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Liberalising the Telecommunications Sector in Namibia: Better Regulation is the Key

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This paper reviews the current wave of changes in the telecommunications sector in Namibia. Cabinet decided in 1999 to open up the telecommunications sector (or at least some segments) to competition from 2002 onwards. The mobile phone sector was to welcome a new entrant by 2003, but the process has been delayed. Telecom Namibia, the fixed line monopoly, is to face competition as from 2004. This paper argues that competition is essential for improving service provision. However, competition may only reduce the costs of telecommunications services in Namibia provided the regulators closely monitor the behaviour of the incumbent players, particularly in the fixed line services.

Introduction

For some time the telecommunications sector has been viewed as a natural monopoly around the world. It was assumed that it could only be provided at the lowest cost by one firm. As a result most developing countries started to nationalise their telecom providers in the 1960s. However, the nationalisation trend was soon reversed around the 1980s as a result of three critical developments. The three important factors that contributed to the policy reversal are:

- State-owned telecoms firms performed quite poorly in terms of service delivery - waiting periods for connections took a long time and the quality of those services were below par; in addition these corporations often required large subsidies from the state, thus putting pressure on national treasuries;
- Secondly, international lending organisations started to put pressure on countries to divest. In the 1980s, the World Bank in particular focussed on sectoral reforms and privatisation.
- Third and finally, a worldwide trend developed during the Thatcher years in the UK towards divestiture and privatisation.

As a result, the pace of telecommunications sector reforms towards market orientation accelerated in the 1980s and has consolidated since. Proponents of telecommunications sector reforms argue that monopoly providers, whether state or privately owned, face fewer incentives to improve services and reduce prices than do firms operating in a competitive environment. This view is gaining momentum around the world and one therefore witnesses a concerted move towards reformed telecoms markets. For example, in 1990 only Japan, the UK and US allowed competition in basic telecoms. However, by 1995 this figure had grown to 11 countries, and subsequently rose to nearly 30 countries in 1998, including Uganda. Africa on the whole is still lagging the trend in this regard (Kelly, 1999).

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Furthermore, recent technological developments such as cellular phones and the Internet negate the natural monopoly arguments. The natural monopoly argument was most plausible at the time when the telecoms industry produced a single standardised or uniform product - voice-grade telephone circuit - and almost all services were local access and local calls. Things are much different today, as there are a variety of communications modes such as electronic mail (e-mail) through the internet, and mobile phones and therefore there is room to further liberalise the telecommunications sector to enable different modes to compete. But what exactly does it mean to liberalise a sector such as telecoms?

What is meant by liberalisation?

Liberalisation means different things to different people. What follows is an economist's view of the process and outcomes of liberalisation. According to the principles of microeconomics (which is the branch of economics concerned with the allocation and use scarce of resources within firms and households) competition is welfare improving, whereas the lack of competition reduces economic and social welfare. If firms provide services or goods to consumers under a perfectly competitive regime, such firms are viewed as price takers - meaning no individual firm can influence prices, in any direction, through changing its supply or undercutting other firms' prices. This means that in theory such goods and services are delivered at competitive prices and overall welfare to the sum of producers and consumers is maximised.

The other extreme case is that of a monopoly. Here one firm supplies the whole market and can basically charge any price as it has perfect control over prices and can therefore charge in theory what it likes and make abnormal profits, at the expense of consumers. Such a firm also has the power to block other potential entrants and may thereby prevent competition, in terms of new products and services entering the market.

In the real world we often find variants of the above two extremes. The point is that under competitive regimes consumers' indirectly set prices (through effective demand) whereas under the monopoly regime it is only the firm that determines prices.

What liberalisation does in essence is to open up such closed markets to greater competition to allow prices as well as service and product quality to be determined within a competitive environment such that prices are able to respond to changes in demand signals. Crucially, however, liberalisation does not say anything about the ownership of a firm or firms, it is rather about changing the pricing incentives and thereby the behaviour of firms. Very often one hears in public debates that privatisation is equated to liberalisation. That is a serious misnomer. In terms of the above discussion, in theory a private monopoly would behave in the same way as a public monopoly in terms pricing its services if both pursue a profit maximisation strategy. That said, often most public monopolies are not pursuing a profit maximisation strategy and therefore may not charge optimal prices for its services - meaning non-profit maximising firm would not necessarily care about over- or undercharges as it could always get bailed out by its principal shareholder, the state. Therefore, whilst in practice most public monopolies may not necessarily overprice their services, the absence of a profit-motive (or efficiency-motive) exacerbated by the lack of competition could lead to under-provision of services or over-investment in non-essential technologies which could stifle socio-economic progress in the long run.

An important question is how the above discussion relates to Namibia's telecommunications sector. By 2004 the market for both fixed-line telephony and mobile phones will be open to competition. Currently, Telecom Namibia has the exclusive right to provide fixed line telephone services without competition until 2004. Similarly, MTC the only cellular service provider's monopoly will come to an end with the awarding of a licence to a second operator probably by early next year. According to Kelly (1999), competition is typically introduced into the telecommunications sector for several reasons and these are:

- To introduce fresh investment and/or foreign investment into the sector
- To introduce innovation, price competition and new management techniques
- To create new business opportunities for local entrepreneurs and other suppliers



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- To create more choice for consumers
 - To improve the level of teledensity and pace of rollout

An essential question raised in this paper is whether the proposed changes to the structure of the telecommunications sector will bring about effective competition in the local telecoms market as discussed by Kelly (1999). Experience from the UK and other countries suggest that liberalisation did not automatically result in a competitive market structure due to dominance of the incumbent monopoly. This resulted in these countries focussing very closely on their regulatory framework and the strengthening of the capacity of the regulatory institutions. We argue that if Namibia is to achieve similar results then it probably has to also consider the institutional framework governing the telecommunications sector in order to prepare for the bottlenecks that may arise after liberalisation.

Evolution of the telecommunications sector reforms in Namibia

The reform of the telecommunications sector began in 1992 with the passing of the Namibia Communications Commission Act (Act 4 of 1992), followed by the creation of the Namibia Communications Commission (NCC) as the regulatory body in April 1992 and the incorporation of Telecom Namibia as a public company in August 1992. However, the current version of the NCC is not responsible for regulating Telecom Namibia. Therefore a *de facto* regulatory vacuum exists for Telecom Namibia. However, the NCC regulates mobile phone sector.

The NCC² as the regulator of the sector has four key areas of responsibility, namely:

- Definition of communications policy measures;
- Issuing of telecommunication, broadcasting, two-radio, postal satellite communication and operating licenses;
- Management of the radio-electric frequency spectrum;
- Licensing of operators

A draft Telecommunications Bill is currently being revised that would definitely change the shape and form of the regulator and the players in the sector. In fact the draft Communications Bill intends to create a single regulatory body - the Communications Authority of Namibia (CAN) - replacing the existing Namibia NCC, which would regulate the whole communications industry. Thus the current regulatory vacuum with respect to Telecom Namibia will end once the Communications Bill is operational. The Draft Communications Bill proposes twelve broad policy objectives. These are:

- To establish the general framework governing the opening of the telecommunications sector in Namibia to competition;
- To provide for the regulation and control of the communications activities by an independent authority;
- To promote the availability of a wide range of high-quality, reliable and efficient telecommunications services to all users;
- To promote technological innovation and the deployment of advanced facilities and services in order to respond to the diverse needs of commerce and industry and support social and economic growth;
- To encourage local participation in the communications sector;
- To increase access to telecommunications and advanced information services to all regions at just, reasonable and affordable prices;
- To ensure that the costs to consumers for services are just, reasonable and affordable;
- To stimulate the commercial development and use of the radio frequency spectrum;
- To encourage private investment in the telecoms sector;
- To enhance regional and global integration and cooperation in the field of telecommunications;

² The NCC falls under the jurisdiction of the Ministry of Information and Broadcasting.



- To ensure fair competition and consumer protection in the telecommunications sector;
- To advance and protect the interests of the public in the providing of communications services and the allocation of radio frequencies to the public.

In terms of the draft bill the CAN will be responsible for regulating the communications sector as a whole. The draft bill intends to ensure proper competition in the telecoms industry and intends to penalise non-compliance. However, there are few subtle things the regulators will have to bear in mind if meaningful competition is to come about after 2005. These are:

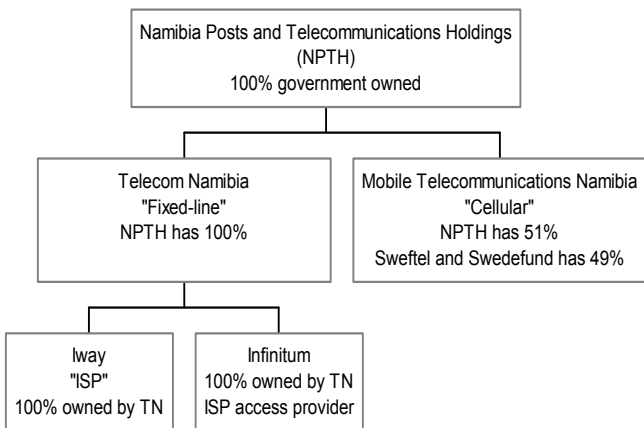
- A understanding of who the local players are and how they relate to each other
- Understand interconnection agreements
- Monitor interconnection agreements within the industry

The latter issue is quite important because it dictates competitiveness of downstream players vis-à-vis upstream network access providers.

Who are the key players within the telecommunications sector?

The awarding of the first cellular licence to Mobile Telecommunications Namibia (MTC) in 1994 shortly followed the corporatisation of the former government Department of Communications as Telecom Namibia in 1992. MTC started operating in April 1995. It is a joint venture between Namibia Posts and Telecommunications Holdings (NPTH), with 51% shareholding, Swedfund International AB (23%), Telia International AB (26%)³. MTC uses the GSM 900 technology for its cellular operations. Its current licence does not include an international gateway. NPTH has 100% shareholding in Telecom Namibia and 51% in MTC. Telecom Namibia in turn owns Iway, which has been an Internet service provider (ISP) since 2000, as well as Infitum, which provides internet access services to other ISPs. Together with the divisions of Telecom Namibia involved in providing other value added network services such as ISDN, this means that Telecom Namibia is vertically integrated from telecommunications network to service provision (see Figure 1).

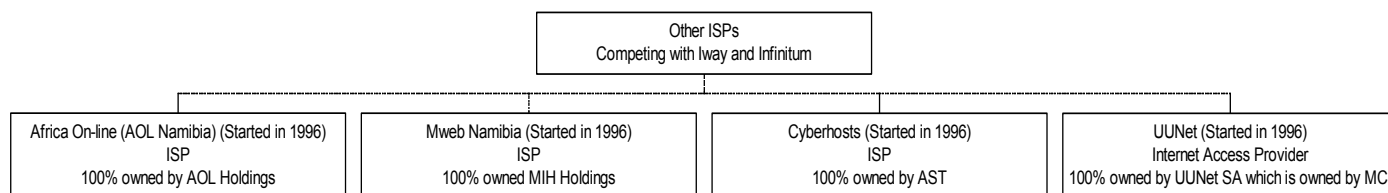
Figure 1: The NPTH Group - dominates the upstream market



³ At the moment it is beyond the scope of this paper to discuss the shareholding of the two Swedish companies in MTC. It is our understanding that they brought expertise to the table.



Figure 2: The Other Downstream Players



The ISP market started in 1994. NAMIDEF (Namibia Internet Development Foundation) was the first ISP in Namibia. It started as an NGO in 1994, but subsequently turned over its internet activities to UUNet Internet Africa Namibia (UIAN) in 1996⁴. There are over a half a dozen ISP companies in operation at the moment, but according to Aochamub et al (2002) only two are Internet Access Service Providers (IASPs), namely Infnitum (which is owned by Telecom) and UUNet (see Figure 1 and Figure 2). The difference between IASPs and ISPs is that the former provide Internet connectivity and network access services to the latter.

What is clear from the above diagrams is that Government plays quite an important role within both the upstream and downstream sectors, through its ownership of Namibia Posts and Telecom Holdings, which in turn owns Telecom Namibia, as well as majority stake in MTC. A closer look at the players reveals that it is actually Telecom Namibia, which is critical to future changes within the telecommunications sector as it owns the telecommunications network.

Competitive access to the network is crucial for competition

An important distinction within the telecommunications industry is that between network operation (upstream) and service provision (downstream). Network operators provide the links and exchanges that enable communication to take place between two points. Service providers, on the other hand, use network operations to communicate and use it to provide various communication services to end users, such as ISPs.

In terms of current licensing requirements, both internet service providers and the mobile phone operator have to use Telecom Namibia’s network as they are not allowed to build their own copper or fibre networks independent of Telecom Namibia’s network nor are they allowed to lease an international gateway; they can only build their networks with routers and switches using the cable network of Telecom Namibia (Aochamub et al: 2002).

The basic components of a network are exchanges and transmission links. According to Achterberg (2000) a network is typically organised as a hierarchy, whereby a link joins a user’s telephone to a local exchange. In turn, local exchanges are connected to trunk exchanges by higher capacity transmission lines, which in turn are mutually connected by a system of high capacity trunk links; and finally, certain trunk exchanges are connected to the international network via satellite or cable. In Namibia, all exchanges and switches, which make up the national network, are owned and controlled by Telecom Namibia. This means that all downstream service providers have to use Telecom Namibia’s network to engage in service provision. Hence the issue of interconnection is critical for a liberalised telecommunications sector, particularly as Telecom both operates the network and simultaneously competes through service provision. Of course, if a second fixed-line operator is introduced with its own network (and there are potential candidates with their own fibre networks such as NamPower - the electricity utility) there is likely to be competition in the upstream sector that could make things quite interesting for the rest of service providers within the telecommunications sector. Because, once there is competition in terms of network access, we could see greater competition among the service providers that could potentially translate into lower costs in terms of internet access and better technological solutions to Namibia’s telecommunication problems. For example,

⁴ The University of Namibia was the first institution in Namibia connected to the internet, as it was the host of the NAMIDEF hub until the introduction of commercial ISPs in Namibia (Hamilton, 2000).



a recent paper that evaluated Namibia's development potential through the use of IP telephony suggests that the introduction of IP technology could greatly improve Namibia's competitiveness, particularly if it is done soon rather than later (see Aochamub et al: 2002).

Market structure and performance within the telecommunications sector⁵

Fixed Line Services

Telecom Namibia is a subsidiary of Namibia Posts and Telecommunications Holdings (NPTH) and is the sole provider of fixed line services. In addition to fixed-line services, the company as part of the NPTH group also supplies a range of other services including internet services, data transfer services and wireless communications and other value added network services (VANS) through subsidiaries such as Iway and Infinitem.

Telecom was granted a period of exclusivity since its formation in 1992 - meaning it faced no competition. The initial argument for granting Telecom Namibia a monopoly is that it will allow it to expand the network to unprofitable low-income areas and thereby raise access to basic telephone services across the country. It seems that Telecom has used this period of exclusivity to expand the local telecommunications network infrastructure. Fixed assets and investment have risen dramatically since 1993. However, the return on total assets is falling - from 31% in 1993 to 9% in 2001, which means that the growth in total assets has been much faster than the increase in profits due to Telecom Namibia's large investment programme in digitising the network and expanding network services through various communications technologies to previously under serviced areas.

Table 1: Productivity and financial indicators for Telecom Namibia

	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of lines	66,749	69,971	80,224	88,203	100,848	113,881	114,908	110,176	117,398
Fixed-line teledensity	4.5%	4.6%	5.1%	5.4%	6.1%	6.3%	6.2%	6.4%	6.4%
Lines per employee	29.02	34.13	42.70	52.22	60.28	62.64	66.50	66.09	70.98
Revenue per line (N\$)	3373.88	3136.56	3365.58	3748.05	3702.46	3990.56	5117.29	5921.40	6509.65
Operating cost per line (N\$)	2420.98	2373.21	2904.98	2935.19	2886.26	3238.22	4005.53	5015.16	5679.95
Employment	2,300	2,050	1,879	1,689	1,673	1,818	1,728	1,667	1,654
Return on total assets	31%	19%	10%	13%	11%	10%	14%	10%	9%
Revenue (in thousands)	225,203	219,468	270,000	330,589	373,386	454,449	588,018	652,396	764,220
Operating profits (in thousands)	63,605	53,412	36,951	71,696	82,312	85,677	127,750	99,846	97,405

Source: Telecom Namibia Annual Reports (various years)

As a result, the number of lines has almost doubled from 66,000 in 1993 to 117,000 by 2001 and therefore fixed line tele-density has increased dramatically - teledensity measures telephone line penetration per 100 persons. Similarly, revenues per line in current prices have doubled from N\$3,373 in 1993 to N\$6,500 in 2001. However, employment has fallen gradually since 1994 from 2,300 in 1993 to 1,654 in 2001 against the backdrop of rising capital spending and revenue - which is a 20%, fall in employment. This suggests that Telecom Namibia has been restructuring aggressively in anticipation of competition. The NPTH group has recently paid over a dividend in excess of N\$7 million, almost double what was paid during the 2000/2001 financial year.

Telecom Namibia's revenues have increased steadily since 1993 and operating profits have been hovering round N\$100 million since 1999. It seems that higher profitability has been achieved against the background aggressive tariff rebalancing and reduced staff numbers.

⁵ At the moment there is very little information available on the ISP sector in Namibia and therefore we shall not discuss it in this paper.



By 2001 there were only 339 manual lines in operation in Namibia, down from almost 10,000 in the early 1990s. Similarly, waiting periods for installations have been reduced dramatically. This suggests the corporatised entity - Telecom Namibia - has achieved a lot in terms of extending telecommunications services to the country in less than a decade since its formation and the entire network has been digitised by 1999.

However, it is not clear from the available statistics to what extent disconnections impacted on the total rollout. For example, in South Africa, during 2001 and 2002, disconnections far exceeded rollout such that the total number of lines actually fell (Makhaya and Roberts: 2003). These disconnections were mainly of customers in under-serviced areas and were the result of non-payment. Disconnections are also taking place in Namibia but it is not clear how many of the existing lines are active. Furthermore, it would be interesting whether disconnections are mainly taking place in the formerly under serviced rural areas as is the case in South Africa. In South Africa there is talk of introducing a minimum "lifeline service" for defaulting residential customers (Makhaya and Roberts: 2003).

In addition it would also be interesting to see the distribution of net increases in direct exchange lines over households and the corporate sector. This would tell us whether the rapid expansion in the telephone network has reached the under-serviced and the poor because the latest census data (see Table 2) suggest that only 38.6% of the 346,455 households in Namibia stated that they have access to a telephone. According to the 1993/1994 Household Income Expenditure Survey only 22% of households either owned or had access to a phone at the time of that survey. There has been some positive growth between 1993 and 2001 but not that rapid to keep up with the growth in households - in 1993 there were 244,827 households in Namibia. Therefore, there is still some way to go in terms improving access to telecommunications services for households across Namibia, particularly in rural areas.

Table 2: Percent of households with access to a telephone in 1993/1994 and 2001

Area	Percent of households with access to a phone in 2001	Percent of households with access to a phone in 1993/94
Namibia	38.6	22
Urban	63.6	46
Rural	22.3	8
Caprivi	25.3	6
Erongo	72.5	35
Hardap	58.1	35
Karas	66.1	44
Kavango	24.2	4
Khomas	61.3	62
Kunene	24.5	16
Ohangwena	12.9	1
Omaheke	39.2	17
Omusati	16.5	1
Oshana	42.0	8
Oshikoto	17.1	9
Otjozondjupa	43.5	27

Source: 2001 Population and Housing Census and 1993/94 Household Income and Expenditure Survey

Pricing of fixed line services

Telecom Namibia, anticipating competition, has moved towards more cost-based tariffs. This means that each tariff is based on the cost of delivering that particular service and that certain service should no longer subsidise other services. Local call tariffs were increased by 22% in 1997 and again by 37% the following



year - this increase meant the real cost of telephone calls rose quite fast in Namibia - much faster than increases in the general price level. The real cost of telephone calls has only started to decelerate since 2000. Telecom Namibia still gets about 43% of its revenue from local and national calls with the remainder filled by international calls (40%) and cellular phone calls (17%) (Aochamub et al: 2002).

Table 3: Real costs of telephone calls in Namibia (in N\$ cents per minute for peak times)

	Local	<100km	<200 km	>200 km	To RSA
1-Oct-94	4.91	22.11	44.23	58.97	98.28
1-Oct-95	4.55	27.01	45.66	60.89	123.96
1-Oct-96	4.20	28.23	51.44	57.63	131.22
1-Oct-97	5.82	31.43	56.07	58.21	139.70
1-Oct-98	10.04	53.59	100.72	94.04	238.66
1-Oct-99	9.31	49.67	93.35	87.17	221.21
1-Oct-00	30.34	65.00	123.48	114.73	264.70
1-Oct-01	95.05	82.10	112.05	94.67	244.43
1-Oct-02	98.64	72.27	98.64	83.34	215.18

Source: Telecom Namibia (nominal figures were deflated by the Windhoek CPI to 1993 prices).
 Notes: Prices are set around October/ November for the calendar year ahead.

Between 1994 and 2002 the real cost of basic phone calls has on average increased by 66% for local calls and 18% for calls made to destinations less than 100 km from where the call originated. The average price increase for calls to South Africa over the same period is 13%. Thus, through tariff rebalancing local calls are becoming more expensive. Of course, the whole rationale with tariff rebalancing is to reduce the subsidisation of local calls by international or long distance calls in order to prepare the incumbent for competition. Cost-based pricing with the basic telecoms would limit new entrants to focus only on the most profitable services - something known as cream-skimming or cherry picking. Telecom Namibia only started with its rebalancing efforts around May 2001.

Figure 3: Changes in real price of telephone calls in Namibia
 peak time calls, nominal tariffs deflated by the Windhoek CPI to 1993 prices

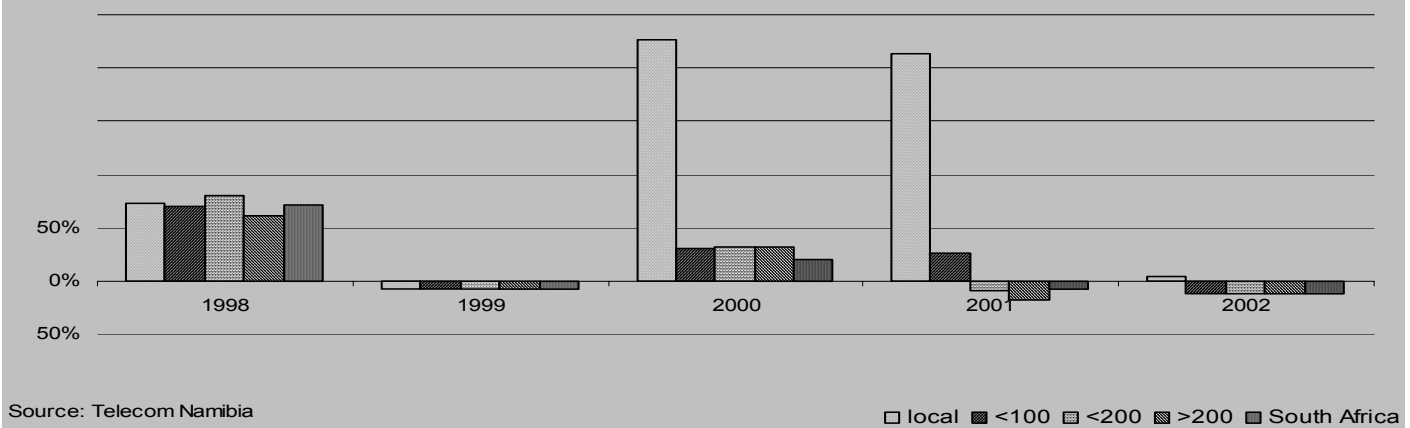
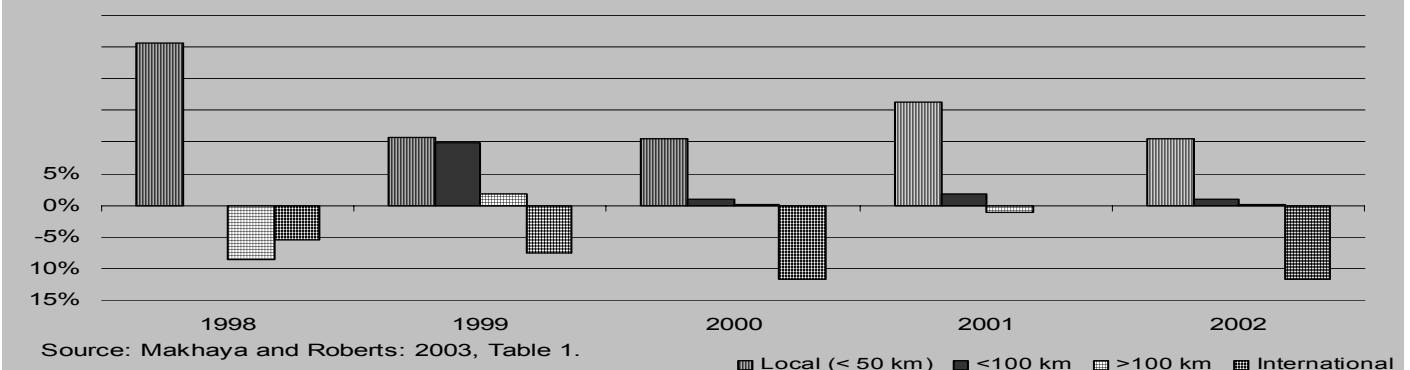


Figure 4: Changes in the effective prices of calls in South Africa,
 peak time calls



The costs of international calls have been quite slow to fall in Namibia compared to South Africa. In South Africa the costs of international calls have been falling for peak hours since 1998. The difference seems to come mainly from the fact that the regulator actively regulates Telkom SA tariffs compared to Namibia even though Telecom Namibia started relatively late with their tariff rebalancing efforts. Therefore, in the future a closer regulation of Telecom Namibia's tariffs is necessary as high telecommunications costs ultimately translate into higher transaction costs for the rest of the real economy.

Mobile Services

Mobile services have grown remarkably in Namibia. MTC introduced two differentiated products - a professional contract service and a pay-as-you-go "tango" card product - to cater for communication needs. The professional product or service involves a monthly fee and has generally cheaper rates than the "tango" card but has more stringent qualification requirements - for example non-residents do not qualify for the professional package. The introduction of the pay-as-you-go product (tango) in 2000 has more than doubled mobile phone subscription in Namibia. In 1998, there were barely 17,000 subscribers to MTC's network but in 2002 total subscriptions stood at a staggering 150,000—the "tango" accounted for 80% of subscriptions according to the MTC website⁶. According to MTC, they had reached over 190,000 (MTC website) subscriptions by August 2003, something they thought impossible a few years ago. As a result, mobile phone teledensity is rapidly catching up with fixed-line teledensity. This is an important development and follows a worldwide trend whereby mobile phones have outstripped fixed line phones which suggests that mobiles can substitute fixed lines over time. A recent paper that looked at African data (Hamilton: 2002) finds that mobile and fixed line telephony can be regarded as substitutes in developing regions where phone access is low or non-existent as mobile phone use becomes more widespread. For example, pre-paid mobile phone cards allow users who otherwise would not have access to a phone to access the service. The table below shows the phenomenal growth in tango subscriptions.

Table 4: MTC mobile subscribers and mobile tele-density

	1998	1999	2000	2001
Total subscribers	16,058	24,824	49,900	94,223
Professional subscribers	16,058	24,824	31,145	23,683
Tango-subscribers	0	0	18,755	70,540
Mobile teledensity	0.96%	1.45%	2.85%	5.28%

Source: Aochamub et al: 2002.

Table 5: MTC employment

	1996	1997	1998	1999	2000	2001
MTC Employment	32	44	63	68	96	138

Source: Aochamub et al: 2002.

Cost of mobile services

MTC call rates have showed a more significant downward trend since 1995 relative to Telecom Namibia's call rates as shown in Figure 3. This is perhaps due to the presence of regulated price caps for cellular phone calls in Namibia - the NCC regulates mobile tariffs - whereas Telecom's tariffs are largely unregulated (see Act 19 of 1992)⁷. However, it is not clear how the MTC price caps work at present.

The cost of cell-to-cell calls has been declining in both nominal and real terms more rapidly compared to cell-to-fixed line calls, perhaps because of price rigidities in interconnection between mobile and fixed line

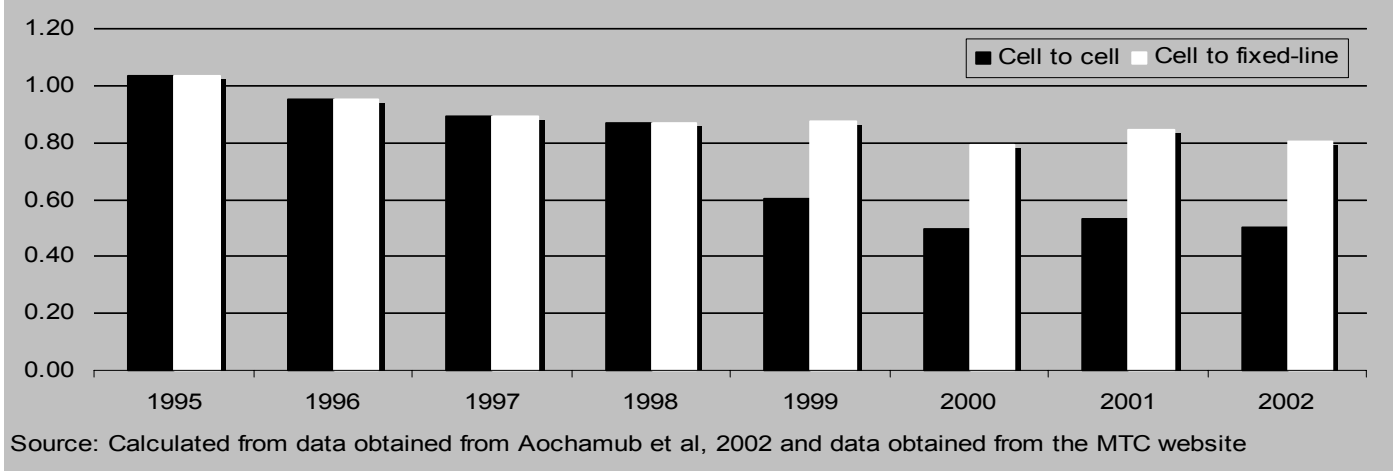
⁶ MTC website: <http://www.mtc.com.na>

⁷ In fact, the Post and Telecommunications Act, Act 19 of 1992 section (22), subsection (1) clearly states that the "fees, rates and charges, including rental, payable in respect of the services of [Telecom] shall be prescribed by [Telecom]".



networks⁸. On average the real cost of mobile to mobile calls fell by 9% between 1995 and 2002 compared to a drop of 3% in mobile to fixed-line calls.

Figure 5: Trends in real cost of cell phone calls in N\$ per minute
nominal tariffs deflated by the Windhoek CPI to 1993 prices



Conclusions

In monopolistic environments, competition in terms of pricing outcomes and quality service delivery does not come by itself and in most cases has to be induced through appropriate regulation. Experiences from other countries that liberalised their telecommunications sectors bear this out. Therefore bringing about competition in Namibian telecommunications sector will crucially depend on three things once the sector has been opened for new entrants, namely:

- Policies governing the initial structure of the competitive segments of the market,
- The conditions of entry into the market,
- The conditions surrounding access to monopoly network facilities

These are critical areas for Namibian policy-makers to consider. For starters, Telecom Namibia as the main player in the sector has been weakly or rather imperfectly regulated thus far. This is to change once the new law comes into effect. However, the reform process seems quite protracted and it is not yet clear when the bill will finally come into force, which would put all telecommunications regulation, under one umbrella. For example, the license for a second mobile operator should have been issued by 2003 but we are still awaiting the final outcome in November 2003. Therefore, one can safely argue that a similar delay is quite likely in the awarding of a licence for the second fixed line operator in 2005.

However, be that as it may, the anticipated CAN has got its job cut out once the sector becomes open. It has to do a number of things right before competition can appear in the local telecoms sector. These are:

- Regulate the interconnection agreements between operators. The current draft bill exactly intends doing this but leaves it up to Telecom Namibia to demonstrate the reasonableness of interconnection charges. Currently, interconnection agreements are negotiated privately between Telecom Namibia and the users of its network, which leaves the other players in a weaker bargaining position. Expert scrutiny of these agreements and fees by the regulator is critical in this regard. For example, if mobile operators have a competitive access to Telecom Namibia's network, this would translate into much lower tariffs for mobile phone users, which in turn may encourage more people to exploit the substitutability of mobile and fixed-line phones.

⁸ According to Aochamub et al (2002), Telecom Namibia applies the same rate for an individual's call from a fixed-line telephone to another fixed-line as it does for MTC making a mobile call to a fixed-line telephone. So MTC does not get any volume discounts!

- Similarly, it has to closely regulate and perhaps control the pricing of value-added services within the sector seeing that Telecom Namibia is also strongly present in the downstream telecoms services such as Internet access service provision through its subsidiaries, Iway and Infinitum. In this regard there is a need to understand the market structure within these sub-sectors and evaluate to what extent vertical integration by the incumbent could foster anti-competitive behaviour because all service providers in this sector utilise the incumbent's network. This is quite critical, because, analytically, the same developments that improve the incumbent's bottom-line and enable it to provide better services are indistinguishable from the factors which enable it to build possible barriers to entry and thereby exert greater market power over downstream users and service providers.
- The CAN has to gain the necessary technical and analytical capability, especially in terms of collecting and analysing information, in order to make and enforce regulatory requirements. For example, in South Africa and other countries, many of the problems faced by regulators have to do with the limited analytical capacity of the regulator and not with its legal persona. Therefore emphasis should be placed on getting an analytical base, as it would determine the effectiveness of the regulatory body. Experiences from other countries do suggest that regulatory ineffectiveness could stem from the inability of the regulator to get the right type of information from industry players as well as its ability to analyse and act on the information.

In conclusion, the role for regulation to stimulate competition cannot be overemphasised. Recent research suggests that regulation should be seen as an integral part of any reform process due to the presence of market failures and imperfect competition in some market segments (Makhaya and Roberts: 2003 and Wallsten: 2000). In the case of Namibia, regulators will have to closely look at interconnection agreements in the interim to foster greater dispersion of telecommunications services in Namibia.

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