

## **Ex Ante implementation of Competition Economics and Law in South Africa: the case for regulating call termination services**

Author: Pieter Grootes<sup>1</sup>

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Ex Ante regulation aiming to foster competition leads to the imposition of specific structural (functional separation) or behavioural remedies (price controls) on specific firms where market failure is identified. Such regulation has yet to be imposed on any South African industry.

This paper focuses on the implementation of the objective to enhance competition on the ICT sector as envisaged by Chapter 10 of the Electronic Communications Act, using the regulation of call termination services as an example.

The discussion looks at the history of implementation of the provisions in Chapter 10 and the implementation of the call termination regulations an approach where pro-competitive terms and conditions will only ever be proposed on the outcome of a market review, thereby only necessitating regulation-making activity where a market failure actually exists.

The paper concludes that ex ante regulations governing competition within a market should only be promulgated after the conducting of a market review. This approach is both practical and ensures sufficient transparency and opportunity for affected parties to participate in the regulation-making process. Furthermore, this paper concludes that networks that are sustainable in the long-run must compete on the volume of origination traffic as their key competitive edge.

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<sup>1</sup> The author is the Senior Manager for Markets and Competition Analysis at the Independent Communications Authority of South Africa. Views expressed in this paper are made in his personal capacity

## 1. INTRODUCTION

This paper aims to review the practical development of ex ante pro-competitive remedies in the South African ICT sector, with reference to the recently published “Call Termination Regulations” (ICASA, 2010a).

The paper looks at the following factors in sequence:

- The implications of the Electronic Communications Act of 2005 (ECA)
- The theoretical underpinnings for regulating call termination rates
- Justifying the regulation of call termination rates
- Implementation of Section 67(4): Regulating call termination services in South Africa
- A review of comments made by interested parties on the above regulations
- Factors to be considered in finalising the regulations

The paper concludes that the Independent Communications Authority of South Africa (ICASA) is justified in its actions, but must evaluate the distributional impact of the imposition of a price control and provide greater clarity on the legal process to be followed when implementing pro-competitive terms and conditions on the ICT sector

## 2. IMPLICATIONS OF THE ECA

The Electronic Communications Act (ECA) was introduced in South Africa in 2005 and was enforceable as of 2006.

The ECA (nicknamed the Convergence Bill) introduced two key components into the policy framework governing electronic communications in South Africa. Firstly, the ECA codified (to some extent) telecommunications and broadcasting legislation into one body of law. This was in recognition that the value chain for the provision of broadcasting and telecommunications are both network industries and that technological developments were leading to an environment where broadcasting services could be provided through a traditional “telecommunications” service and vice versa.<sup>2</sup>

The second major component of the ECA was the introduction of a more direct commitment to the fostering of competition in the provision of electronic communications. This direct commitment is illustrated by the provisions for pro-competitive ex ante regulation under Chapter 10.

## 3. THE THEORETICAL UNDERPINNINGS FOR REGULATING CALL TERMINATION RATES<sup>3</sup>

In answering whether call termination rates should be regulated, imagine two worlds: the monopoly world and the interconnected world.

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<sup>2</sup>ICASA, 2010b: Section 4

<sup>3</sup> This section benefited from discussion with Mr John Horrocks of Horrocks Technology Limited during January and February 2010 as well as Laffont & Tirole, 1998a, b.

### 3.1. *The monopoly world*

Under the monopoly world, the total revenue received by a firm in providing voice services may be reduced to the following:

$$TR_{\text{Monopoly}} = TR_{\text{origination}} + TR_{\text{termination}}$$

Where:

TR = total revenue

In this environment, the monopoly service provider may choose to maximise revenue by setting either the origination or the termination fee high, or a combination thereof. Given that it is a monopoly environment, the consumer is unaware that there are two components of the cost of a call. If no social obligations/price controls are imposed on the monopoly, then the firm will base its prices on the willingness to pay of both the originator and the recipient of the call.

### 3.2. *The interconnected world*

Under the interconnected world, the choice for maximising revenue changes due to the introduction of interconnection services, for example such that End-user A on Network<sup>4</sup> A is able to contact End-user B on Network B, i.e. the provision of call termination.<sup>5</sup> The revenue function for the interconnected world may be reduced to the following:

$$TR_{\text{Firm}} = TR_{\text{origination}} + TR_{\text{termination on-net}} + TR_{\text{termination off-net}}$$

Where:

TR = total revenue

In this situation, the firm providing services no longer has two sources of revenue (for which it is in complete control) but three, one of which it does not necessarily control.

In the interconnected world, end-users have choice over which network to use, particularly for the provision of origination.<sup>6</sup> To maintain and grow revenues, existing service providers may adopt one or a combination of the below strategies:

- Attract customers to its network: cheap on-net calls
- Prevent customers on another network from calling its network: high termination fees

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<sup>4</sup> The word “network” refers to the firm that provides services to the end-user.

<sup>5</sup> Section 37(1) of the ECA obliges all licensees to provide interconnection services, subject to the fact that such a request is reasonable.

<sup>6</sup> End-user A does not control which network provides the termination service. The network providing the termination service is determined by the choice of End-user B. If End-user A and B are on the same network, then the same firm provides both origination and termination. If End-user A is on network A and End-user B is on network B, then network A provides origination and network B provides termination.

- Prevent customers from leaving its network: high off-net calls, i.e. high retention rates

Note that in each of the above three points, the firm is attempting to control the volume of traffic originating on its network, i.e. grow and maintain the subscriber base and prevent end-users from moving to another network.

It should be noted that such strategies represent sound pricing strategies for any network. The question to be asked is not whether such strategies take place, but whether the extent of these strategies reduce or constrain entry, thereby reducing any pressures a network may face from competitors in offering the same or similar services to the market.

The ECA introduces the objective of fostering competition to ensure that reasonable prices are offered to end-users (Object 2m of the ECA). One mechanism to achieve this is by creating a regulatory regime that enhances consumer choice over who provides termination services.

As discussed above, the fee for termination as well as off-net calls may be used as a preventative measure to stop other networks being able to offer both new and existing end-users cheaper services. It should further be noted that such measures may only be effective if a particular firm has significant market power in the provision of either origination, termination or both services.

Conceptually, if a regulator intends to promote competition between networks, it is therefore important to drive competition towards generating as much origination traffic on a network as possible, i.e. firms compete for the volume of traffic originating on their respective networks.

#### 4. IMPLEMENTATION OF SECTION 67(4): REGULATING CALL TERMINATION SERVICES IN SOUTH AFRICA

ICASA is required to follow the following process when considering the imposition of pro-competitive terms and conditions:

- Define the relevant market
- Evaluate the effectiveness of competition in the defined market
- Determine whether any market failure exists, and if so, declare those firms that have significant market power (SMP)
- Impose regulations that include pro-competitive terms and conditions to remedy the identified market failure

The legal and procedural process which the Authority is to follow has been the subject of substantial debate in South Africa since the ECA was published. The ECA states the following:

*67(4) The Authority must prescribe regulations defining the relevant markets and market segments, as applicable, that pro-competitive conditions may be imposed upon licensees having significant market power where the Authority determines such markets or market segments have ineffective competition. The regulations must, among other things—*

- (a) define and identify the retail or wholesale markets or market segments in which it intends to impose pro-competitive measures in cases where such markets are found to have ineffective competition;*
- (b) set out the methodology to be used to determine the effectiveness of competition in such markets or market segments, taking into account subsection (8);*
- (c) set out the pro-competitive measures the Authority may impose in order to remedy the perceived market failure in the markets or market segments found to have ineffective competition taking into account subsection (7);*
- (d) declare licensees in the relevant market or market segments, as applicable, that have significant market power, as determined in accordance with subsection (6), and the pro-competitive conditions applicable to each such licensee;*
- (e) set out a schedule in terms of which the Authority will undertake periodic review of the markets and market segments, taking into account subsection (9) and the determination in respect of the effectiveness of competition and application of pro-competitive measures in those markets; and*
- (f) provide for monitoring and investigation of anti-competitive behaviour in the relevant market and market segments.*

After a lengthy consultative process, including an inquiry into call termination rates under Section 4D of the ICASA Act during 2006/7 and draft regulations on each of the above components of Section 67(4) in 2008, the Authority released a “Guideline for conducting market reviews” in March 2010. This document outlines the process which the Authority intends to follow in implementing the provisions of Chapter 10 of the ECA which allow for the imposition of pro-competitive terms and conditions where necessary.

ICASA stated that “the development of regulations under Section 67(4) take place on the outcome of Phase 1 of a market review.” (ICASA, 2010c: 5).

In essence, the Authority has chosen to only consider the development of regulations defining a specific market if there is a need for pro-competitive remedies to be imposed. This market-by-market approach is one of practical sense and is consistent with practices followed in other jurisdictions, such as the United Kingdom (UK, 2004), European Union (EU, 2002), Norway (pt, 2004), Kenya (CCK, 2010) and Nigeria (NCC, 2007).

The Authority followed this approach in the development of the draft “call termination” regulations released on the 16<sup>th</sup> of April 2010 (ICASA, 2010a).

#### *4.1. What process did ICASA follow?*

ICASA had previously defined the market for call termination services in the 2007 Findings Document on the Wholesale Call Termination Market Definition (“Findings document,” ICASA, 2007)

The Authority noted the time lapse between the 2007 Findings document and its initiative to review the cost of termination in South Africa and therefore released a request for information from all licensees to facilitate an up-to-date evidence-based evaluation of the “effectiveness of competition in the Call Termination market in South Africa” (ICASA, 2009:

4) This request for information was released on the 9<sup>th</sup> of October 2010, requesting information to be submitted on the 20<sup>th</sup> of November 2009.

Licensees submitted the required information<sup>7</sup> after ICASA granted an extension for the time to submit the relevant information. In coming to its conclusions in drafting the “call termination regulations”, ICASA considered the following documentation and information:

- The 2007 Findings document
- The information submitted to the Authority submitted under regulatory financial reporting obligations imposed on Vodacom, MTN and Telkom under the Telecommunications Act of 1996

ICASA considered the information provided by licensees in conjunction with the Findings Document and information submitted to the Authority by Vodacom, MTN and Telkom under regulatory financial reporting obligations imposed under the Telecommunications Act of 1996. The outcome of the review of the above information was that, amongst others, call termination prices in South Africa were set at inefficiently high levels . ICASA deemed this to be a threat to the promotion of effective competition, justifying regulatory intervention (ICASA, 2010a: 72).

ICASA therefore released the draft “Call Termination” regulations which:

- Defined the market for the provision of wholesale call termination services as “separate wholesale call termination markets on each electronic communications network and electronic communications service licensee in South Africa” (ICASA, 2010a: Regulation 3)
- Evaluated the effectiveness of competition in the provision of wholesale call termination services and found that “competition in the call termination markets is ineffective in the provision of both fixed and mobile voice services” (ICASA, 2010a: Regulation 5)
- Determined that market failure existed in terms of access, non-discrimination, transparency and pricing (ICASA, 2010a). These market failures create the potential for the following features which may harm future competition: “negative welfare effects as a result of inefficient pricing, first mover advantage, raising rivals’ costs, margin squeeze, and foreclosure” (ICASA, 2010a: 72)
- Determined that all licensees have significant market power and that particular licensees had “established significant market power,” namely Vodacom, MTN, Cell C and Telkom (ICASA, 2010a: Regulation 6)
- Imposed particular pro-competitive remedies (ICASA, 2010a: Regulation 7-11), where Regulation 9 imposed a price control, with the objective of ensuring that those licensees with “established significant market power” charged “Cost-oriented prices for call termination”

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<sup>7</sup> The Call Termination questionnaire sought information, amongst others, on the following: call and customer volumes and revenues; revenues and volumes from providing termination services. See <http://www.icasa.org.za/LegislationRegulatory/WorkingdocumentsPendingProcesses/MarketStudiess674Regulations/Draft/tabid/189/ctl/ItemDetails/mid/870/ItemID/192/Default.aspx>

## 5. REVIEW OF THE DRAFT CALL TERMINATION REGULATIONS

The draft regulations were released on the 16<sup>th</sup> of April 2010 and subject to both written and oral comment.<sup>8</sup> Key comments raised by stakeholders include the following:

- The legal process followed by ICASA may be questioned (written submissions received from Vodacom, MTN, Cell C, Telkom and Neotel)
- The definition of the market does not adequately reflect the manner in which services are provided in South Africa. In particular the proposed definition did not take into consideration the differences between fixed and mobile location termination and that Voice over Internet Protocol services should not be limited to fixed termination only (written submissions received from ISPA, VOX Telecoms and SMILE amongst others)
- The design of the price control does not provide fair time for adjustment to established business model structures (written submissions from Vodacom, MTN, Cell C)
- The proposed price for fixed location termination does not truly reflect the costs incurred in the provision of the service. Telkom proposed that the true cost of termination on its network is in the region of R 0.37 (written submission from Telkom, page 60)

ICASA is currently reviewing the submissions made by all stakeholders. However, it is important to note the common trends in the submissions from those most likely to be affected by the proposed pro-competitive terms and conditions:

- No stakeholder has contradicted the statement that regulations imposing pro-competitive terms and conditions should only be proposed on a market-by-market basis
- No stakeholder has contradicted the objective of achieving cost-oriented termination rates in South Africa as a means to foster competition in the electronic communications market.

In other words, the objective of reducing the cost of off-net calls and thereby fostering competition has not been questioned. ICASA's actions are therefore sanctioned by those very firms who are likely to experience a reduction in revenue from one component of their business.<sup>9</sup>

There are two components to finalising the call termination regulations. The first component involves considering the distributional impact any price control may have on the following:

- Traffic and therefore revenue flows between networks
- The incentive for networks to invest
- Consideration of introducing a benefit to new entrants to the markets in terms of an asymmetric termination rate (i.e. being able to charge a higher rate than the rate charged by competitors), although for a transitory period to assist in the recovery of high, upfront sunk investment costs of entry to the market

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<sup>8</sup> Public hearings on these regulations took place from the 28-30 of June 2010

<sup>9</sup> With one exception: Telkom seeks an increase in termination rates

The second component is to clarify how it intends to implement Section 67(4) of the ECA. From a practical perspective, it is only possible to define markets and evaluate the effectiveness of competition within such a market as an outcome of a market review. Regulations imposing pro-competitive terms and conditions are therefore a by-product of a market review.

Sufficient guidance is provided in terms of Sections 67(6) and 67(7) of the ECA with regards to what factors to consider when defining a market and evaluating the effectiveness of competition and proposing pro-competitive terms and conditions.

ICASA has followed a practical and implementable interpretation of Section 67(4), as is evidenced by the release of the “Guideline for conducting market reviews” and the subsequent call termination regulations.

## 6. CONCLUSION

The market-by-market approach is a viable and practicable approach to fostering competition in the South African ICT industry.

To promote competition in the ICT sector in general, ICASA must provide clarity on how Section 67(4) of the ECA is to be implemented.

Regarding competition in the provision of voice services to end-users, ICASA should consider “nudging” networks to focus on the origination of traffic as the key competitive edge, i.e. success in the provision of voice services means success in increasing the volume of traffic created on your network and terminating on any other network.

## 7. REFERENCES

CCK, 2010. The Kenya Information and Communications (Fair Competition and Equality of Treatment) Regulations. Available at:

[http://www.cck.go.ke/regulations/downloads/Kenya\\_Information\\_and\\_Communications\\_Fair\\_Competition\\_and\\_Equality\\_of\\_Treatment\\_Regulations\\_2010.pdf](http://www.cck.go.ke/regulations/downloads/Kenya_Information_and_Communications_Fair_Competition_and_Equality_of_Treatment_Regulations_2010.pdf) [Accessed on 23 August 2010)

EU, 2002. Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services. Official Journal of the European Communities.

Available at:

<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF> [Accessed on 23 August 2010)

HODGE, J., 2008. South African 15-year Telecommunications Policy Review. Available at:

[http://www.thepresidency.gov.za/docs/reports/15year\\_review/economic/telecommunications.pdf](http://www.thepresidency.gov.za/docs/reports/15year_review/economic/telecommunications.pdf) [Accessed on 23 August 2010)

- HORROCKS, J., 2008. ERG Consultation on Fixed/Mobile Termination Rates. Response from Horrocks Technology Limited
- ICASA, 2007. "Findings Document on the Wholesale Call Termination Market Definition Process", Government Gazette No 30449.
- ICASA, 2009 "Submissions to questionnaire" Government Gazette No. 32628
- ICASA, 2010a. "Call Termination Regulations", Government Gazette No 33121
- ICASA, 2010b. Position Paper in relation to Internet Protocol Television (IPTV) and Video on-Demand (VOD) services, Government Gazette No 33436
- ICASA, 2010c. "Guideline for conducting market reviews" Available at: <http://www.icasa.org.za/tabid/185/Default.aspx>
- LAFFONT, J.J., REY, P., TIROLE, J., 1998a, 'Network competition I: Overview and non discriminatory pricing' , *RAND Journal of Economics*, Volume: 29, Issue 1
- LAFFONT, J.J., REY, P., TIROLE, J., 1998b, 'Network competition II: Price discrimination' , *RAND Journal of Economics*, Volume: 29, Issue 1.
- NCC, 2007. Competition Practices Regulations. Available at: <http://www.ncc.gov.ng> [Accessed on 23 August 2010)
- pt,2004. Norwegian Post and Telecommunications Authority. Methodology for Market Analysis. Available at: [http://www.npt.no/ikbViewer/Content/25977/meth\\_analysis.pdf](http://www.npt.no/ikbViewer/Content/25977/meth_analysis.pdf) [Accessed on 23 August 2010)
- STUMPF, U., 2006. Markets Susceptible to ex ante Regulation: Methodology and Commission Recommendation. *Communication Strategies*, no. 64: 41- 60.
- UK, 2004. Office of Fair Trading "Assessment of market power". Available at: [http://www.offt.gov.uk/shared\\_offt/business\\_leaflets/ca98\\_guidelines/oft415.pdf](http://www.offt.gov.uk/shared_offt/business_leaflets/ca98_guidelines/oft415.pdf) ([Accessed on 23 August 2010)
- VALLETTI, T., 2006. Mobile call termination: a tale of two-sided markets (\*) *The Free Library*. Available at: [http://www.thefreelibrary.com/Mobile call termination: a tale of two-sided markets \(\\*\).-a0166094048](http://www.thefreelibrary.com/Mobile_call_termination:_a_tale_of_two-sided_markets_*(-a0166094048) [Accessed on 23 August 2010)
- Written submissions to Call Termination Regulations. See <http://www.icasa.org.za/tabid/190/Default.aspx>
- YANKEE GROUP, 2003. "South African Communications Market Study"

## **Annexure A: Justifying the regulation of call termination rates**

The cost of a call consists of origination (End-user asks to be connected to End-user B) and termination (End-user A is connected to End-user B). Each component of the cost of the call is charged on a time/usage basis and is therefore billed as cost per minute/second.

On-net calls, where End-user A and B are on the same network, incur both the origination and termination cost. In the Calling Party Pays (CPP) scenario, where the originator of the call (End-user A) pays for the full cost of the call, neither End-user A or B are aware that a cost of termination is to be incurred. A firm is likely to set the retail price of the call to recover both the costs of the call as well as a mark-up (retention) to cover back-office costs and profit.

Off-net calls, where End-user A and B are on different networks, share the total cost of the call. End-user A's network carries the cost of origination whilst end-user B's service provider carries the cost of termination. In this situation, end-users are likely to be aware that a cost of termination is to be incurred

The factors to be considered in designing regulatory interventions to promote competition are the following:

- How much does Network B charge Network A for access to its network (call termination) and is this justified?
  - A new entrant typically has a greater share of traffic going off-net owing to its initially smaller subscriber base
  - The charge for termination therefore affects the ability for the new entrant to compete on outbound, off-net calls
  - No end-user will switch to a new entrant if the costs to another network are too high
  - This situation can only exist if termination rates on competing networks are too high, i.e. set above the efficient recovery of economic costs.
  - It is internationally accepted that, where CPP applies, termination rates should be charged at the level which provides for an efficient recovery of the economic costs incurred in the provision of termination services
- How much does Network A charge End-user A for contacting end-users on other networks (retention fee) and is this justified?
  - New entrants attempt to capture clients by offering cheaper services
  - This is achieved mostly through cheap on-net calls<sup>10</sup>
  - However, as a new entrant grows, it is no longer the cost of access to another network that affects its position, but the cost that end-users of other networks must pay to contact an end-user on its network. For example: Company A makes and receives a large volume of calls. If the cost of making calls is cheaper with Network A than with Network B, then there is an incentive for Company A to switch to Network A. However, now consider the following situation: calls from Network A to Network B cost the end-user R1.00. Calls

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<sup>10</sup> And if possible, off-net calls, although this practice is not sustainable in the long run.

from Network B to Network A cost the end-user R1.50. In the situation where Company A receives a large number of calls (i.e. insurance companies, motor vehicle companies etc), Company A will choose which network to use based on the balance of the cost to place calls that it faces as well as the cost its clients face when attempting to contact the company. If network A is cheaper than Network B for Company A, BUT the cost for Company A's clients increase when placing a call to it, then Company A will reconsider whether it should switch to network A. If the cost that Network B charges end-users for off-net calls is high, then those companies that are reliant on incoming calls will continue to use Network B for the provision of all services

- Regulators and Competition Authorities are often faced with complaints lodged by new entrants against incumbent networks regarding "excessive" retention rates. The South African situation is no different, with ECN Telecommunications and others lodging complaints against Telkom regarding Telkom's "high" retention rates.

The solution to the competition concern around termination rates is for the regulator to proactively set the charge at the cost incurred by the hypothetically efficient operator, **i.e. ex ante regulation**. This is an intrusive regulatory measure, but it is unlikely that any other measure will change operators' behaviour towards a more competitive environment.<sup>11</sup>

A feature that supports ex ante regulation of termination rates is that the cost of termination is an identifiable and observable cost incurred by the firm in providing a service.

The solution to the competition concern of high off-net retail prices (high retention rates) may be found in both ex post and ex ante regulation. Retention rates are set by a network to ensure a return on capital and possibly to discriminate between retail on-net and off-net calls, thereby discouraging existing end-users from switching to other networks.

Retention fees are not necessarily directly based on observable costs in the same manner as for call termination. Retention fees may be regulated in an ex ante fashion, it is also possible for retention fees to be addressed through the application of ex post competition law principles, based on excessive pricing and discrimination.

*What should be done first?*

The sequencing of regulatory intervention is a crucial component of ensuring investor and stakeholder certainty. The above discussion has briefly outlined that both termination rates and retention fees may have a negative impact on the effectiveness of competition in the provision of retail voice services.

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<sup>11</sup> Some jurisdictions have gone as far as to reduce termination rates to minimal levels. Mr Horrocks of Horrocks Technology suggests that termination rates should be close to zero.

It is possible for a regulatory body to review both the retention fee regime and termination rates at the same time. However, reviewing termination rates is expected to have the most significant impact for the following reasoning:

- Termination rates affect the ability of a new entrant to compete successfully in offering off-net calls, i.e. the origination space
- Retention fees are an addition to the cost of an off-net call, which is based on the applicable termination fee
- The effective retention fee is therefore a function of the termination rate and the retention fee.
- Assuming that the retention fee remains the same, a justified reduction in termination rates will reduce the effective retention fee and therefore reduce the cost End-user A on network A faces in calling End-user B on network B.
- Again, assuming the retention fee remains the same, a reduction in termination rates will also reduce the effective cost of calling off-net from an incumbent network, thereby further incentivising end-users to review their choice of service provider.
- A reduction in termination rates is therefore expected to reduce both:
  - The cost network A faces in charging end-user A for calls to Network B
  - The cost Network B charges end-user B for calling End-user A on network A (the new entrant)
- The outcome is the ability for new entrants to the market to more effectively compete against incumbent networks because the incumbent network no longer has the ability to fully control both the origination and termination cost levied on the end-user.