of equity prevents a situation whereby monopoly operators are allowed to earn high profits for an extended period of time without improving or extending their service provision. Considering this, many regulators require that the savings realised from improved technological innovations are shared equitably between the operator and the consumers.

Consumer-consumer equity is concerned with the distribution of benefits between different classes of telecoms consumers. In some jurisdictions, for instance, consumers in lower socio-economic brackets pay less for the same local telephone subscription services than consumers in higher brackets. This is done particularly to implement some government policy of improving consumer-consumer equity.

Considering the foregoing, one would observe that the main challenges of price regulation involve the design and implementation of low-cost and effective regulatory approaches that induce the regulated operator to achieve the socially desirable objectives discussed above. Given this observation, the author will contrast two models of regulation in order to show which one is more low-cost and thus more suitable for the current economic strength of Zambia.

2.3 Some Approaches to Price Regulation and ZICTA's Preferred Approach

The different approaches or models that have been developed to regulate telecoms tariffs come under two broad categories. On the one hand, there are price regulation models that are rules-based and are intended to provide stability and certainty and to achieve particular regulatory objectives. On the other hand, certain regulatory approaches have been more *ad hoc* and discretionary.

Discretionary price regulation is associated with settings where the government operated the telecoms network. Such model of price regulation was used mostly to advance certain socio-economic goals. Prices were set normally to achieve consumer-to-consumer equity objectives, that is, to promote affordability of basic telephone services. Another point is that discretionary price regulation approaches in many countries were interventionist in that the government or Minister would micro-manage the structure of Post, Telegraph and Telecommunications (PTT), thereby reducing its economic viability.

Rules-based approaches to tariff regulation include: rate of return (ROR) regulation and its variations; cost plus regulation; price cap regulation; hybrid models that combine two or more of these are also employed, though rarely.

From among these tariff regulation models, the regulatory Authority has opted to employ the price cap model, which is the preferred form of rules-based price regulation around the world today. A price cap consists of the *price floor*, as the minimum limit, and the *price ceiling*, representing the maximum limit. Under the price cap model of regulation, a formula is applied to determine the maximum price increases (and minimum price reductions) permissible for a regulated operator's services for a given time period. The formula is

designed to permit the operator to recover its unavoidable cost increases (such as inflation, tax increases, and so on) through price increases.[12]

The current price ceiling (that is the permissible maximum price increase) has been calculated as follows: Firstly, for peak tariffs the ceiling is at 41 per cent of the respective prevailing off-net *per minute* peak rate. For instance, currently MTN's standard off-net *per minute* peak rate is K 1, 435.[13] Forty one percent of that is K 588.35 and this is the maximum amount by which MTN's off-net *per minute* peak rate can be increased. So MTN's off-net *per minute* peak rate can only go as far as K 2, 023.35. Secondly, for off-peak tariffs the ceiling is at 28 per cent of the respective prevailing off-net *per minute* off-peak rate. Maintaining the example of MTN, its standard off-net *per minute* off-peak rate is K 820. Twenty eight percent of that is K 229.6 and this is the maximum amount by which MTN's off-net *per minute* off-peak tariff rate can be increased. Adding K 229.6 to K 820 we come up with K 1,049.6, a figure above which MTN cannot peg its off-net *per minute* off-peak tariff rate.

The price floor is the actual prevailing interconnection rate, US $ 0.05, of which the pre-calculated local currency equivalent is K 250.[14] However, for dominant players in the market, of which all the current three players are, this rate is multiplied by 1.7, the value assessed for what is known as the *multiplier effect*. The resultant figure is K 425. This is the

[12] Hank Intven, ed., *Telecommunications Regulation Handbook*, 9

[13] MTN Zambia, *MTN PayAsYouGo Standard*, accessed on 21/02/2012, http://www.mtnzambia.co.zm/products_standard.asp

[14] See table 2 below

floor below which no dominant service provider is allowed to price its services.[15] It can be seen that this price cap is so wide that great pricing flexibility is assured.

If a choice is to be made between ROR regulation and the price cap model, the latter is better suited to Zambia's economic capacity and also the levels of development in the telecommunications sector. As will be seen in chapter four, the South African telecoms regulator ICASA has failed to implement the ROR model effectively because of its elaborate nature. The following are some of the reasons for a preference for the price cap model.

Firstly, ROR regulation is so demanding that the firms and the regulatory authority have to spend a lot of time and financial resources. The revenue requirement — that is, 'the sum of all allowable costs, including a rate of return, deemed just and reasonable for the provision of telecoms services to customers'[16]—has to be repeatedly calculated by the firm and submitted to the regulator for review. The capital cost must also be calculated repeatedly and there is also need for a series of reviews and hearings to be held, thus causing the regulator, the firm and other stakeholders to incur considerable costs. Proceedings, conducted to determine the rate, are often lengthy and resource intensive. Government budgetary allocation and the self-generated revenue of the Authority are insufficient to cover such a high-cost regulatory approach, which would also render progress in the telecoms sector undesirably slow.

The other feature of ROR regulation, which is clearly at odds with Zambia's liberal market economy, is its interventionist nature. The regulator closely checks many aspects of the firm's operation and management. An operator's profits are directly controlled by the

[15] The price cap formula was graciously divulged by Mr. Kango Mbewe, Head of the Markets Competitions and Licensing Department at ZICTA, from an otherwise confidential document after authorisation from the Director General.

[16] Schmalensee R and Willig R.D. (ed.) *Handbook of Industrial Organisation*, Vol. II. (Massachusetts: ES Publishers, 1989), 454

regulator. The contention here is that this sort of intrusive regulation may ultimately encroach seriously on the firm's ability to function as a normal viable business enterprise.

In contrast to ROR regulation, the price cap approach allows firms greater flexibility in pricing, in that the price cap formula is designed in such a way as to ensure adjustments in productivity levels are accompanied by corresponding adjustments in prices.

Procedures involved in determining price caps are less costly than those that relate to rate of return, and are infrequent. In Zambia, for instance, the interval set by the Authority for review of the price cap currently in force is once every 3 to 5 years.[17] Between reviews, regulatory costs are low. Since the price cap was first introduced in 2010, the first review is not expected earlier than 2013, unless the Kwacha is rebased before that.

2.4 Regulation of Interconnection Rates

Interconnection is defined by the ICT Act of 2009 as:

> [T]he physical or logical linking of one electronic communications network to another for the purpose of allowing the persons using one of them to be able to:-
> (a) communicate with persons using the other electronic communications network; or
> (b) make use of services provided by means of the other electronic communications network.[18]

Extrapolating from the above statutory definition of interconnection, one would simply conclude that an interconnection rate is a price charged by one telecommunications network for another such network to be physically or logically linked to the former for either or both of the two separate purposes given in the just cited statutory provision.

Since the advent of mobile telephony in Zambia in 1995 up until 2010, service providers had been left to decide their own interconnection rates. It has been observed that in the beginning

[17] Margaret K Chalwe, ZICTA Director General, "Determination of Interconnection Rates for Mobile and Fixed Networks" (speech delivered at a press conference, Taj Pamodzi Hotel, Lusaka on 27 September 2010), 9
[18] ICT Act, 2009, s. 2

the rates reflected the dominance of the incumbent (ZAMTEL). However, as at 2009/2010 the rates reflected the dominance of the then Zain, which at that time had 70 per cent market share. Due to its dominance, Zain had been able to discriminate against the two other mobile operators, namely, MTN and ZAMTEL, by offering different termination rates based on perceived market threats to its dominance.

This scenario created what is known as the "clubbing effect", which flows from anti-competitive cross-subsidisation where a firm offers extremely low tariff rates for on-net calls and extremely high tariff rates for off-net calls to discourage its subscribers from doing cross-network communication. Thus subscribers are kept on to that particular firm's network; for example Airtel (formerly Zain), for as long as they are able to make on-net calls within their circles of contacts on the same network more affordably solely based on the attractive on-net rates. By so doing subscribers to the Airtel network are literally "clubbing together"; hence the term *clubbing effect.*[19]

Neither the regulatory Authority nor the competition authority has exercised the concurrent jurisdiction to ensure a level playing field.[20] The following table shows the interconnection rates that existed in 2010:

Table 1: Interconnection Rates in Zambia in 2010

Contracting Parties	Termination Rates (per minute per voice call)
Zain to MTN (mobile)	US$ 0.10
Zain & Zamtel (mobile)	US$ 0.08
Zamtel (mobile) & MTN(mobile)	US$ 0.063
Zamtel (PSTN) & MTN (mobile)	US$ 0.052

Source: ZICTA Website: www.zicta.zm

[19] Economic Association of Zambia, *Quarterly Industrial Review*, July-September, (Lusaka: EAZ, 2009), 45
[20] Habeenzu, Shuller, *Zambia ICT Sector Performance Review 2009/2010 Towards Evidence-based ICT Policy and Regulation*, Volume Two, Policy Paper 17, (Cape Town: Research Africa ICT, 2010), 25, accessed on 26/10/2011, researchictafrica.net

To address that, the ICT Act 2009 mandates all licensed public telecommunications operators to interconnect and players with dominant market position are to provide facilities for physical interconnections on a cost basis.[21] The Act also mandates the regulatory Authority to intervene in markets where there is abuse of power by operator with dominant market share.[22] To comply with the provisions of the Act, ZICTA consulted with the industry and commissioned PriceWaterhouseCoopers (PWC), a UK based business consultancy firm, to do a cost of service study to determine the appropriate interconnection regime and rates.

In its report, after the completion of the study, PWC recommended, *inter alia*, that the Authority should ensure that service providers create a more level playing field for all customers by ensuring a closer balance between their respective on-net and off-net tariffs.[23] The price cap model was particularly recommended in order to close the huge margin between on-net and off-net tariff rates and thus curb the clubbing effect.[24]

Acting upon the above recommendation, ZICTA has since then decided to come up with a set of cross-the-board-interconnection-rates, which currently stand at the following figures:

Table 2: Glide Path of Interconnection Rates for the Period 2010 to 2012

	1st November, 2010	1st January, 2011	1st January, 2012
Mobile and Fixed Termination-Voice	**USc 5.9**	**USc 5.30**	**USc 5.00**
ZMK Equivalent	**K 295.00**	**K 265.00**	**K 250.00**
Mobile and Fixed Termination-SMS	**K 147.50**	**K 132.50**	**K 125.00**

Source: Chalwe, K. Margaret, ZICTA Director General, "Determination of Interconnection Rates for Mobile and Fixed Networks" (speech delivered at a press conference, Taj Pamodzi Hotel, Lusaka on 27 September 2010), 8

[21] See s. 41 of the said Act

[22] S. 48, as amended by ICT (Amendment) Act No. 3 of 2010

[23] PriceWaterhouseCoopers, *National ICT/Telecommunications Cost of Service Study for Zambia,* (London: PWC, 2010), 45

[24] Interview with Kango Mbewe, Head of Markets Competition and Licensing Department, ZICTA, on 20/03/12

It is said that the implementation of the interconnection rates will follow a glide path as shown in the table until ZICTA carries out a review at the end of 2012 before introducing new interconnection rates for January 2013.[25]

The price cap model and the uniform interconnection rates based on cost of service have resulted in the following: (i) reduction of local calling rates across the three mobile networks; (ii) closure on longstanding interconnection disputes and (iii) increase in the value added services available.[26]

2.5 Determinants of the Legitimacy of Regulatory Regime/Action

There are certain factors which are looked at in order to determine the legitimacy of a particular regulatory regime. These include: i) whether the action or regime is supported by legislation; ii) whether there is an appropriate scheme of accountability; iii) whether the procedures are fair, accessible and open; iv) whether the regulator is acting with sufficient expertise; and v) whether such regulatory action or regime is efficient. Once all or most of these tests are resolved in the affirmative, they may well constitute "good" regulation.[27]

2.5.1 Room for Improving Zambia's TRE

Having considered a number of aspects that constitute the TRE in Zambia, there is more that remains to be done to further improve the TRE. Firstly, as pointed out above, the Authority's full autonomy is not guaranteed owing to the fact that the Minister of Communication still exercises some oversight over it. This is a flaw in the regulatory framework. Therefore, there is need to completely distance the Authority from the state executive branch.

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[25] Chalwe, K. Margaret, ZICTA Director General, 8

[26] ZICTA, *ICT Sector Legal and Regulatory Framework vis-à-vis Opportunities for Growth: ZICTA's Vision for the Sector*, (A paper presented at the ICT Business Forum at Taj Pamodzi Hotel, Lusaka on 31 August 2011), 13

[27] R. Baldwin and M. Cave, *Understanding Regulation: Theory, Strategy and Practice*, (London: Oxford University Press, 1999), 77

Furthermore, instead of the Minister being the appointing authority for the Board of regulators, there should be an independent commission tasked with such a responsibility.

Secondly, the price cap model can be complemented by introducing price baskets whereby the regulated operators may adjust prices for different group-specific services by different percentage amounts. For instance, services offered to residential and business or corporate customers should be put in different baskets or categories so that each is subjected to appropriate pricing levels based on prevailing economic conditions.

Thirdly, the regulatory Authority should consider actively engaging in the progressive practice of international benchmarking of prices and benchmarking interconnection rates. This is a mechanism whereby the regulator takes a look at rates and prices in other jurisdictions before determining its own. For instance, the Authority can have regard to the rates and prices within the SADC region. Based on what is observed, it may then determine appropriate interconnection rates and prices. This will not only enhance transparency in tariff regulation but will also further standardise the process by avoiding arbitrary pitfalls associated with inward-looking approaches.

2.6 Conclusion

In the light of what has been discussed above, the legal, regulatory and institutional framework for telecommunications is conducive, by and large; except for one concern about the full autonomy of the regulatory Authority. The economic objectives of tariff regulation have been discussed and areas where there is need for improvement in the TRE have been pointed out. In particular, some ways in which the current interconnection rates and tariff regulation models can be enhanced have been recommended. What remains to be seen is how the regulatory Authority actually applies the provisions of the law to make sure that tariff rates are structured at levels set to attract and encourage both local and foreign

investments into the communications industry. The following two chapters tackle this through a comparative analysis between telecommunications and two other industries in Zambia with respect to tariff regulation, and between tariff regulation in the Zambian telecoms and similar regulatory mechanisms in other jurisdictions.

CHAPTER THREE

COMPARISON OF THE TELECOMMUNICATIONS WITH SOME OTHER INDUSTRIES IN ZAMBIA *VIS-À-VIS* TARIFF REGULATION

3.0 Introduction

This chapter seeks to make some comparison between telecommunications and two other industries in Zambia with respect to tariff regulation. The impact of tariff regulation on the telecommunications sector will be compared with the related impact on the water supply and sanitation (hereinafter "WSS") industry, on the one hand, and the energy industry on the other. The rationale for this comparative analysis is to see whether there are regulatory ideas that can be shared amongst these three sectors of the economy, or whether there are certain lessons to be learned from deficiencies in the regulatory frameworks and approaches in each of these areas.

3.1 Water Supply and Sanitation (WSS) Industry

It is Government policy that provision of water supply and sanitation services be devolved to Local Authorities and be commercialised.[1] Currently there are about ten commercial water utilities spread across seven of the ten provinces and they are all fully Government owned through the Municipalities who are the sole shareholders.[2] By virtue of this shareholding level, Government is able to take care of the capital costs, through local authorities, in the running of water utility companies. It is estimated that 84 per cent of the urban population is serviced by these utilities.[3] Thus Government plays a very direct role in the provision of this social amenity.

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[1] Chola K. Mbilima, *Water Supply and Sanitation in Zambia: Reform and Regulation,* (Discussion Paper presented to the SADC Regional Water Regulators' Conference, 2007), 3

[2] With the exception of Copperbelt and Luapula where some Local Municipalities, on their own, supply water and a few private providers (e.g. mining firms) meet specialized demands.

[3] Chola K. Mbilima, *Water Supply and Sanitation in Zambia: Reform and Regulation*, 4

This industry is regulated by the National Water Supply and Sanitation Council, NWASCO, (Hereinafter referred to as the "Council"). It is provided in section 4 (2) (d) (iv) of the Water Supply and Sanitation Act[4] that the Council shall develop guidelines for setting of tariffs in the provision of water supply and sanitation services. Two of the outlined objectives of the tariff adjustment guidelines are to ensure sufficient revenues for the service providers to enable them to operate on a sustainable basis (cost containment) and the protection of consumers from being overbilled or overcharged.[5]

The Council operates from one of the basic assumptions that the provision of the essential services of water supply and sanitation is not a one hundred percent commercial undertaking, but is essentially a social amenity. Accordingly, the tariff rates charged for the provision of such services should reflect this reality. Even when the regulator grants an operating licence to a firm, there are conditions attached. For example, a firm is expected not to implement tariffs before the Council's approval. Once a water utility comes up with tariffs and applies to the Council for approval of the same, an affordability study is undertaken by the latter before approval. Using what is referred to as the cost-plus model (CPM) of tariff setting, the Council then ensures that tariff rates are kept at a level where water firms are just about able to recoup operation and maintenance costs. On this account, the annual balance sheets for these water firms are in zeroes. This scenario has made this sector unattractive to private investors whose major interest is to make as much profit as possible.[6]

Even after approval of the proposed tariffs, water and sanitation service firms are required, under the guidelines, to advertise the tariffs for the duration of one month before they take

[4] Act No. 28 of 1997

[5] NWASCO, *Water Supply and Sanitation Guidelines*, accessed on 25/01/12, www.nwasco.org.zm/wssguidelines.php

[6] An interview which the author had with Josephine K. Goma, Financial and Commercial Management Inspector, NWASCO at NWASCO Head Office on 12 January 2012

effect. There is also constant inspection by the regulator to monitor whether the firms are actually applying the approved tariffs for the acceptable quality and duration of service. If it is found that the expected quality and duration of access to such services are not being adhered to by the utility firms, the regulator intervenes and demands improvement, failure to which there has to be a corresponding tariff rate reduction. In some cases, utility firms were even ordered to stop billing consumers of certain residential areas because of severely limited hours of water supply.[7]

3.2 The Energy Industry

The Energy Regulation Board (ERB), hereinafter called the "Board", set up under section 3 of the Energy Regulation Act[8] regulates the price adjustments for the energy services pursuant to s.6 (1) (b) of the Act. This section provides that "The Board shall... receive and investigate complaints from consumers on price adjustments made, or services provided, by any undertaking, and regulate such adjustments and services by the attachment of appropriate conditions to licences held by undertakings..." Under its general mandate to promote efficient undertakings in the energy sector and safeguard consumer welfare as regards affordability of the various energy services, the Board uses, *inter alia*, price regulation or tariff setting. Nowhere in the Act has the Board been officially clothed with autonomy.

3.2.1 Electricity Sector

The electricity sector is one of the economic sectors in the country which still have a virtual monopoly and dominant player. The Zambia Electricity Supply Corporation (ZESCO) is a parastatal with almost a complete monopoly both in the generation and supply of electricity. The only other firm in this sector is Copperbelt Energy Corporation (CEC), which

[7] Mulonga Water and Sewerage Co. and Nkana Water and Sewerage Co. had their billing exercise suspended in Kansuswa, Mufulira and Mulenga compound, Kitwe respectively; see Jere Maluba, "NWASCO Bans Two Water Utilities from Billing Poorly Serviced Populations", The Post, 15 August 2007, 5

[8] Cap 436 of the Laws of Zambia

specifically supplies the mines and other huge industries with electricity generated by ZESCO. So the Board has a challenging regulatory task.

The Board employs the rate of return (ROR) model as its pricing approach for electricity. The rationale behind this approach, as indicated above, is to ensure the public utility is able to cover only "prudently" incurred expenses and to earn a reasonable return on its investment.[9] The Board, therefore, reviews the utility's costs in a bid to eliminate or adjust certain costs which are deemed to be unnecessary or unreasonable.

This process of reviewing costs of a utility is aimed at determining its revenue requirement. Once an appropriate level of revenue requirement, or budget for the utility has been determined, the Board calculates a projected proportional rate of increase to the tariff that will enable the utility to generate the approved revenue requirement. The utility is then required to apply this projected rate of increase on its existing tariff in order to set the actual tariff to charge electricity consumers for a given year.

However, in certain exceptional circumstances it is permissible for a utility to apply to the Board for a review of tariffs under what is called Automatic Tariff Adjustment Formula (ATF) in October.[10] Such exceptional circumstances arise, for instance, when the Kwacha depreciates significantly, or the level of inflation rises sharply.

3.2.2 The Petroleum Sector

The major players in the petroleum sector in Zambia are TAZAMA pipelines, owned by the Governments of Zambia and Tanzania; Indeni Refinery, jointly owned by the Zambian Government and Total Outre Mer; and Ndola Fuel Terminal owned by the Zambian

[9] ERB, *Economic Regulation – Electricity*, accessed on 31/01/12, www.erb.org.zm/content.php?viewpage=eelec
[10] ERB, *Economic Regulation – Electricity*

Government. Besides these, there are eighteen Oil Marketing Companies (OMCs) operating as either distributors or retailers of petroleum products.

The monopolist nature of this sector makes it necessary to have some regulation in place. Therefore the Board regulates the wholesale petroleum prices which are determined through the cost-plus model. This pricing model is preferred because, of all other pricing models tried before, it has proved most capable of providing longer intervals of price stability, for it takes into account all costs incurred in the importation of feedstock. It is such importation costs which ultimately determine the pump price for end-consumers of fuel.

An additional determinant of pump fuel price used to be the cost of transporting fuel to a particular market. For instance, pump prices would be higher in a far flung area like Mwinilunga district than in Solwezi. However, the Board recently introduced a scheme of uniform pump fuel pricing in all markets regardless of how far a market is from the line of rail.

3.2.3 Market Dynamics that Dictate Different Regulatory Approaches in the WSS and Energy Industries and Telecoms Industry

It is evidently clear that NWASCO regulates almost entirely Government owned commercial utilities (CUs). The services provided in the WSS sector are fundamentally social in nature. Similar observations can be made about the energy sector in general, particularly the electricity sub-sector. This reality poses a number of challenges to the way both the Council and the Board execute their professional mandate. Regulating state-owned enterprises is problematic because it is hard to successfully subject them to incentives and sanctions.

The other challenge posed by such an environment is that management of CUs may find it hard to improve service delivery due to pressure from politicians who would wish that tariffs for water and sanitation remained at the current *below-operational-cost*-levels so as not to fall

out of favour with the voting consumers. In fact, for more than five years CUs' tariffs have been at 30 percent below operating and maintenance expenses.[11] Even if the Council does its best at devising tariff methodologies to achieve the efficiency objectives mentioned in chapter two, progress is hard to come by. These extraneous influences to which the Council is subjected are actually compounded by the fact that, unlike ZICTA, the Council has not been accorded expressly the necessary autonomy by the Statute under which it is established.

Keeping tariffs so low in the name of safeguarding consumer welfare is being done at the expense of the much needed steady improvement in the quality of services, and expansion of water reticulation and sewage physical infrastructure. The Council would be well advised to replace its current tariff regulation model with another approach which will afford CUs greater tariff flexibility. As the situation stands, no serious private investor would be willing to invest greatly in the provision of water supply and sanitation services, let alone undertaking such labour and cost intensive projects as laying pipes and sewer networks in such a sector whose pricing regime is tightly regulated. Thus the objective of dynamic efficiency is defeated.

When it comes to the telecoms sector the scenario is different. From chapter two of this paper, it was seen that the market structure in telecoms is more competitive, with the private sector accounting for a greater market share than the public sector. Actually from July 2010, when Government partially privatized Zamtel through the sale of 75 per cent of equity shares to LAP Green Networks, up to February 2012, when such partial privatisation was reversed, the telecoms sector was almost entirely in private hands. Another thing to take note of is that following the issuance of International Gate Way (IGW) licences to MTN and Airtel on 3rd June 2010, the international voice services in Zambia ceased to be a monopoly of Zamtel. So

[11] An interview with Josephine K. Goma, Financial and Commercial Management Inspector, NWASCO Head Office, Lusaka on 12 January 2012

telecoms subsectors like mobile, local loop-voice and international voice are now all competitively shared among all the three network providers save the land line or Public Switched Telephone Network (PSTN) which is still a monopoly of Zamtel.

Until recently, high termination costs for off-net calls due to high interconnection rates, left to be agreed between operators, characterised the telecoms market. Operators such as Zamtel and Airtel, with significant market power naturally stood to benefit from this scenario for competition was repressed. Ripple effects from this included hindrance of innovation and low levels of additional investment in the sector. But with the introduction of regulation of interconnection fees, interconnection rates have reduced considerably and even an operator with the least market power has been able to compete, solely based on the quality of service offered. This has, among other things, widened the base of subscribers for each operator who are able to communicate across networks with minimal or no price discrimination at all.

All these factors point to an industry where regulatory intervention is administered in measured doses to already existing competitive elements. The appreciable levels of competition fostered by a level playing field which, in turn, is created by a uniform set of interconnection or termination rates, sharply contrast the telecoms industry from the WSS industry.

Another contrast is that, unlike in the telecoms industry, in the WSS industry there are no issues of interconnection between the CUs; neither are there overriding concerns as regards the market share held by each CU. While it would be a competition issue if a particular geographic area were monopolised by one telecoms firm, it would not necessarily be so in the WSS industry if one geographical area were to be serviced by only one CU for it is not practical for CUs' water and sewer systems to interconnect. Such natural monopolies in the

WSS industry are tolerated subject to greater regulatory oversight especially with regard to the tariffs for their services as well as their billing schemes.

The similarity is that all these three industries are highly strategic industries, providing essential physical and social infrastructure for the welfare of the State. This basis alone is enough to warrant precedence being given to regulatory oversight over unrestrained market forces which, more often than not, work to the detriment of such utility industries that are naturally prone to abuse of dominance by some players. Moreover, certain goals of price regulation in telecoms are also influenced by the need to achieve socially desirable goals outlined in the National ICT policy. For instance, in a bid to ensure universal access for all to telecommunications services, the Authority requires the operators, *inter alia*, to put in place subsidised pricing schemes for disadvantaged geographical areas and underprivileged population segments.

Furthermore, by constraining anti-competitive arbitrary pricing of telecommunications services through the price cap, the Authority has greatly minimised the *clubbing effect*. Currently consumers of telecoms services hardly ever have cost affordability concerns when making cross-network calls and they are able to freely choose one network over another, based primarily on quality of service rather than on enticing tariff rates. This state of affairs is both a great boost to consumers' welfare and a great assurance to present and prospective telecoms operators that they will be able to compete fairly on a level playing field. In view of this, it can be said that only an investor who thrives on underhand and anticompetitive practices would feel intimidated within such a regulatory environment.

As far as this author is concerned, the Authority's regulatory approach is effective and consistent adherence to it will give confidence to all players in the industry, particularly would be new entrant investors. However, one thing which the Authority needs to be seen

doing is the gradual loosening of the price controls in those areas, such as the mobile sub-sector, which are increasingly opening up to greater competition. Once competition reaches appreciable levels, the service providers will take great care in ensuring that they attract subscribers who will remain loyal to the network because they are able to get value for their money on account of quality services.

3.3 Conclusion

The services provided in the WSS sector are fundamentally social in nature. The same can be said about the energy sector in general and the electricity sub-sector in particular. One of the aspects in which these are slightly different from telecoms is that there are fewer social considerations in the regulation of tariffs in telecoms than in WSS and Energy industries. This difference accounts for some disparity in the extent to which these industries are actually regulated. However, their more or less similar strategic importance provides the justification for the regulatory approaches taken as regards the pricing of the services offered therein. The State has a great stake in ensuring that the general citizenry is not exposed to unaffordable costs and as a consequence, the regulatory authorities as agents of the State have to operate in line with that overarching concern and goals of the State. This also explains, to a large extent, why the regulatory authorities in these sectors are not accorded express and complete statutory autonomy.

CHAPTER FOUR

COMPARATIVE ANALYSIS OF THE REGULATORY PRACTICE IN ZAMBIA AND IN SOME OTHER AFRICAN COUNTRIES WITH RESPECT TO TARIFFS FOR TELECOMMUNICATIONS SERVICES

4.0 Introduction

This chapter looks at how regulation of tariffs and interconnection charges in the telecommunications services in Zambia compares with similar regulatory mechanisms in Ghana, Nigeria and South Africa.

4.1 Ghana's Regulatory Regime Compared to Zambia

As in the Zambian case, until recently telecommunications in Ghana was a monopolistic industry in which the only operator was state owned. Nonetheless, as the market liberalized gradually and competition took root in the communications industry, pricing for the telecommunications services became competitive. However, in contrast to Zambia the Ghanaian industry has been opened up much more widely. In fact in addition to the incumbent PSTN operator, Ghana Telecom (GT), there are six mobile service providers currently offering of basic and value added telephone services across the country.[1] Such an environment points to much more competition among operators and a wider choice for subscribers than is the case in Zambia.

Ghana's telecommunications regulator, the National Communications Authority (hereinafter, "GNCA") does not directly control the pricing of all services by operators in the retail market. Its tariff regulation is restricted to services provided by dominant or monopoly

[1] Ghana National Communications Authority, *Annual Report*, 2011, 9, accessed on 24/03/2012, http://www.nca.gov.gh

operators, which are also referred to as operators with Significant Market Power (SMP)[2]; such regulation takes the form of guidelines to be considered before an operator sets or adjusts its tariffs.

However, in the wholesale or interconnection (access) market, GNCA takes a more proactive stance and does the actual setting of interconnection rates. Distinguishing dominant from non-dominant operators in the latest interconnection/termination rate regime for the period 2012 to 2014, GNCA has set a slightly lower rate to apply to new entrants as well as operators with less than 5 per cent of subscriber market share.[3] This clearly contrasts with the Zambian situation where ZICTA regulates tariffs for all operators, regardless of whether they are dominant or not.[4] In Zambia, the distinction between dominant and non-dominant operators will become relevant only after 2015, when the current ban on new entrants is expected to expire. Currently all the three telecom firms are regarded as dominant because all of them have reached the threshold of 30 per cent subscriber market share, which is the benchmark of dominance.[5]

When the GNCA grants a communications licence it may, for purposes of transparency, put conditions in such licence requiring even a non-dominant operator to publish, in the prescribed manner and at prescribed times, a notice indicating the method which the operator has adopted in determining its tariffs, charges and other terms and conditions that are to be applicable to the services provided.[6]

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[2] Government of Ghana, *National Telecommunications Policy*, (Accra: Ministry of Communications, 2004), 22

[3] GNCA, *New Interconnection Rate Regime for the Period 2012–2014,* accessed on 02/04/2012, http://www.nca.gov.gh

[4] ICT Act, 2009, ss. 47 and 48, as amended by Act no. 3 of 2010

[5] Consumer and Competition Protection Act, No. 24 of 2010, section 15 (a)

[6] The Ghana National Communications Act, 2008, s. 3 (c)

Furthermore, the GNCA's functions include making regulations in relation to the guidelines and rules on tariffs and international accounting rates.[7] This regulatory role is comparable to what is provided for by the Zambian Act[8] under which ZICTA may make such guidelines as are necessary for the better carrying out of the provisions of the Act. Pursuant to the said provision, ZICTA has produced comprehensive Tariff Regulations and Competition Guidelines. The latter set of guidelines are used, *inter alia*, to determine the dominance of all licensed operators in the markets for termination of calls on their respective networks in accordance with the procedures set out in section 40 of the Act.

Whereas GNCA takes into consideration the efficiency of market forces to constrain service pricing within a particular market segment as it decides on the level of regulation necessary, ZICTA does not. In the same vein, one of Ghana's policy directives is that tariffs will be deregulated or simply subjected to forbearance in market segments where, in the determination of GNCA, there is effective market competition.

Under the Zambian regulatory framework at policy level there is no express provision for deregulation of tariffs yet. However, in response to one of PriceWaterhouseCooper's recommendations on the need to relax tariff approval requirements, the ZICTA Director General once intimated that the Authority envisaged "forbearing some of the more onerous provisions of the Act in respect of the tariffs of certain licensees, e.g. the requirement for cost-based retail tariffs and/or the obligation to obtain pre-approval of retail tariffs of non dominant operators."[9] Forbearance is provided for under section 49 of the Act.

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[7] ibid, s. 3 (r)

[8] ICT Act, 2009, s. 7

[9] Margaret K Chalwe, ZICTA Director General, "Determination of Interconnection Rates for Mobile and Fixed Networks" (speech delivered at a press conference, Taj Pamodzi Hotel, Lusaka on 27 September 2010), 5

If there is anything that demonstrates correlation between regulation of tariffs or interconnection charges and securing investment in telecoms, it is the strategy employed by GNCA of making sure the dominant players are strictly regulated whereas new entrants and non-dominant players are given virtual free rein. To a considerable extent this effectively bridles the potential abuse of the competitive advantage which dominant operators often tend to use in the pricing of services, thereby subduing non-dominant rivals and shutting out those who would wish to make fresh investment in the industry. By nipping this potential abuse in the bud through price controls, confidence levels in the industry are raised.

GNCA's tactical control of the interconnection rates seems to have effectively made competition fair, which has in turn encouraged a number of investors to enter the telecoms market, as is evident from the relatively large number of service providers. Therefore, no network operator or service provider is able to arbitrarily set price for its services without due regard to what other network operators or service providers are charging.

4.2 The Nigerian Case

The legal and regulatory framework for regulation of prices for telecommunications services in Nigeria consists of the National Telecommunications Policy (hereinafter, "NTP") of 2000 and the Nigeria Communications Act (hereinafter, 'NCA'), 2003.

The ultimate objective of the NTP is to establish a long term telecommunications market structure with services provided by multiple operators on a competitive basis. It is reckoned under such a regime that competitive market forces would be the best determinants of the appropriate and sustainable levels of prices charged by various telecoms operators. However, it is acknowledged that there has to be some transition period for competition to fully develop

across the market.[10] This situation is expected to leave one or more dominant operators with the power to control pricing.

That is precisely why the NTP prescribes tariff regulation requirements for dominant operators to ensure that prices are cost-oriented. Since tariff regulation is necessary only with respect to dominant operators, the NTP has charged the Nigeria Communications Commission (hereinafter, "NCC") with the function of devising criteria for the determination of market dominance. This policy directive is enacted in the NCA.[11] Under section 4 (1) (b), the NCC is required to protect and promote the interests of consumers against unfair practices that would affect tariffs and charges for communications services. Furthermore, according to paragraph (c) of the same provision, the NCC shall ensure "that licensees implement and operate at all times the most efficient and accurate billing system." Much like the function given to ZICTA under Part V of the Zambian Act; the NCA, under Part III of Chapter VI provides for the NCC to approve tariffs and charges for telecommunications services.

Both the NTP and the NCA give the NCC a very clear and firm mandate to regulate the pricing of mobile telecommunications services during the period when the industry is *transitioning from a monopoly environment to a competitive one; however, as will be seen* below, there is a wide gap between this specific policy and NCC's stance and actual practice.

4.2.1 The Gap between Policy and Practice in Nigeria and Current Measures to Bridge the Gap

Liberalisation of the Nigerian Telecommunications industry has been long in coming and it is not yet fully realised. The Nigeria Telecoms (NITEL) Plc has heavily dominated the fixed network phone services. Its sister company, Nigeria Mobile Telecoms Ltd (M-TEL) was the

[10] Federal Republic of Nigeria, *National Telecommunications Policy*, (Ministry of Communications, 2000), 12
[11] S.92

sole national provider of mobile services to the public from 1996 to 2001. Shortly after that, it was incorporated into NITEL and this state-run merger has retained its dominance in both mobile and fixed line networks until MTN and Econet (now Airtel) entered the market. NITEL had been government-owned until 2008 when it was partially privatized by the divesture of a total of 60 per cent of its equity, 40 per cent of which has been sold to a core private portfolio investor and 20 per cent is for the Nigerian public.[12]

Currently there are only three telecoms service providers in Nigeria to service a huge population of subscribers. Additionally, there are about two Wireless Local Loop (WLL) operators with limited geographical coverage around Abuja and Lagos. In this situation, potential mobile service subscribers are very limited in their choice of service providers. Those who have subscribed to the leading operators lack realistic alternatives to a service that comes with high tariffs and erratic quality.[13] As a consequence, the Nigerian public is forced to choose between the cheaper but poorer service and the more reliable but less affordable of the two leading mobile networks.

Despite being faced with such an underserviced telecommunications market characterised by low service quality and excessive end-user prices, the NCC, until very recently, had little or nothing to do with the regulation of tariffs for any telecommunications services. Consumer complaints about prohibitive tariffs for mobile services had repeatedly been met with the NCC's insistence that current end-user prices had been and were being determined by competitive market forces. Therefore, according to the NCC, it was not its role as regulator to interfere with the free market forces in trying to set what would be regarded as reasonable

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[12] Nigeria National Council on Privatisation, *Regulatory Framework for the Privatisation of the Nigeria Telecommunications Limited*, 2010, 4, accessed on 31/01/2012, http://www.ncp.ng

[13] Oki, Paul T., *Regulating the Pricing of Mobile Telecommunications Service – The Role of the Nigerian Telecommunications Commission, 3, accessed on 14/03/2012,* www.geplaw.com/.../...

prices for consumers. This non-interference had been claimed to be in the interest of facilitating investments in and entry into the Nigerian communications services market as provided under section 4 (1) (a) of the NCA.

This policy-practice discrepancy in regulation of tariffs and interconnection charges has slowly begun to be addressed. For the first time ever, the NCC has exercised its powers under section 4 (1) (i) of the NCA and section 6 (1) (f) of the Telecommunications Networks Interconnection Regulations, 2003 to set interconnect termination rates among all telecoms operators. Also, given the relatively few operators and the incomplete shift from monopoly to competitiveness in the industry, the NCC has embarked on the process of establishing the much-needed price control regime.[14]

The NCC has reconsidered its approach after being repeatedly reminded that its mandate as regards tariff regulation has two non-mutually exclusive facets. Firstly, to ensure that the Nigerian public is adequately protected under s.4 (1) (*b*) against the consequences of imperfect competition reflected, partly, in the high end-user tariffs; and secondly, to promote fair competition and to protect service providers from misuse of market power or anticompetitive and unfair practices by other service providers under s.4 (1) (d) of the NCA.

What comes to light, regarding the regulatory approach in the Nigerian industry is a situation whereby purported facilitation of investment and entry into the telecommunications market has been used as a pretext for dereliction of statutory duty by the NCC at the expense of the subscribing public. The whole purpose of this approach has been defeated as clearly indicated by the fact that investments have not been forthcoming in the Nigerian telecommunications industry because potential new entrants seem to be discouraged by such

[14] Nigerian Communications Commission, Determination of Voice and SMS Interconnection, 21 December 2009, accessed on 12/12/2011, http://www.ncc.org

a market in which competitiveness of pricing is greatly distorted due to the lack of regulatory checks.

The Nigerian case serves the purpose of trying to show what the status of the telecommunications industry in Zambia would likely be if a similar approach of deregulation or non-regulation of tariffs was adopted.

4.3 South Africa

South Africa's telecoms sector has the continent's most advanced networks, considering both the status of its technology and services that are offered. Its voice market comprises three mobile networks and service licensees, namely Vodacom and MTN being more dominant than Cell C, the late entrant. MTN and Vodacom constituted a duopoly in the mobile sector from 1993 to 2001, when Cell C was licensed and launched its services.[15] MTN and Vodacom still have a combined market share of nearly 90 per cent. As for the fixed-line sector, the incumbent Telkom faces competition only from the Second National Operator (SNO) Neotel.

The body responsible for the regulation of the telecommunications industry is the Independent Communications Authority of South Africa (hereinafter, "ICASA"). In South Africa, the division of telecommunications into wholesale and retail markets is quite well-defined for the purposes of regulation. In Ghana, Zambia and Nigeria there is a tendency to lump together telecoms *network operators* and telecoms *service providers*. Network operators own the infrastructure which consists of wire, optic fibre and radio frequency that provide physical or logical links between exchanges that enable communication to take place

[15] Explanatory Note to ICASA's *Call Termination Regulations*, Govt Gazette No. 33121, Notice 314, 2010, 75

between one point and another.[16] Service providers "use network operations to... provide various communication services to end-users."[17] Network operation constitutes the wholesale or access market, while service provision is what makes up the retail market.

Whereas the South African wholesale mobile market comprises only four network operators, there are a number of service providers which do not own their own backbone infrastructure, but rely exclusively on the network operators to channel their services to end users. There are currently eight *independent* service providers, which include Virgin Mobile and Transtel.[18] Normally, networks operators do not just confine themselves to network operation, but they also provide services to end-users; but the government has created Broadband InfraCo, a national infrastructure company to provide cheap backbone network capacity to service providers.[19]

The worldwide practice as regards pricing in the wholesale market is that the regulators' role is to regulate the framework within which interconnection or termination charges are negotiated and agreed upon between network operators and/or service providers. In default of agreement, the regulator sets the interconnection charges. As for the retail market, the regulator regulates or sets the actual tariffs charged by service providers for services offered to the end-users.

Much like in the case of Zambia and Ghana, ICASA may impose price controls on designated SMP operators under chapter ten of the Electronic Communications Act (ECA), 2005. All the above three mobile service providers and Telkom in the fixed sector are established

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[16] Achterberg, R., *Competition, Policy and Regulation: A Case Study of Telecommunications*, (TIPS Working Paper, 1999), 5, accessed on 31/01/2012, http://www.tips.afrihost.com/research/papers/pdfs/338.pdf

[17] Achterberg, R., *Competition, Policy and Regulation*, 5

[18] Peter Lange, *South Africa - Telecoms, Mobile, Broadband and Forecasts*, Research, 2012), 4, accessed on 27/03/2012, http://www.budde.com.au/Research/South-Africa-Telecoms-Mobile-Broadband-and-Forecasts.html

[19] Peter Lange, *South Africa –Telecoms, Mobile, Broadband and Forecasts*, Research, 2012), 4

licensees with SMP. The price controls obligation usually forms part of licence conditions aimed at enhancing competition in relation to the retail and wholesale tariffs charged by the operator. The prescribed process is, however, too elaborate and ICASA has only managed to apply it in respect of the relatively simple wholesale (access) market for determining interconnect termination rates.[20] The Call Termination Regulations of 2010 set out the manner in which call termination rates are subject to a glide path reduction to April 2013[21] and apply only to all SMP operators. At present, however, retail price controls are applicable only to the end-user tariffs charged by the incumbent PSTN operator, Telkom.

4.3.1 Failure of the South African Regulatory Approach to Level the Playing Field

The South African telecommunications presents an interestingly unique case. The market is greatly liberalised, with relatively high competition among multiple operators and service providers. The interconnection rates are strictly regulated by ICASA. All this has not been enough to adequately bring down the cost of communication, particularly in the mobile sector, which is still quite high, especially when it comes to cross-network calls.

This status quo can be attributed largely to the lingering MTN-Vodacom duopoly. In my opinion, ICASA has got it wrong by categorizing Cell C as an SMP licensee together with these two giants which should have had as stricter price controls as those applicable to Telkom.

ICASA has glossed over the fact that due to their huge subscriber base and notwithstanding the strictly regulated termination charges, MTN and Vodacom have still been able to peg tariffs for off-net calls at extremely high rates while keeping their tariffs for on-net calls at

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[20] Ellipsis Regulatory Solutions, *Overview of Electronic Communications Regulation in South Africa*, 12, accessed on 04/04/2012, http://www.ellipsis.co.za

[21] ICASA, *Call Termination Regulations*, Government Gazette No. 33121, Notice 314, 2010, section 9 (1) (b), accessed on 01/11/2011, http://www.icasa.org.za

extremely low rates. It is observed that this has caused what are known as "closed user groups." These are groups of subscribers who regularly call each other on the same network in order to have the mutual benefit of lower on-net retail prices, thus remaining exclusively loyal to larger networks which have relatively more on-net calling opportunities. This is the same as the "clubbing effect" described in chapter two. This effect is detrimental to both prospective entrants as well as new entrants with less established subscriber base, as it effectively kills off the smaller service providers who are unable to compete on equal footing.

My opinion is that if ICASA had coupled regulation of interconnection rates with regulation of end-user tariffs across the board, there would have been fewer opportunities for foul play by dominant licensees. As is the case in Zambia, illustrated in chapter two, the glide path reduction of interconnection rates and application of the *price cap* have essentially constrained the service providers from increasing tariffs arbitrarily without due regard to the cost of service provision.

The relevance of comparing the regulatory regimes and practices in the three selected countries is essentially to show that the approach which ZICTA has taken with regard to regulation of tariffs for telecommunications services is not uncommon. It is supported by international best practice. Actually, the approach taken is proportionate, transparent, nondiscriminatory and objectively justifiable. Similar approaches are being enforced either outrightly or tentatively in other jurisdictions and the results are there to see and the effects on how much investment is attracted and the extent to which existing investment is safeguarded can be inferred validly.

4.4 Conclusion

This chapter has compared and contrasted certain aspects of price controls in the Zambian telecoms industry with price controls in the three selected countries. Firstly, it has been

demonstrated that Ghana's regulator still firmly regulates end-user tariffs for telecommunications services charged by SMP operators and sets interconnection rates for all operators. There is a separate asymmetric interconnection regime for non-dominant players. This is an arrangement where partial deregulation and non-regulation is effected to cushion new and less established investors in the telecoms market from potential and actual abuse of players with dominant positions in the industry which, on the surface, looks sufficiently liberalised. The point to be taken from the Ghanaian experience is that the level playing field in telecoms is not attained overnight and therefore relaxing controls on prices should not be done at once. Looking at Ghana, one would come to the conclusion that the Zambian regulator is, in any case, not too strict with its price controls. The interconnection rates are transparent, non-discriminatory and reasonable and the price cap is wide enough so as not to hinder any investor from making reasonable return on their high sunk costs.

The Nigerian case has served to indicate that deliberate neglect to regulate the pricing regime in such a strategic industry premised on attracting investment, will more likely than not defeat the whole purpose. Investors would not be assured of fair competition in an environment where established operators are free to charge anything that is not cost based or oriented.

As for South Africa, we see ICASA stopping a few steps short of implementing a full regulatory package which is capable of effectively addressing price discrimination manifest in the big on-net/off-net price differentials. In contrast, Zambia has made huge strides in ameliorating this effect mainly through setting a price ceiling on both wholesale termination charges and retail end-user tariffs.

CHAPTER FIVE

FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.0 Introduction

Having reached the end of the study, which has looked at regulation of tariffs for telecommunications services in Zambia and the impact which it has on investor confidence, it is necessary to state the findings first and suggest improvements that need to be made in order to address the imperfections identified.

5.1 Findings

The following are the findings which either come out expressly or can be distilled from the preceding chapters.

A. With respect to the first broad objective of determining the extent to which the current form of tariff regulation affects investor confidence in the Zambian telecoms industry, the following have been established:

Firstly, in chapter two it has been shown that the application of the price cap and the enforcement of the uniform interconnection rates have ended longstanding interconnection disputes. At the end of the same chapter, after looking at a number of aspects to the TRE, it was concluded that the legal and institutional regulatory framework for telecoms is largely conducive. This cannot be anything other than a boost and stimulus to investor confidence.

In chapter three it has been ascertained that the ZICTA has taken decisive measures to constrain anticompetitive arbitrary pricing of telecoms services, thus assuring less dominant

operators and prospective operators that they will compete fairly based on the quality of service they are able and willing to provide.

B. As regards the second broad objective of determining the likely impact of deregulation of pricing, the Zambian regulatory policy and practice were closely compared with those in place in Ghana, Nigeria and South Africa and the following findings were made:

Comparing the Zambian approach to the Ghanaian one, whereby the regulator still exercises considerable regulatory control of pricing in the market which is seemingly competitive enough, the conclusion was reached that ZICTA is, in any case, well within reasonable limits in its price controls, given the relatively low level of competitiveness in the Zambian market.

In the case of Nigeria, NCC's deliberate practice of not regulating tariff and interconnection rates for some time has had the counterproductive effects of high end-user tariffs and a dampening effect on potential investors' willingness to enter such a market in which competitiveness in pricing is greatly distorted. Accordingly, it was found that a similar scenario would be the likely consequence if ZICTA took a similar approach.

Coming to the South African case, ZICTA's relative success in containing the harmful effects associated with abuse of operator's dominance by means of the cap on both the interconnection rates and end-user tariffs has clearly demonstrated that the South African approach of paying attention only to the wholesale market segment is not ideal.

It in now the turn of findings with respect to specific objectives couched in form of research questions.

The first research question relates to the economic rationale for regulation of tariffs. In chapter two, it has been found that regulation of prices is done in order to make up for

deficient or nonexistent competition in an industry in order to bring about certain benefits which are associated with a normally functioning competitive market. In other words, regulation of prices is a surrogate of competition.

The second research question is about the ability of the current legal framework to adequately meet the objectives of price regulation. In respect of this, it has been clearly established that the Act, in section 41, mandates players with dominant market position to interconnect with other players *on a cost basis* and to ensure that tariffs are, *inter alia*, *based on costs not greater than the cost of providing the service*; and that it also empowers ZICTA to intervene were such statutory requirements are not being met. By so providing, the Act is well structured to adequately fulfill a number of price regulation objectives in telecoms as outlined in chapter two.

As for the third question, chapter three determined that the extent to which price controls are implemented in telecoms does not differ much from that to which the same are effected in the WSS and energy sectors, which are not one hundred per cent commercial sectors. In telecoms there are less pronounced policy considerations of consumer social welfare.

Finally, with regard to the fourth and fifth research questions, chapter four demonstrated that ZICTA is undertaking its mandate of regulating tariffs in a comparatively more purposeful manner. Consequently, dominant players are constrained from setting prices at arbitrarily high or low rates, a practice which effectively distorts or kills off competition and keeps out potential investors.

5.2 Recommendations

Even though the regulatory model and the TRE have been found to be largely conducive, certain areas of the legal and institutional framework need improvements as outlined below.

5.2.1 Legal and Institutional Reform

Firstly, the statutory provision in section 5 of the Act as to the Authority's autonomy has to be made real by preventing all actual and potential undue interference from the state executive in ZICTA's regulatory functions. One way to achieve this is to provide for the appointment of the Board of Regulators by an independent commission rather than the Minister.

Secondly, the dispute settlement mechanism under Part IX of the Act needs reform. Particularly section 74 (2) of the Act appears quite unconscionable for individual appellants who, unlike institutional ones, would not normally manage to foot the costs of the appeal process as provided. Accordingly, there is need for legal reform in this respect so that access to justice is not denied by prohibitive costs. In this regard, one of the most effective and practical ways to address this concern is to vest the Authority with quasi-judicial jurisdiction, with arbitral and mediatory functions as is the case, for instance in Ghana and South Africa, so as to obviate the need for an administrative appeals tribunal.

Thirdly, given the growth in telecommunications and its increasing importance for the national economy as well as the development of international trade in telecommunications services, disputes are likely to occur more frequently. In this respect, it is recommended that the *ad hoc* appeals tribunal, provided for under section 74 (1) of the Act, be a permanent one in conformity with policy commitment 6.12.2 (e) of the National ICT Policy, 2006, which envisages the creation of an ICT Appeals Tribunal. This will obviate the absurdity of having the Minister institute a tribunal every time a dispute arises.

Fourthly, as telecommunications coverage in the mobile market keeps increasing, it is necessary that ZICTA decentralise its operations further down to district level to address the challenge listed under subheading 2.14 (c) of the National ICT Policy.

5.3 Conclusion

This study aimed broadly at determining the extent to which the current form of tariff regulation is likely, if at all, to affect investor confidence by means of both inter-industrial and inter-jurisdictional comparative analyses undertaken in chapters three and four, respectively. The ultimate conclusion is that rather than causing a dampening effect on the confidence of investors in the telecommunications industry, the current form of tariff regulation has guarded against all harmful arbitrariness, thus fostering certainty and long term investor confidence. However, in spite of this positive outlook of the regulatory policy and practice, there is still need for improvement in certain aspects as demonstrated.

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