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Promoting Competitive Outcomes in the Fixed Line Telecommunications Sector in South Africa

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The South African telecommunications sector began its liberalisation path in the early 1990s with the opening of the VANS, customer premises equipment and mobile telephony sectors. However, for fixed line services the government opted for selling an equity stake to a foreign consortium and granting the incumbent an exclusive monopoly until 2002. The policy regime for the post-exclusivity period was announced in August 2001 and permits the entry of only one more fixed operator. This structural limitation on competition has been met with concern that consumers will gain little from the new environment. This paper explores the possibilities for promoting competition and competition-equivalent outcomes within the structural constraints of the current policy environment. It argues that there is still considerable scope for improving the gains for consumers.

The paper begins by examining the policy and institutional context in which the telecommunications industry in South Africa operates and the limits the new policy places on competition. It then asks the question of whether effective competition is a desirable outcome or not. Following this is a brief discussion of the type of entry barriers and anti-competitive practices that the entrant might face. Using this context, the paper looks at the options open to the regulator, the Competition Commission and the government in promoting competition or competition-equivalent outcomes within the constraints of the current policy environment. In conclusion, some recommendations are made about how to proceed over the next few years to ensure consumers gain from reform in telecommunications.

A. The policy and institutional context in South Africa

Telecommunications policy in South Africa

The South African telecommunications sector began its liberalisation path in the early 1990s with the opening of the VANS (1993), customer premises equipment (1993) and mobile telephony sectors (1994). However, major policy decisions were left until a process of broad consultation was completed through a green/white paper process. The result of this policy process was the

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Telecommunications Act 103 of 1996. The decision by government was to retain the monopoly in fixed line telephony until May 2002 subject to universal service rollout targets (RSA 1996). At the time it was envisaged that during this exclusivity period a gradual liberalisation would occur by introducing national long distance resale after 3 years, culminating in the introduction of full service entrants in 2002 (Telecommunications White Paper). This gradual liberalisation was not to materialise and in 2001 the country still sits with a fixed line monopoly.

Realising that competition would eventually unravel the cross-subsidisation of services, the Telecommunications Act established a Universal Service Agency to dispense the funds raised from a levy on revenue. The revenue is used to predominately to subsidise rollout by the operators but also includes some direct subsidies to users. Universal service targets have also been built into the licence conditions of mobile operators and the fixed line operator Telkom.

In March 2001 the government announced a set of draft policy proposals for public comment. This draft proposed the introduction of only one new full service entrant (the so-called second national operator or SNO) and one additional international service operator. In addition, the SNO would have to include the state assets Esi-tel and Transtel[2] and the international licence would be awarded to another state enterprise - Sentech. Prohibition of resale by VANS operators also remained. However, it did permit the entrant to use the incumbent's (Telkom) facilities to ensure rapid rollout and it did permit the entry of SMMEs into the provision of the local loop but only in cases where penetration rates were below 1% of households (RSA 2000a).

After intense lobbying from the Department of Trade and Industry, the Competition Commission and international telecommunications companies, the final policy announcement extended competition through an additional full service entrant, broadband licences, rapid introduction of number portability and a raising of the penetration ceiling for SMME involvement to 5% (RSA 2000b).

However, the victory for those in favour or greater competition was short-lived as the Ministry of Communications did a flip-flop under pressure from the incumbent (Telkom) and the local front-runner for the SNO licence (M-Cell) (Business Report). The result was a change to the final policy position that got rid of the second entrant, the broadband licences and the retail licence

[2] Esi-tel is the communications arm of the electricity state company ESKOM while Transtel is the communications arm of the transport state company Transnet

of the international carrier (though wholesale remained). It also put off number portability and carrier pre-selection until 2005.

As Ayogu and Hodge (2001) argue, the continued selection of a restrictive competitive structure for the telecommunications industry by government is in line with the political economy and fiscal constraints they face. Their constituency is not going to be served best by full liberalisation (i.e. no limitations on entry) if it is going to unravel cross-subsidisation, result in employment losses and lower the profits of state enterprises and their empowerment partners. Their constituency seems better served by using partial liberalisation to maximise revenues from the sale of state assets and so free up fiscal resources for social spending. They therefore have incentives to rig the liberalisation process to ensure that all state assets in telecommunications improve their value.

Institutional context of regulation

The telecommunications industry is regulated by the Independent Communications Authority of South Africa (ICASA)[3] who implements policy made by the Ministry of Communications. However, section 3 of the Competition Act gives the Competition Commission concurrent jurisdiction over conduct covered under the Competition Act, specifically merger control, restrictive horizontal practices, restrictive vertical practices, price discrimination and abuse of dominance. The manner in which this concurrent jurisdiction is operationalised is subject to negotiation between the two regulatory bodies and has not been finalised to date.

Although the enforcement powers of the two regulatory bodies are similar, the powers of ICASA are considerably weakened by the lack of penalties that it may impose in the event of an operator contravening regulatory decisions or the Telecommunications Act. ICASA can impose some limited fines for certain prescribed contravention only (mainly missing universal rollout targets), but for the other contravention's of the Act the regulator is limited to ordering them to desist from the actions and revoking the operating licence. However, given the sunk costs of most of the firms involved, the latter option is hardly a credible threat. In contrast, section 59(2) of the Competition Act give the Competition Tribunal the power to impose administrative penalties of up to 10% of annual turnover for contravention of the Act.

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[3] Formally the South African Telecommunications Regulatory Authority (SATRA) before merging with the Independent Broadcasting Authority (IBA) to form ICASA.

The two agencies also seem to differ in terms of their real independence and support from the executive. ICASA has publicly declared that the limited resources it has been given by the Ministry are inadequate to do the job properly while the Competition Commission appears to have no such problem. The Ministry of Communications has also interfered in the regulatory process on more than one occasion. One might conclude that it has not been in the interests of the executive to empower ICASA to date because of the desire to rig the process.

The initial retail price regulation operated by ICASA was a retail price cap based on revenue weights with a ceiling on the real upward movement of individual prices of 20%. However, during the rate regime review in 2001, the decision was made to include a residential sub-cap to limit the cost of these services that seemed to be escalating under Telkom's rate rebalancing and which could increase further if business services came under competitive pressure (Government gazette no. 22241, notice 887 of 2001). The ceiling on the real upward movement of individual prices was also lowered to 5%. The rate regime also does not permit price discrimination but does allow bulk discounts.

Interconnection (or access) pricing is subject to agreement between the parties involved but with certain maximum charges stipulated (Government gazette no. 20993, notice 1259 of 2000). Major operators (> 35% market share) of essential services must provide services for interconnection to other public operators at long run incremental cost (LRIC) but to service providers at no more than best retail prices less avoidable costs[4] or LRIC (whichever is greater). To assist ICASA in determining these cost levels, each operator is required to submit a Chart of Accounts and Cost Allocation Manual (COA/CAM). The contents of the COA/CAM should provide a complete overall perspective of operator's revenue, cost, assets and capital employed, and their allocation and apportionment to individual services.

B. Is effective competition desirable?

Is maximising competition desirable?

Before embarking on an exercise to assess how to maximise competitive outcomes under the constraints of the current policy, it is probably worthwhile asking whether this is indeed a goal for the regulator and the Ministry. The opinion of the Ministry is important because much of the detail

[4] This is the efficient component pricing rule of Baumol and Willig.

for the policy framework is still to be resolved including the licence conditions for the second operator.

In general, some competition is seen as desirable because it is able to lower the information rents that firms extract in the regulatory process due to information asymmetries between them and the regulators. Competition allows performance comparisons that provide better information on which to make regulatory decisions and make inferences about the effort of firms in cost reduction and innovation. It also offers incentives for firms to lower prices and raise cost-reducing efforts, improving allocative and productive efficiency.

The objection to competition usually arises from the problems of excess entry and inefficient entry/bypass of the incumbent's facilities. Armstrong et al (1994: 110) present a strong case why governments should not worry about excess entry, but this is irrelevant given that the policy limits entry anyway. Inefficient entry/bypass occurs when a less efficient entrant duplicates facilities of the incumbent because the incumbent in forced to cross-subsidies loss making services that the entrant does not need to provide. Again, whether this is a problem or not is open to discussion. Given the benefits of competition in lowering the information rents of regulation, society might be better off with some inefficient bypass if its costs to welfare are lower than the benefits it brings. After all, the incumbent's dominance is the result of an inherited public monopoly, so it does not deserve the kind of allowances that competition law often provides to dominant firms that get their position from superior efficiency or innovation[5]. It may be in the interests of all to subsidise entry to bring about effective competition.

Given the policy direction, government clearly feels that competition is currently inconsistent with their broader objectives. However, now that the structure of the industry is decided for a few more years, would government object to maximising competition in the context of its policy? Given a goal of maximising the asset value of the state, there may be some continued desire to favour Telkom. Even after the IPO, the value of the government shareholding in Telkom will exceed that of the SNO. This is given some support in the fact that the proposed policy places some limits on the SNO competing through delaying number portability and carrier pre-selection (known means to reducing customer switching costs). However, if the constraints have all been built into the policy, government may well favour strengthening both competition and the credibility of the regulator to avoid deterring investment

[5] The allowances are made to ensure dynamic efficiency as well as static efficiency

by the SNO. This perspective was given support by a) the initial final policy proposal that would see greater competition introduced and b) the announcement of the Minister that it would improve the resources of ICASA to regulate properly soon after the new policy announcement.

Where is competition likely?

On the basis of experience in other countries, competition from the entrant is likely to occur in all services except residential local loop. Licence conditions may force the entrant to provide some local loop services to residential areas, but there is little incentive to otherwise enter this market in the near future. Why? The SNO will have national long-distance infrastructure in place from the forced inclusion of Esi-tel, which is currently expanding that infrastructure. This allows them to compete in the long-distance market relatively quickly (for both business and residential users). For local loop, the costs of local rollout for businesses are lower than residential areas due to the concentration of the users. Further, business users generally make greater use of long-distance services and so it is in the interests of the SNO to link them first to capture their business and optimise their long-distance capability. In residential areas the costs are higher and the returns lower, pushing it down on the priority list. Also, where entry has been successful in other markets, it has generally been on the back of existing infrastructure such as cable television. No such infrastructure exists in South Africa. It has been argued that the inclusion of Esi-tel will allow the SNO to make use of the electricity infrastructure to reach consumers. While this will certainly lower costs of negotiating rights of way, it is not apparent why Eskom will provide this access for free.

C. Entry barriers and potential anti-competitive practices facing the entrant

There is a dense literature on entry barriers and potential anti-competitive practices. This section highlights some of the main concerns in telecommunications, especially within the proposed policy framework of South Africa.

Entry barriers

There are considerable barriers facing a new entrant into fixed line networks, some of which are absolute advantages and others that have been strategically created. The size of the barriers is reflected in the high market shares of incumbents in liberalised markets years after they were opened to competition. Probably the biggest barrier to entry is the natural monopoly

conditions that seem to be present in the residential local loop. In the US, the incumbents still hold around 96% of the market (BusinessWeek 13/08/2001). Of course, liberalisation in an expanding market will result in greater penetration by the entrant under the same scale economy conditions, allowing them to also benefit from this barrier.

Another entry barrier that is usually cited is consumer inertia, which can be ascribed to the following factors:

- *Local carrier switching costs* – the once-off costs of switching suppliers. For telephony this usually includes the administrative cost of switching, informing friends/clients of the change in number, and changing official stationary with the number on it. Number portability overcomes this problem
- *Long-distance carrier switching costs* - selection of the long-distance carrier would normally involve the entry of a pre-dialling code to select an alternative carrier to the default carrier. The default carrier is clearly at an advantage because subscribers don't need to enter a code before dialling – a cost to the subscriber. Carrier pre-selection overcomes this problem.
- *Quality risk* – consumers will be uncertain of the product quality of the entrant but certain for the incumbent. The risk premium is built into the ongoing costs of the service, not just a once-off cost. This may be lowered if the entrant already has a reputation from another market (e.g. a multinational). Of course, if incumbent quality is poor, then this may turn out to work in favour of the entrant.
- *Marketing* – the incumbent has less need to advertise, as all current consumers are already aware of them (which of course may work against them if their reputation is poor). They also have a database of all existing telephone users that they can use to both identify who has left them for the entrant (in whatever service) and approach directly to persuade them to switch back.

Consumer inertia is usually a greater problem with smaller customers (residential and SMEs) who lack the volumes to make the switch worthwhile. Given the domestic reputation of Telkom, it would not be surprising if many subscribers switched to the entrant to get improved service and to punish the m for past behaviour.

Regulation can also create entry barriers. A particular case is the dispensing of universal service subsidies. Most of the subsidies are given to the providers of residential services in proportion to how many subscribers they service and not the users directly. This clearly favours the incumbent and given the

asymmetry of information with the regulator, can be used to profitably price all services at or below cost to inhibit entry.

Sunk costs and the threat of aggressive pricing post-entry is another obvious entry barrier. The high fixed costs and low variable costs make aggressive pricing post entry credible in telecommunications. Furthermore, the exclusivity period and universal service subsidies have allowed Telkom to already recoup much of the fixed investments in the past 6 years, allowing a credible pricing at avoidable costs. Price regulation may either make this infeasible or more sustainable. A standard retail price cap gives the incumbent scope to pay for aggressive pricing in the local business and long-distance markets through high prices in residential local access where they are unlikely to face entry anyway. This can be solved with a residential sub-cap that has just been introduced in South Africa. However, given the already rapid increase in residential rates over the past 5 years and no true cost information from Telkom, it is impossible to say that cross-subsidisation is not already happening between residential and business users in anticipation of entry and regulatory changes in 2001[6].

Potential anti-competitive practices

Although the full range of anti-competitive practices are open to the incumbent (subject to the risk of being caught and penalised), the most frequent problems in telecommunications arise around interconnection access, quality and pricing. The local loop is the central component of any telecommunications system as all other services use it as input. As already noted the scale economies in the local loop (especially residential) mean that the incumbent will have its most dominant position in the local loop. As the supplier of a crucial input and a competitor downstream, the incumbent is in a great position to either extract the profits of the rivals downstream or influence the competitiveness of its their products.

The standard bargaining outcomes suggest the following scenarios:

a) Between two local loop operators, if there is uneven traffic flow (as will be the case with Telkom and the entrant), the dominant firm will deliberately overprice interconnection in order to gain an effective subsidy from users of the other network. The over-pricing can be on the cost of establishing the points of interconnection or on the price of interconnection itself.

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[6] Residential line rental tariffs have increased by 12%, 11% and 3% respectively in the last 3 years while local calls have increased by 25.6%, 10.7% and 10.5% respectively (ICASA Rate Review 2001)

b) Between a full service operator and a downstream rival, there is incentive for the local loop operators to deliberately overprice in order to ruin the competitiveness of the other network in the other market.

c) If the use of access price to influence the competitive outcome is not available (say due to effective regulation), then degrading the quality of the interconnection achieves the same purpose as excessive pricing.

d) If possible, the dominant firm will also deny the rival interconnection. Interconnection regulation prevents any firm from completely denying interconnection, but the incumbent can gain some advantages from firstly delaying interconnection based on contractual or technical grounds, and secondly, from denying interconnection at certain points in the network (again on technical grounds).

Although the interconnection regulations supposedly guard against these practices, the extent of asymmetric information between regulator and regulated make it difficult to enforce. The asymmetric information extends from cost information to technical feasibility.

The problem is especially great given the LRIC rule for interconnection between major operators. This is extremely information intensive and so favours the regulated firm even more. Given the central nature of the local loop, the regulator is likely to err on the side of caution if there is any uncertainty over costs to ensure that there is continued investment in the network. Further, any cost-based rule suffers from the problems of not encouraging cost minimisation. This opens the door to wasteful expenditure by the incumbent even if the information asymmetries are lowered.

The ECPR that is used to price interconnection to downstream service providers is based on the principle of opportunity cost to the incumbent of providing access. However, this principle is entirely consistent with the incumbent overpricing access in order to drive the competitor out of the downstream market. It is only effective if there is stringent price caps on the retail prices of the downstream services.

Litigation and delaying strategies

Aside from the obvious anti-competitive practices that the incumbent can pursue, there is the option of deliberately failing to comply with regulation. Although the incumbent realises they must eventually comply; they can effectively delay compliance to get some short-term competitive advantage over the entrant. A means to achieve this delay is to litigate on points of procedure. A recent BusinessWeek cover story (August 13 2001) on problems in the US telecoms market identified the litigation tactics of telecoms firms to

be one of the 8 major problems that needs to be addressed. The article notes that *'the Bells have opposed matters of pricing, network interconnection, and even the fundamental rules of the Telecom Act itself. The effect of the endless litigation? Uncertainty and delay?'* South Africa has already had a taste of this strategy from Telkom[7] who has challenged whether Internet falls under its monopoly and withdrew capacity from VANS providers arguing that they were providing telephony services to clients. Given this reputation, we can probably expect more of the same in the future.

Potential incumbent disadvantages

The incumbent may face some disadvantages relative to the entrant. The two obvious ones are the age of its technology and the requirement for uniform pricing. Technological advance has been rapid in telecommunications and the entrant may enter with technology that permits lower costs of providing the service, offering them an advantage over the incumbent who has already invested in older technology. This advantage is mitigated to some extent in South Africa by the fact that a) part of the entrant infrastructure will be the older technology in the Esi-tel network, and b) that Telkom has had a 6 year exclusivity period in which it has invested heavily in the modernisation of its network in preparation for competition. Further, much of the older assets may have been written-off by now.

The uniform pricing requirement may hinder Telkom by forcing it to carry higher cost customers that the entrant does not have (at least initially). However, Telkom has received universal subsidies and exclusivity to achieve the rollout to these customers, which will lower the burden of the initial fixed rollout cost. Further, ongoing costs are also much lower than believed because Telkom no longer carries a large number of these low-income consumers as they have disconnected after being unable to pay their bills. The estimate from the past 2 years based on the difference between new line rollout and growth in end-of-year subscribers, is that 50% (or 418000) of new subscribers that Telkom gave a line in 1999 terminated their service, increasing to 71% (or 1.05 million) in 2000. Lower volumes of uneconomical subscribers, means a lower negative impact from uniform pricing.

D. Neutralising incumbent advantages and addressing potential anti-competitive action

Although the new telecommunications policy imposes entry limits on the sector and limits the means to address switching costs (by delaying number

[7] It is interesting to note that one of the equity partners is the US firm SBC Communications.

portability and carrier pre-selection); there are still means to enhance competition within this environment. After all, two firms are sufficient for competition to take place. However, if the entrant is to pose a viable competitive threat to the incumbent Telkom, then there needs to be some effort to neutralise some of the incumbent advantages and prevent potential anti-competitive action.

Neutralising incumbent advantages

The best option for reducing incumbent advantages is to neutralise each one with a targeted action. A good example of this is switching costs. Number portability and carrier pre-selection can effectively overcome the entry barrier. However, some incumbent advantages are not easily resolved in this manner. In this case, then some form of direct subsidy to the entrant (maybe paid for by a tax on the incumbent) appears to be the next most efficient means of overcoming the entry barriers, (which is worth paying if the benefits of competition exceed the subsidy). However, the regulator does not have the discretion to provide direct subsidies and so the next best alternative is indirectly tax and subsidise. Regulation can be used to deliberately disadvantage the incumbent and provide compensating advantages to the entrant.

There are a few incumbent advantages that can be addressed at source. These are:

- *Long-distance switching costs* - The lack of carrier pre-selection may be resolved by customer premises technology and not requires any intervention by the regulator. This can be achieved by permitting business and home users to make use of customer premises devices that complete the pre-dial carrier selection code for the subscriber. Similar PABX devices are already being used by businesses to lower call costs by routing office calls to cellphones as cellphone-to-cellphone calls, which are then priced at a lower rate. Telkom is unhappy with this development as it bypasses their network and eliminates their cut from the call. It has made noise about challenging the use of such devices in South Africa, but it seems that it would be difficult to enforce.
- *Universal service subsidies* – the provision of universal service subsidies directly to telecoms companies can move away from share of customers to a system whereby the entrant gains greater access to the subsidies up front. Alternatively, there can be a bidding process for the subsidies, which gives the entrant a better chance of securing some of them. However, this solution is probably closer to a tax/subsidy scheme where the incumbent is

effectively being taxed by having to provide services to uneconomical customers but is not receiving the subsidy for that, while the opposite is true of the entrant.

Aside from these direct measures, the Ministry or the regulator can give the entrant some relief from incumbent advantages in other ways, including:

- *Relief from universal service licence obligations* – impose no universal service obligations in the licence so the entrant does not have to cross-subsidise users. Any relief from obligations must impact on relative prices and not just be a relief of an effective tax on profits of the incumbent, as the latter will not affect the competitive stance of the entrant.
- *Under price interconnection* – lower the price of interconnection to give the entrant's downstream and local loop services a direct cost advantage over the incumbent to compensate for the entry barriers. Once the market share of the entrant reaches a predetermined level, pricing can return to LRIC or ECPR levels.

This first possible solution suffers from the fact that the entrant is unlikely to enter the residential market and so only achieves more effective competition in the business sector where entry barriers are lower anyway. The second solution is more balanced in that it gives incentives for entry into all markets.

Addressing potential anti-competitive action

The interconnection problem is not an easy one to solve and the asymmetries in information may be too great to fully overcome. Information asymmetries are particularly great in this case and it is complicated by the problem of allocating common costs to services. There are, however, a number of strategies that the regulator can employ to partially overcome these.

Under a cost-based rule, the regulator could make use of yardstick competition to determine LRIC for the incumbent and entrant. Yardstick competition gives the regulator more information on what costs should be relative to the position where they rely on the regulated firm only. Yardstick competition works by basing the price of interconnection not just on the costs of the regulated firm, but also on the costs of other firms. The key to successful yardstick competition is to select firms that are comparable to the regulated firm so that no additional risk is imposed on the regulated firm from unforeseen costs (Armstrong et al 1994). The entrant is an obvious choice, as they will be operating in the same market. However, given that their client base is likely to not include as many uneconomical customers initially, their costs may not be highly correlated with the incumbent. Other choices are

similar firms in other markets that have effective competition. The selection of the market is again important.

A complimentary solution to yardstick competition is to move away from a cost-recovery approach to interconnection pricing and to move towards a price cap. In the extreme case where the yardstick competition is with firms that have perfectly correlated costs with the incumbent, then a pure price cap is optimal as the price is based on the costs of other firms and not the incumbent at all. Laffont & Tirole (2000) have also suggested that bringing the price cap into a global price cap that includes the downstream services may be a better way system of regulating access pricing rather than LRIC or ECPR. The one advantage is the incentive for cost minimisation. A crucial part of achieving the 'competitive outcome' through regulation is achieving optimal cost-reduction effort by the incumbent. The other advantage is that the incumbent views access as just another product - if it overprices local access then it needs to lower other prices to compensate. This may mean that long distance prices are not overly high in the end.

Correcting institutional deficiencies

A key component in preventing anti-competitive behaviour is to have effective monitoring and enforcement to lower the expected gains by the firms contemplating it. As already noted, ICASA as an institution suffers from a number of problems that make it ineffective:

- It has few resources which means it is unable to adequately monitor firm behaviour independently, making it too reliant on information fed to it by the firms it regulates
- It has no significant penalties it can impose if it finds anti-competitive activities, giving the firms a strong incentive to undertake these practices even if the risk of being caught is high
- It has no specialist court of appeal that can deal with litigation by the regulated firms quickly and effectively. Instead, firms are able to litigate knowing that the judges selected will take months to understand the technical nature of the complaint and the lack of specialist knowledge also open any ruling open to appeal.

The obvious solution to these deficiencies is to resource ICASA better, to provide it with more powers to impose real penalties, and establish a regulatory court of appeal to fastrack resolution of litigation, making this strategy less attractive. However, this takes political will and it may not occur if the Ministry of Communications deliberately wants to cripple competition by crippling the regulatory body.

Another option is to put together a memorandum of understanding with the Competition Commission that sees the Commission holding primary jurisdiction in the event of anti-competitive practices. This would enable more effective penalties to be imposed and a specialist Appeal process to be established. The additional advantage of this option is that it draws the Commission into regulating the sector early on and may facilitate the exit of the regulator on a number of fronts early on. It also has the advantage of bypassing the Ministry of Communications if it is there intention to continue to cripple ICASA to rig the competitive process. However, there are a number of problems with this option. First, the modus operandi of the Commission is ill suited to the monitoring component, meaning that the regulator would still need resources to effectively undertake this role. Second, the additional load of closer involvement in the telecommunications industry could stretch the resources of the Competition institutions (the Competition Commission, Tribunal and Court of Appeal), making them less effective.

E. Concluding remarks

The focus of this paper has been on producing competitive outcomes within the fixed line telecommunications industry under the current regulatory constraints. As suggested in the paper, the limiting market structure need not limit competitive outcomes if some small change to the current regime is put in place. Two final points that were not raised but are crucial deserve a mention – competition from mobile and improving regulatory certainty.

A strategy for improving competitive outcomes in fixed line is to raise the substitutability of other telecommunications products, especially mobile telephony. The primary means to achieving this is to lower the price of mobile communications. Ignoring direct subsidies, this can be achieved in South Africa by focusing on both competition in the mobile market and also on the interconnection rates between mobile operators and between mobile and fixed line operators. Enhancing competition between mobile operators could benefit from the type of approaches that have been suggested in fixed line – including lowering switching costs through number portability and careful analysis of the use of contracts and their lengths (2 years in South Africa).

An important part of the competitive outcome is optimal investment levels. A significant concern in the South African environment has been the high level of regulatory uncertainty that can only serve to inhibit investment, especially in an era of limited liberalisation. The regulatory uncertainty has been caused to a large extent by a policy process that changes frequently and in an unpredictable manner (thereby providing no long-term stability to the

industry) and which is sufficiently vague to provide little certainty when it has been announced (for example the fixed-mobile licence issue). A further source of uncertainty revolves around the behaviour of the regulator. Not only has the regulator been subject to political interference, but also it is poorly resourced making it difficult to come to optimal decisions.

F. References

Armstrong M, Cowan S. Vickers J. 1995. *Regulatory Reform: Economic Analysis and British Experience*. MIT Press, London

Ayogu M, Hodge J. 2000. 'The socio-economic context and institutional foundations of privatisation and regulatory reform in South Africa', *GDN Conference*, December 10-13, Tokyo, 2000

Bergman L, Doyle C, Gual J, Hultkrantz L, Neven D, Roller L, Waverman L. 1998. *Europe's Network Industries: Conflicting Priorities.* CEPR, UK.

BusinessWeek 13/08/2001 *How to fix the Telecoms sector*

ICASA. 2000. "Notice in respect of a review of fees and charges in the public switched telecommunications sector" *Government Gazette No. 21925 General Notice Number: 4715*

ICASA. 2001. Findings and conclusions on the Review of Rate regime in the Public Switched Telecommunications Sector, *Government Gazette no. 22240, notice 886 of 2001*

ICASA. 2001. Notice of intention to make regulations on fees and charges in the public switched telecommunications sector, *Government Gazette no. 22241, notice 887 of 2001*.

Kridel D, Sappington D, Weisman D. 1996. 'The Effects of Incentive Regulation in the Telecommunications Industry: A Survey'. *Journal of regulatory Economics,* vol 9, pp. 269-306

Laffont J, Tirole J. 2000. *Competition in Telecommunications.* MIT Press, Cambridge, MA.

Posner R. 1971. "Taxation by Regulation", *Bell Journal of Economics and Management Science*. Vol. 2(1). Pp. 22-50

Resende M. 2000. "Regulatory Regimes and Efficiency in US Local Telephony". *Oxford Economic Papers*. Vol 52 pp. 447-470

RSA. 1995. *White Paper on Telecommunications Policy.*

RSA. 1996. *Telecommunications Act 103*

RSA. 2000. *Competition Act as amended by Act no 35 of 1999, no 15 of 2000 and no 39 of 2000*

RSA. 2000. Independent Communications Authority of South Africa Act no. 13 of 2000, Office of the Presidency, *Government Gazette no. 21154, notice no. 462 of 2000*

RSA. 2000. Interconnection Guidelines Issued by the Authority in terms of Section 43 of the Telecommunications Act of 1996. Ministry of Communications. *Government Gazette no. 20993, notice 1259 of 2000*

RSA. 2001. "Telecommunications Policy Directions: Market Structure for Telecommunications Services," Ministry of Communications, March.

RSA. 2001. "Policy Directions Issued by Minister of Communications," Ministry of Communications, 26 July, 2001.

Stigler, G. 1971. "The Theory of economic Regulation". *Bell Journal of Economics and Management Science*. Vol. 2(1). pp. 3-21

Telkom. Annual Reports 1995-2000