

The interface of competition and regulation in energy, telecommunications and transport in South Africa

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This paper, an earlier version of which was presented at the Competition Commission and Tribunal 8th Annual Conference in 2014, analyses the relationship between competition and regulation through a critical assessment of the work of economic regulators and the competition authorities in South Africa in the core areas of energy, telecommunications and transport. It draws on working papers done as part of an in-depth review of economic regulation coordinated by CCRED for national government. Economic regulation is generally understood as necessary to address entrenched market power and/or market failures. What has attracted less attention is the fact that market failures can be the basis for first-movers and incumbents to exclude entrants. Given that market power and market imperfections are intrinsic to a market economy, it makes sense to see economic regulation broadly - as the set of rules within which businesses make investment, production and supply decisions. Viewed in this way, it is important for economic regulators to take into account the dynamic gains from greater competitive rivalry when setting rules and making decisions. Indeed, regulation may seek to create what Ginsberg (2009) has termed 'synthetic competition' where the dynamic gains from rivalry such as in terms of product and service development are judged to merit ensuring several competitors, even although scale economies imply that only one firm would minimise costs. The regulatory record in South Africa in key areas of the economy is assessed through this lens.

1. Introduction

Economic regulation is largely about regulating the natural monopoly parts of value chains and generally involves the regulation of enterprises that are, or were, state-owned. Regulating access to, and pricing of, essential infrastructure, key inputs, and bottleneck goods and services that cannot be easily replicated is seen as necessary to ensure that fair access is provided and that monopoly prices are not charged (Viscusi et al., 1998). Economic regulation is also seen as a mechanism by which significant market failures can be corrected, or entrenched dominant positions kept in check. In certain industries, such as network infrastructure, the private sector will underinvest as the social returns are generally greater than the private returns, given the large externalities generated. In such industries, economic regulation is necessary to ensure sufficient investment. Therefore, the scope of economic regulation is broader than just controlling access and pricing. Dynamic considerations such as the impact on investment decisions, the impact of infrastructure on the development path of the economy, and the creative role of competitive rivalry all need to be part of an effective economic regulatory regime.

While economic regulation is often viewed as the control of market power in instances where competition is either not possible or is not desirable, competition policy is about regulating potentially anti-competitive behaviour of dominant players and addressing structural changes through the merger regime or through conditions. In this sense, economic regulation is predominantly *ex ante*, where the rules of the game are set out up front, while competition law enforcement is largely *ex post*, where past anticompetitive conduct is prosecuted after the fact, except for the merger regime where accretions of concentration which could potentially lead to anticompetitive outcomes are curbed *ex ante*. However, this dichotomy is imprecise, as even economic regulation mainly uses past conduct and data to determine the future course of action and competition policy aims to influence future conduct through changing past undesirable behaviour. The two are even further interrelated - regulation is required for competition to flourish, for instance, to ensure access to essential facilities or inputs. A regulatory regime that favours incumbents over new entry hinders competitive objectives and it is important that regulators take into account dynamic gains from greater competitive rivalry in setting the rules of regulation and when making decisions. Similarly, it is important that competition authorities appreciate the rationale for, and forms of, economic regulation and, at the same time, understand that some matters regarding competitive outcomes are more effectively resolved through regulatory intervention.

This paper draws lessons from experiences in three regulated industries in South Africa - Energy, Telecommunications and Transport (ports and rail). These sectors were selected as part of a national government-funded project aimed at building regulatory entities' capacity.¹ The project reviewed the performance of regulators in the wider context of: their mandates and powers; the challenges they face in terms of regulatory capacity, accountability, credibility and other constraints, including fiscal constraints; and industry performance in terms of pricing

¹ "Regulatory Entities Capacity Building Project", for the Economic Development Department. All outputs from this project can be accessed at <http://www.competition.org.za/regulatory-entities-capacity-building-project/>

outcomes, investment in the sector, allocative and productive efficiency. The reviews further assessed whether economic regulation in these industries has contributed to, or has been in conflict with, other economic development mandates aimed at sustainable development and inclusive growth. We draw on these reviews to identify important lessons for the interface between competition and regulation in these sectors. This is useful for economic regulators in terms of learning from each other, for engagement between economic regulators and competition authorities, as well as for policy makers.

The different industries reflect a diversity of approaches, from which insights can be drawn. In electricity we have an integrated State Owned Enterprise (SOE) with an independent regulator, and with the introduction of new participants in the form of renewable energy generators. In rail freight and ports there is an integrated SOE without a regulator until the recently established port regulator. In telecommunications, the main operator has long been effectively privatised, and there are private operators in mobile telephony, with a long established regulator and enforcement actions by the competition authorities.

The structure of this paper is as follows. Sections 2, 3 and 4 evaluate the outcomes and performance of the electricity, transport (ports and rail in particular) and telecommunications sectors of South Africa respectively, highlighting how certain decisions of the relevant regulator encouraged competitive outcome, whilst others discouraged it. Section 5 concludes by comparing and contrasting similarities and differences of each regulatory regime and drawing together key lessons learnt.

2. Energy²

The Electricity Supply Industry (ESI) of South Africa is dominated by state-owned utility, Eskom, which operates across the entire electricity value chain in electricity generation, transmission and distribution. Eskom generates 95% of the electricity consumed in the country with independent power producers (IPPs) representing a much smaller portion of electricity generation.

After the corporatisation of Eskom, there were concerns around the dominance of Eskom throughout the ESI, and around the poor performance on a technical level throughout the value chain.³ Even though Eskom was funded by Government, alternative sources of funding were needed to invest in and develop the ESI. These factors culminated in developing a hybrid model, in which Eskom on one hand was given the responsibility for immediate new investment and private IPPs on the other hand were given an opportunity to participate in

² The Energy sector reviews (Electricity and Renewable Energy) were undertaken by Trade and Industrial Policy Strategies (TIPS) on behalf of CCRED- Das Nair, Montmasson-Clair and Ryan (2014) for electricity and Montmasson-Clair, Moilwa and Ryan (2014) on Renewable Energy. There was also a study of liquid fuel which is not included in this paper.

³ Transmission and distribution losses averaged 20% compared to the global average of 5%. Eskom was strapped for cash and debt coverage ratios were high. Below-cost tariffs significantly contributed to poor technical and financial performance (Eberhard and Gratwick, 2008).

electricity generation. However, the industry is still dominated by Eskom in terms of the size of its contribution to electricity generation, its ownership and operation of Transmission Network Services (TNS) and its role in distributing electricity. At the distribution level, Eskom distributes around 60% of the country's power, with municipalities distributing the balance. Although Eskom distributes more power than municipalities, it serves a fewer number of end-users, with long-term contracts with mining companies and other large industry players at more favourable rates.

The ESI has been regulated by an independent regulator since 1995 (first by the National Electricity Regulator (NER), followed by NERSA since 2005). The regulator is tasked with price determination, licensing, dispute resolution and compliance of electricity suppliers.

Outcomes in the ESI and the regulator's role in these outcomes

The outcomes observed in the ESI, particularly in terms of supply and pricing of coal-generated electricity, are linked to investment patterns in generation infrastructure which, in turn, are a product of regulatory decisions, but which have also been influenced by political pressure, Eskom's market power and influence by large electricity-intensive user groups. Policy uncertainty and institutional complexity (several players with divergent views involved in decision making and no clear energy policy⁴) have further resulted in certain detrimental impacts on the sector and the economy as a whole, particularly during the 2008 load-shedding crises. However, the success story of the ESI on the generation level has been the Renewable Energy Independent Power Producers (REIPP) procurement programme, discussed later. The evolution of the renewable energy industry emphasises how challenges can be effectively addressed through proactive regulation that takes into account competition principles.

The key question relating to average and relative prices charged to different electricity customers is how the legacy of overinvestment in generation capacity in the 1980s has influenced the structure of the economy and, in particular, its capital-intensive bias. As we discuss below, over-investment in generation capacity led to power stations being built and then mothballed in the 1980s. This meant that it was worth selling electricity as long as the price earned was above the variable costs of generation and made some contribution to the fixed costs. In a sense, the over-investment in capacity – which could clearly not be reversed – created the basis for some buyers to receive a subsidised price. The question is which buyers received this advantage. The easiest way to increase demand was by incentivising large energy-intensive industries such as smelters, and this is largely what happened. However, the unintended consequence was a skewing of the economy towards a very capital-intensive structure. In effect, the cheap electricity amounted to an export subsidy for these types of businesses, with the knock-on effect of supporting the exchange rate which in turn makes other producers of traded goods less competitive. The second key implication is that when electricity demand outstrips capacity then new capacity needs to be built, and the

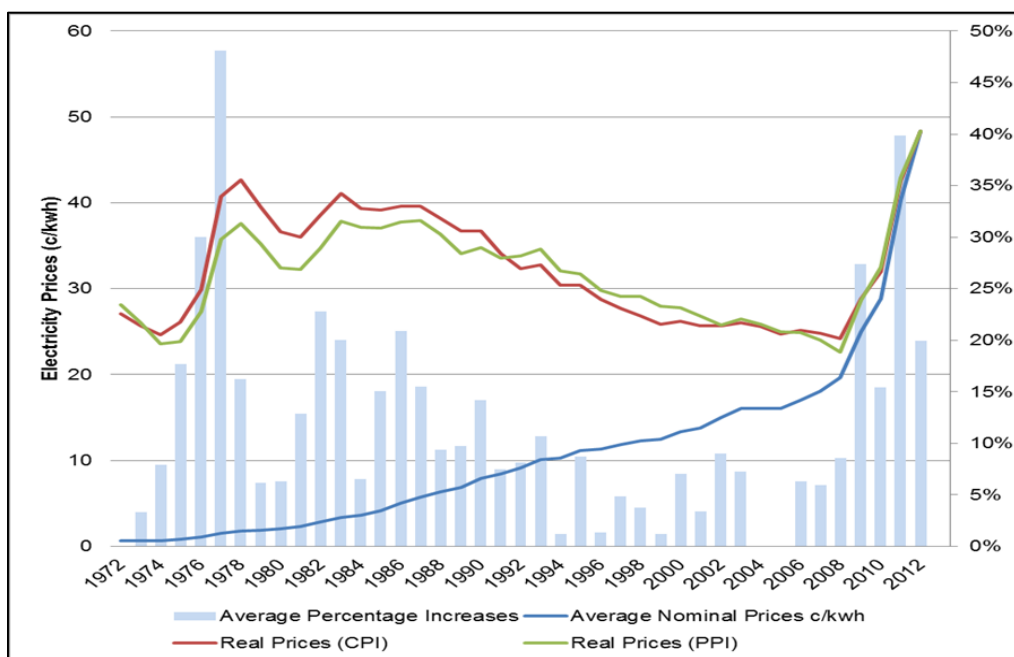
⁴ Department of Energy, the Department of Public Enterprises, the National Treasury, NERSA, Department of Environmental Affairs, Department of Water Affairs, Eskom, Independent Power Producers, Energy Intensive Users Group of Southern Africa; South African Local Government Association; Association of Municipal Electricity Undertakings, Municipalities are some of the many key stakeholders in the ESI.

rationale for the very cheap pricing no longer exists – pricing needs to cover the costs of building the generation plant and not just the cost of operating the power station. The lack of conditions that linked the low pricing to availability meant that the economy was rationed in its electricity usage, and Eskom had to compensate large energy-intensive users for reducing their consumption.

The result of the historic decisions regarding investment and pricing is that there has been a path dependency on relatively cheap and non-renewable electricity. The adjustment towards new priorities and appropriately priced electricity has been slow and riddled with difficulty. In addition, the costs of the new build programme and the electricity prices required for the financial sustainability of Eskom demonstrates just how big the effective subsidies have been.

Average real prices declined over the 1980s and 1990s (Figure 1), although the average price conceals the differences in prices to different users. The steep increases in average prices coinciding with large infrastructure build are also evident.

Figure 1: Average electricity prices and increases from 1972-2013



Source: TIPS (2014), Das Nair, Montmasson-Clair and Ryan (2014), 'Review of Regulation in the Electricity Supply Industry' based on Eskom's 1996 Statistical Year Book and 2013 Historical Averages; Statistics South Africa and Quantec data

Note: Base year: 2012. The average price is a simple average across all tariffs Eskom charges calculated by taking total value of sales divided by the number of kilowatt-hours (kWh) sold per year. It is assumed that this includes sales through special pricing deals.

Sub-optimal investment decisions in terms of planning, timing, size and technology choices of power plant investments have affected the pricing trajectory. Between 1974 and 1978, electricity prices rose by 70% in real terms due to capacity shortage, along with increasingly frequent load-shedding up to 1981. In response, Eskom started a large new-build programme. By 1983, the SoE had 22.26GW of generation capacity under construction or on order (Steyn,

2006). Failure to properly plan and oversee investment decisions resulted in an excessive capacity expansion programme and inefficiency in investment by Eskom (Kessides et al., 2007). In order to service Eskom's soaring debt, cost was passed on to consumers, leading to steep average nominal price increases in the 1980s while the SoE benefited from a monopoly position, government guarantees, open-ended Reserve Bank forward cover and an exemption from taxes and dividends.

By the late 1980s / early 1990s, Eskom faced severe political pressure to reduce prices as soon as declining debt levels would allow it (Steyn, 2003). Increased internal efficiency and huge excess generation capacity (due to the economic downturn and the commissioning of new power stations in the 1980s) allowed Eskom to reduce real electricity price increases for the following 15 years. Moreover, in the 1990s, Eskom entered into a compact with its customers to keep its prices low and to reduce the real cost of electricity by 20% over the period 1991-1996. A reduction of 16.6% was achieved. This kept prices at a level that was relatively low compared to global standards and previously explained, these low prices did not adequately cover costs and did not allow for reinvestment.

As stated above, one solution was to increase demand by incentivising large energy-intensive industries such as smelters and other heavy-users. Eskom in 1990s entered into favourably-priced long term supply agreements⁵ with aluminium smelters (Alusaf, BHP Billiton's predecessor) and with ferrochrome smelters⁶ to ensure offtake of excess electricity capacity and to promote downstream industry. These pricing structures, increasingly favourable to large industrial users, were not amended by NERSA over the years according to changing supply and demand balances and economic conditions. When the balance changed and the country faced an electricity shortage in 2008, these contracts caused considerable controversy as they were seen to favour big foreign-owned business that contributed little to local downstream beneficiation (as they largely exported un-beneficiated aluminium products) and employment at the expense of the local economy, which suffered serious electricity shortages and escalating prices. Prices to heavy-users of electricity arguably should be increasing relative to light users in tight supply situations so as to discourage the use of electricity and encourage investment in energy efficiency and renewable energy. While these select dominant customers get significantly cheaper prices⁷ compared to households and smaller industry partly due to lower costs to supply/serve⁸, there appears to be few other cost-related reasons. This practice in effect created a path dependency on cheap, dirty energy by heavy industry. These decisions have implications for economic participation as it favours heavy users of electricity and limits participation for those who cannot secure these favourable rates.

⁵ Special/Negotiated Pricing Agreements, where prices to the smelters were fixed in terms of international aluminium prices and exchange rates

⁶ The ferrochrome smelter agreements were terminated, but certain of the BHP contracts are still in effect.

⁷ General industrial customers pay Megaflex rates, which are also cheaper than what households pay, although not as favourable as what BHP Billiton pays.

⁸ There are also interruptability provisions in the contract with BHP which allow Eskom to cut supply to the smelters when the grid is under stress, which is to the disadvantage of the smelters, and pricing admittedly does have to reflect this.

When demand once again outstripped supply the South African Government, through Eskom, started a massive generation expansion programme in 2005⁹. This reaction to the increased demand on the grid was delayed, and not in time to prevent the 2008 crisis. Although the programme considered the objectives of the latest Integrated Resource Plan, especially the need to diversify the technology and fuel mix of generation, technology choices were predominately influenced by the objective of ‘keeping the lights on’ at the cheapest cost (at the time of decision-making). Hence, the programme favours large coal-fired generation plants.

As in the 1980s, the financing requirements of this colossal investment programme have contributed to pushing prices up, ultimately resulting in a trebling of the average standard price from 2009/2010 to 2017/2018 (NERSA, 2013b, 2010). The repetition of a sub-optimal investment pattern (over- and under-investment) could have been avoided through effective (and implemented) policy learning and prudent investment decisions. A proactive strategy for new generation capacity based on timely progressive building (rather than lumpy, large-scale build) and matching demand trends and forecasts would have delivered a much smoother price trajectory.

However, these outcomes were not because of NERSA’s actions (or inactions) alone. Government made a number of public statements bypassing NERSA, compromising its independence. For instance, government sent out mixed messages on whether Eskom should invest in generation capacity or not. Initially, a blueprint for a competitive ESI including a power exchange, the unbundling of distribution and transmission and a partial unbundling of generation was produced for Cabinet in May 2001. The document recommended that 30% of the generation capacity would be sold to the private sector, Eskom retaining 70% of the market. It was stated that Eskom would not build any additional generation capacity from 2001, thus transferring this to the private sector (Pickering, 2010). But this message was reversed when government then announced that Eskom should build power stations. This created uncertainty for private sector IPP investors about whether they should invest or not. Further, with Cabinet approval, Eskom bypassed NERSA’s review process of the construction of Kusile power station, again compromising the regulator’s credibility.

With regards to unbundling, in 2011, the Independent Systems and Market Operator (ISMO) Bill approved by Cabinet envisaged that an ISMO would invest, operate and maintain the country’s high voltage transmission grid separately from Eskom to ensure that independent generators would receive fair access to the transmission network. The ISMO has the potential to accelerate the development of renewable energy and increase participation of independent power producers (IPPs) in the country, empowering them to sell electricity directly to customers without having to be routed through Eskom. However, the ISMO Bill is back on hold

⁹ Valued at ZAR 340 billion, excluding capitalised borrowing costs. By 2018/2019, the programme will add 17.1GW of capacity to the 2005 nominal generation capacity of 36.2GW (Eskom, 2013b).

after the motion to revive the ISMO Bill was once again dismissed in March 2014, potentially delaying rivalry with regards to access to the grid.¹⁰

At several points in time, there has been political pressure in the pricing of electricity. In the 80's and 90's, there was pressure on Eskom to suppress prices. In 2004, the Minister of Public Enterprises announced that Eskom was prohibited from increasing prices above inflation. This announcement questioned the independence of the regulator and tarnished the credibility of administrated pricing system. As the actions of the Minister contradicted the principles of the legislation, it created a sense of unease regarding *"the government's respect for the role of independent regulatory processes"* (Steyn, 2003).

During the implementation of the Multi-Year Price Determination (MYDP) mechanism¹¹, Eskom did not always receive the price increase it sought through the required revenue pricing mechanism. In some instances, this was because an objective of lowest possible electricity prices was prioritized. In other instances, it was because NERSA more strictly questioned Eskom's costs submissions (prices were determined based on covering full costs and allowing a rate of return). It is argued that not allowing full cost recovery through the tariff mechanism jeopardized Eskom's ability to finance new generating capacity (Steyn, 2012). NERSA has nonetheless made significant progress in reducing uncertainty for customers by making different Eskom's tariff structures more transparent, user friendly and more cost-reflective over the years.

The pricing of electricity sold through municipalities has been a further area of contention, and an area in which although some headway has been made by NERSA, more could be done in terms of ensuring investment in maintenance and repair of the distribution system. Municipalities are primarily responsible for distribution and retail activities in urban areas, and they purchase power from Eskom for resale to consumers within their boundaries. Serious concerns have been raised by households and industry that electricity prices are excessively marked-up by municipalities, over and above Eskom's tariffs, with no consistency across municipalities. This is said to have negative impacts on the competitiveness of small industrial end-users, such as foundries and light manufacturing, supplied by municipalities. Some estimates are that municipality mark-ups can be between 50 to 100% above the direct Eskom price (Clark and van Vuuren, 2013), placing those that source from municipality immediately at a competitive disadvantage to rivals sourcing directly from Eskom.

The reasons for this appear to partly stem from municipality funding models, where funds generated from electricity sales are used to cross-subsidise other municipal activities creating perverse incentives to inflate electricity tariffs through high mark-ups to earn more revenue to

¹⁰ While the ISMO Bill has been discussed and agreed on by the Portfolio Committee on Energy at two occasions, it has been stalled in Parliament, being removed from the National Assembly Order Paper twice in June and November 2013 (Pressly, 2013) cited in Das Nair et al. (2014), p32.

¹¹ The pricing methodology has historically and currently been one of full-cost recovery in principle. NERSA currently employs the mechanism of a Multi-Year-Price-Determination (MYPD) method to set electricity prices. The MYPD is essentially a rate of return method of price regulation where price level is set to cover all costs and allow a fair rate of return on the cost of capital.

fund other activities. In addition, there is regulatory uncertainty, or misalignment when it comes to who is ultimately responsible for regulating municipal activities. The Constitution grants municipalities the executive authority, and the right, to administer electricity reticulation. While NERSA has the mandate to set the tariff that municipalities can price electricity sales at, the Constitution allows municipalities the right to apply surcharges or mark-ups over and above this NERSA determined price to municipal services.¹²

One of the biggest issues however remains the lack of maintenance and investment in distribution infrastructure. Ageing infrastructure operating at maximum capacity is causing the system to be overloaded, resulting in supply interruptions.¹³ A major refurbishment backlog estimated at ZAR 27billion exists in the EDI, and continues to grow at an estimated ZAR 2.5billion per annum (Louw, 2012, Rustomjee, 2013 and Noah, 2012). NERSA could potentially play a much stronger role in ensuring that there is investment by municipalities in maintenance and refurbishment of distribution infrastructure.

The renewable energy experience¹⁴

The Renewable Energy Independent Power Producers (REIPP) procurement programme is an interesting case study which highlights ways in which challenges in the ESI can be addressed through effective regulation which proactively introduces competitive rivalry.

The evolution of the renewable energy programme has been a learning curve for stakeholders. The early programmes to facilitate entry by Independent Power Producers (IPPs) (2007-2008) were conceptualised, designed and administered by Eskom in 2007-2008. In each of these programmes¹⁵ there were no power purchase agreements (PPAs) between Eskom and IPPs. This made the commercial banks reluctant to finance these as it placed considerable risk solely on the IPPs. Further, there was also reluctance on the part of project developers to participate in the programmes given Eskom's dual role as the dominant industry player and administrators of the process.

Changing strategy given the poor results of the initial programmes, NERSA developed a Renewable Energy Feed-In Tariff (REFIT) mechanism which sought to procure power output from qualifying renewable energy generators at predetermined prices. Under this programme, IPPs were to sell renewable energy-based electricity to Eskom (as the exclusive buyer) under a PPA, and were entitled to receive regulated tariffs, based on the particular generation technology. However, this was also unsuccessful and the feed-in tariff was never implemented

¹² Through the Municipal Fiscal Powers and Functions Act No. 12 of 2007. Other legislation that governs municipalities includes Municipal Finance and Management Act and the Municipal Systems Act.

¹³ The international benchmark for distribution losses (as electricity moves through the network) is 3.5%. Distribution losses in South Africa's best-run metros are significantly above the international benchmark. In 2011/2012 the most efficient municipality, eThekweni, achieved a distribution loss of 5.0% (National Treasury, 2011), whereas the two largest metros in SA, the City of Johannesburg and City of Cape Town, achieved 11% and 9.3% respectively (National Treasury, 2011).

¹⁴ This is drawn largely from TIPS (2014), 'Review of Regulation in Renewable Energy' submitted as part of the RECBP.

¹⁵ Pilot National Cogeneration Programme (PNCP), the Medium Term Power Purchase Programme (MTPPP) and the Multisite Base-load Independent Power Producer Programme (MBIPPP)

as it was considered to be too low by industry. In 2009, NERSA revised the tariffs to allow greater returns on investment, but then subsequently lowered them again in line with international benchmarks. There were significant other teething problems with the REFIT programme, where again, it was felt that too much risk was allocated to IPPs. IPPs, developers and financiers insisted on a PPA underwritten by Government to reduce this risk. Because of this, and a range of other reasons including concerns around NERSA's ability to coordinate and administer such a system¹⁶ and conflicts with public finance and procurement laws, the REIPP Procurement Programme (REIPPPP), which was a competitive bidding procurement programme, came into being. This programme is run by Department of Energy (DoE) and the National Treasury (NT).

The auction system designed in the REIPPPP encourages both competitive pricing and local manufacturing given local content requirements. The programme has been hailed a success in many parts of the world and the implementation of the system has been recognised to encourage maximisation of dynamic returns of competition.

Bids are evaluated on their price competitiveness (70%) and a set of economic development criteria (30%). Economic development criteria are designed to advance government policies on socio-economic development, such as job creation, procurement of locally manufactured inputs and community ownership of renewable energy project companies. Most notably, in order to secure local participation, the project company must comprise a 40% participation by a South African entity. The localisation requirements and the funding support from the Department of Trade and Industry (DTI) to local manufacturers have encouraged an important emerging industry in South Africa.

Further, projects that meet a set of minimum requirements (in terms of environmental, land, commercial, legal, economic development, financial and technical criteria) are selected as preferred bidders in the REIPPPP. Following this, various stakeholders, including DoE, NERSA, Eskom, commercial banks, development finance institutions and IPPs work together to finalise the financial aspects of the project and then PPAs between preferred bidders and Eskom are signed, underwritten by the NT, which includes details on the terms on which the project company sells electricity to Eskom.

PPAs backed by National Treasury improved risk allocation gave much-needed certainty to financiers and enabled lenders to provide financing on competitive terms to IPPs. Further, the REIPP is conducted in a transparent manner, providing detailed feedback to unsuccessful candidates to improve the quality of successive bids. In addition, the private sector has played an important role in supporting the DoE to develop the PPAs and economic development criteria of the programme.

The positive impact of encouraging competition is seen in the falling tariffs for various sources of renewable energy in successive bidding rounds as shown in Table 1 below. This was due

¹⁶ In fact, the DoE and NT considered that NERSA was acting beyond its mandate in being the custodian of this programme.

to, in addition to increased competition, a combination of tariff caps imposed by DoE, reduced price ceilings for wind and solar, increasing experience by bidders in successive rounds, increasing maturity of technologies and the allocation of a capacity limit for each technology from Round 2. The first three rounds of the programme were oversubscribed revealing the interest in the programme. A total of ZAR 150 billion investment has been committed to it thus far.

Table 1: REIPPP Programme Tariffs over Bidding Rounds (in ZAR per kWh)

Technology	Round 1	Round 2	% Change	Round 3	% Change
Onshore wind	1.14	0.89	-22%	0.66	-26%
Concentrated Solar Power	2.68	2.51	-6%	1.46	-42%
Solar Photovoltaic	2.75	1.65	-40%	0.88	-47%
Biomass	N/A	N/A	N/A	1.24	N/A
Landfill Gas	N/A	N/A	N/A	0.84	N/A
Small Hydro (≤ 10 MW)	N/A	1.03	N/A	N/A	N/A

Source: Montmasson-Clair et al. (2014)

The outcomes of the REIPPPP highlight the importance of proactively encouraging competitive rivalry between producers, as well as the state and the regulator's roles in creating a framework conducive to this. This was a deliberate and coordinated strategy by relevant stakeholders to design the auction such that it introduced 'synthetic competition' through the scorecard method. Further, the REIPP procurement programme is an excellent example of how multiple economic and social objectives can be incorporated into energy policy through appropriate structuring of bidding processes.

3. Rail freight and ports¹⁷

The regulation of ports and freight rail shares much in common with electricity in that the provision is under a state-owned entity which has been corporatised, and operates within a policy framework determined by a line department. There are also similarities in terms of the historic investment patterns which were oriented to heavy, mining and energy-intensive industry (Fine and Rustonjee, 1996). Rail infrastructure was also developed for grain farmers, with rail sidings linking with silos built for the agricultural co-operatives.

Transport infrastructure exhibits very substantial externality effects, however, given its network and partial public good nature. This is why the state has constructed the transport infrastructure in almost all countries – the returns from the infrastructure investment are

¹⁷ See reports by Baloyi (2014), 'The role of South Africa's freight rail regulatory framework in General Freight's sluggish growth performance' and TIPS (2014), 'Review of regulation in the Ports Sector'

realised across the economy in the activity that is enabled and thus it is appropriate to finance the investments out of tax revenues.

In competition terms, elements of the transport infrastructure can be considered essential facilities as they cannot be easily replicated and access is required to provide a good or service. The provision of the infrastructure and the terms of access are therefore critical to participation in the economy, by different groups and by location. In South Africa, excellent infrastructure was constructed for the prioritised groups under apartheid. If we are to evaluate the regulatory framework and its implications for competition we need to consider it in light of the historical context. How has the regulatory framework taken the inherited structure into account, and incorporated social returns, and incentives for investment? Has it opened up opportunities for increased participation and, if so, how?

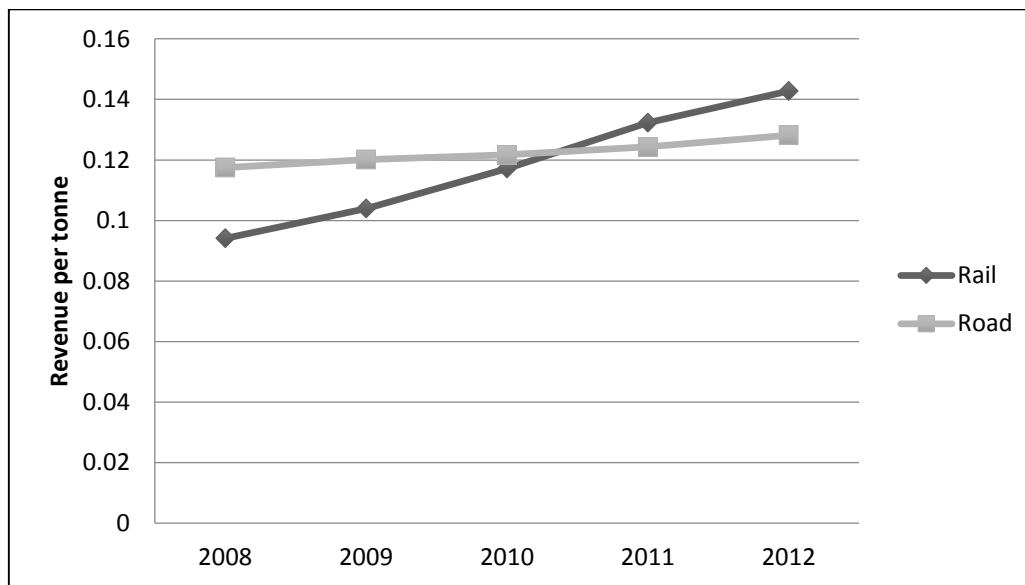
We specifically consider rail freight and ports, both of which form part of state-owned corporation Transnet. The evaluation is thus how the governance framework has impacted on the decisions of Transnet, including the resources at its disposal.

The 1996 Transport White Paper envisaged an intermodal transport system with a greater role for general rail freight and greater private participation in the system as a whole. It was based on the potential gains from a more diversified and open national economy. As such, it had to be understood in terms of the wider economic and industrial policy goals of the first democratic government.

At the same time, in 1996 the shift in fiscal policy signalled by the Growth, Employment and Redistribution strategy (Gear) meant that funding was not made available for investment in transport infrastructure and, indeed, government investment in infrastructure overall was cut back sharply (Roberts, 2004). This was compounded by the pension fund deficit which Transnet had to cover on its own balance sheet for former employees of the South Africa Transport Services.

Over the last two decades, the outcome has been that general freight movements have shifted significantly away from rail to road. General freight prices have been increased to levels which are above road freight charges (Figure 2). Port charges, as we discuss below, have been far above international norms for general cargo. By comparison, the transport costs for primary commodities such as coal and iron ore remained relatively low. The outcomes have thus not been consistent with the objectives set out in 1996.

Figure 2: Average Revenue Per tonne for Freight Rail and Road, 2008-2012



Source: StatsSA Land Freight Monthly Survey

Transnet is itself responsible for setting rules on access, tariffs and investments. The state, as owner, monitors performance and sets objectives for Transnet, with this responsibility lying with the Department of Public Enterprises (DPE). The governance of Transnet as a state corporation is the responsibility of the Transnet board. The policy framework lies with the Department of Transport (DoT), and the widespread linkages of transport with economic activity means there are substantial coordination challenges with, for example, industrial policy. The DPE sets objectives through the shareholder compact. These objectives can in principle be set with a view to the longer-term economic objectives which would require careful specification and monitoring of non-financial measures of performance, alongside the consideration of investment plans.

From the late 1990s the main objectives were focused on the financial performance of Transnet. Not surprisingly this meant that the Transnet focus was not on investments which would yield returns in the future, through enabling new economic activity, and where the economic returns could not be captured by Transnet. Instead, the focus was on where revenues could be earned from the existing infrastructure. This implied that the focus on the mining sector was effectively increased, rather than being reoriented to more diversified economic activities. Upgrades and expansions to the coal and iron ore lines were made.

The historic investments in the existing coal and iron ore lines naturally made incremental expansions more financially profitable, in a simple path dependency effect. Cost-reflective tariffs further mean that historically privileged interests locked-in their advantages as the costs of these lines were lower given the existing base and the volumes already being transported. Considering pricing and investment in a mature rail infrastructure, which simply needs to be maintained and upgraded, is quite different from the investment decisions for an industrialising

economy where much of the infrastructure needs to be constructed with a view to the changing structure of economy.

The apparent lack of coordination between the DPE and DoT, greater emphasis on short-term financial measures, and lack of public finance for investment mean that governance and decision-making was not consistent with the wider needs of economic development. For example, the proportion of citrus moved by rail has fallen from 80% in 2005 to 5% in 2013 (Baloyi, 2014: 31). Even grain has seen a substantial fall, from 90% to 30%. The one sector of manufacturing aside from heavy industries such as basic metals and basic chemicals that has seen growth is automotive. It also relies on local and international transport for inputs and finished vehicles. While there have been some improvements in transport of built up models, automotive components (not contained in completely knocked down, CKD, packages) are not well catered for by rail freight.

With regard to the pricing of different cargoes at ports a somewhat different picture emerges since 2009. This may be at least partly attributed to the establishment of a Ports Regulator.

Outcomes in the ports sector and the role of the regulator in these outcomes¹⁸

South Africa's geographic location and size means that access to efficient port infrastructure is of critical importance for growth. Approximately 96% of South Africa's exports (by volume) are by sea, so the competitiveness of the country's ports has a direct bearing on the competitiveness of its industrial and export activities. There have been concerns around the skewed pricing and high tariffs of South African ports, and these have been highlighted in recent government economic policy documents.¹⁹

The ports infrastructure in South Africa is 100% state owned through Transnet National Ports Authority (TNPA). Majority of port operations are run by Transnet Port Terminal (TPT). Until 2002, almost all infrastructure and services were provided by public sector entity Portnet, owned by Transnet. In 2002, the port infrastructure was separated from the services to form the National Ports Authority (NPA) and South African Ports Operator (SAPO), which was later named Transnet Port Terminal (TPT), both continuing to be owned by Transnet.

As was the case with rail freight, port tariffs were used to improve the income of Transnet as a whole, cross-subsidising other activities. However, this had serious negative consequences on investments in port infrastructure and competitiveness of tariffs, and has been to the detriment of promoting industrial policy objectives. Tariffs in South Africa were higher than those internationally, efficiency levels lower and fewer and lower quality services were provided by the ports. Further, the prices charged at the different ports within South Africa, for equity reasons, are fairly uniform despite their different locations, demand drivers and features. This limits competition between ports, as well as for services within ports, and

¹⁸ TIPS (2014), 'Review of regulation in the Ports Sector'

¹⁹ The New Growth Path emphasises the need to have competitive pricing in ports and the Industrial Policy Action Plan (IPAP) states that high ports charges remain a significant constraint and a threat to the manufacturing industry and employment. The fact that South African ports charges are among the highest in the world are also highlighted in these documents.

reduces the incentive to invest in infrastructure and to increase productivity. Competition between ports remains weak largely because TNPA is the only entity permitted to develop, manage and set tariffs for ports in South Africa. Intra-port competition is also low given the dominance of TPT in service provision, such as in cargo handling and for highly specialised terminals, and in most instances, traffic volumes are insufficient to support more than one terminal of any type. Competition in container freight/handling is also weak.

Many of these problems stem from the conflict of interest of Transnet both owning the landlord company (NPA) and the company that is the main user of the ports (TPT). That conflict, linked to the approach of Transnet to use the profit generated by the ports operation to subsidize other operations in the group, led to underinvestment in port infrastructure, again highlighting the short-sighted outlook on the development of facilities through investments.

In 2002, the gazetted National Commercial Ports Policy (NCP) laid out the framework for the role of the different players in the ports sector, the challenges that needed to be addressed and the approach to regulation. The policy highlighted the strategic importance of ports in contributing to the growth and development of the South African economy (NCP 2002) and put forward key principles for effective ports regulation. The core of these was the need for the NPA which was within Transnet to be separated from Transnet and to be established as a new, independent state-owned corporate entity. This was to ensure that the ports operate in the best interests of the country in line with the mandate spelt out in the legislative framework rather than the narrower, profit-maximising interests of Transnet. The NPA would then report to the DPE.

Recognising the complexity and financial implications on Transnet in setting up separate institutions, a National Ports Regulator was established in 2009 as an interim measure until the full separation could take place.

Although by 2013 the separation of powers had still not yet taken place, the Ports Regulator has made significant progress in reducing tariffs through changing tariff structures to different user groups. This it has done without a full staff complement or sophisticated pricing mechanisms. While the approach taken by the Port Regulator was in the initial years to limit the tariff increases to below or at-inflation levels, the 2013 tariff decision saw a significant reduction in key tariff lines. This is in contrast with the approach of the regulator in the electricity supply industry, where although NERSA has tried to keep tariff at cost-reflective levels, it has done little to change the pre-existing relative tariff structures to different user groups. The result is that historically prioritised industries are still favoured.

The Port Regulator decreased the tariff on cargo dues in certain areas. For instance, container full export cargo dues were reduced by 43.2%; container full imported cargo dues reduced by 14.3% (TIPS, 2014). It also undertook a tariff comparator study or benchmarking exercise in April 2012, called the Global Port Pricing Comparator Study, which revealed that the total general cargo tariffs at the Ports of Durban and Cape Town were very high by world standards. For instance, TNPA charges US\$275,000 for an average vessel, while the global average was US\$150,000. The average cost per vessel call in Durban and Cape Town was around

US\$450,000 compared to around US\$200,000 for Singapore. The study, which also looked at specific sectors, found that the tariff for export of primary commodities, mainly coal and iron ore, were well *below* the global average while the tariff on containers and automotive are significantly *higher* than the average (Table 2). A specific study on the automotive sector in South Africa was undertaken by the regulator comparing the South African ports to 16 other ports. It found that Durban was considerably higher cost than most of the others (even after rebates and discounts). This again highlights the historic bias towards certain industries, which are in odds with the present-day developmental agenda of the country.

Table 2: Summary of South Africa's ports tariffs deviation from the global average, 2012: Port Regulators Global Port Pricing Comparator study

Sector	Deviation from the global average
Containers (Total Ports Authority pricing including cargo dues with rebates)	294%
Containers (cargo dues with rebates)	721%
Automotive sector (ports authority tariffs with rebates)	212%
Automotive sector (cargo dues with rebates)	710%
Coal (TNPA costs faced by cargo owners)	-50%
Iron ore (TNPA costs faced by cargo owners)	-10%

Source: TIPS (2014) citing Ports Regulator of South Africa, 2012:6

The Ports Regulator and the National Association of Automobile Manufacturers of South Africa (NAAMSA) have been engaging each other to find a solution to high port tariffs. NAAMSA highlighted the significance of the automotive sector, which contributes between 12%-15% to South Africa's manufacturing industry output and 6% to the country's GDP. (TIPS, 2014). A reduction in the automotive manufacturing sector's port charges would directly improve the export competitiveness of the automotive industry in turn resulting in increased exports as well as the opportunity to secure contracts from within the global operations of their members. Improved port tariffs would therefore contribute to the economic development objectives of the country to create jobs and increase investment. The Ports Regulator has considered these submissions seriously and has reduced the automotive tariff charges in the tariff book adjustments for the tariff year 2013/14, with motor vehicles exported 'on own wheel' cargo dues reduced by 21.1%. Although tariffs need to reduce further to bring them closer to international levels, this is a positive movement towards aligning tariffs while taking into account government economic (and social) policy objectives. According to the Port Regulator, *"It is clear from the data that South African cargo owners and logistics operators face significantly higher infrastructure costs than the rest of the sample when using containers to move cargo. With the bulk of South Africa's manufactured goods arguably exported through containers this is clearly contradictory to current industrial policy aiming to incentivise value addition, broadening of the manufacturing base and increasing manufactured exports."* (TIPS, 2014 citing the Ports Regulator 2012:9).

The proposed new pricing strategy (to be in effect 2015/2016) is aimed at enabling the on-going investments in the maintenance and extension of the South African ports system, and ensuring effective cost recovery across all national ports. Going forwards, there will be one

basic rate for cargo dues for each different cargo handling type (i.e. containers, dry bulk, break bulk, liquid bulk, automotive) replacing the current differentiation of cargo dues by commodity. Cargoes moving in large shiploads, such as dry bulks, will continue to pay lower cargo dues per ton than cargoes using smaller vessels such as general cargo ships. Further, deviations from the base rates for cargo dues will be introduced in line with government priorities for promoting exports and beneficiation industries, but these reductions seem likely to be determined fairly arbitrarily, and will have to be offset by increases in cargo dues for other types of cargo. There will also be beneficiation rebates introduced, where lower tariffs are charged for exports produced through the beneficiation of South Africa's natural resources. This is in line with the DTI policy objective of increasing local value add. TNPA's beneficiation proposals for the metals sector are that iron ore, a raw material, would receive no rebate, whilst pig iron would receive a 10% discount, rolled steel and pipes a 60% discount, and structural steel, machinery and white goods an 80% discount.

These developments are due to dynamic, and bold, steps by the Ports Regulator to increase the competitiveness of South African ports and align pricing to support other industrial policy objectives. The regulator has achieved this in a short space of time and faced with substantial limitations in resources and regulatory capacity (it is still only operating at 45% of its capacity). Through relatively simple benchmarking exercises and proactive decisions, it has reduced tariffs and reversed past asymmetry in a short space of time.

The issues in rail and ports are essentially the same and yet changes have been made in ports through the introduction of a regulator (and plans for vertical separation, not yet realised). However, lest this be interpreted simplistically as an argument for regulation, the ports case contrasts with electricity where the regulator has not adjusted the relative prices of heavy mineral processing and diversified industry to rectify the historical bias.

Another contrast, in the opposite direction is that the REIPP example in electricity demonstrated the potential learning from opening up access, even while pursuing non-financial objectives. In ports access to facilities could be widened. This is not only about private ownership – some of the terminals are private (such as for bulk chemicals) and have been bottlenecks undermining competitors, while separating different levels even while maintaining state ownership can change the incentives of managers (as was intended with the NPA and contemplated in the ISMO for electricity).

4. Telecoms²⁰

Telecommunications is often used as an example of where technology change means that what was once a natural monopoly (and in almost all countries state-owned, due to the need to invest in a fixed-line network) is no longer so. Mobile telephony is not subject to the same utility-type cost structure and provides an alternative to relying on the fixed-line network. It was even proposed that the need for regulation would wither away as competition took root (Cave,

²⁰ Drawn from Hawthorne (2014a), 'Review of economic regulation of the telecommunications sector' undertaken as part of the RECBP.

2006). South Africa has followed the orthodoxy in this regard with relatively light regulation of mobile telephony and an expectation that as this segment expanded, coupled with entry into fixed-line, competition would generate efficient economic outcomes.²¹

Reflecting these prior beliefs, regulation has been focused on interconnection to ensure that newer participants can link with the existing networks so that their subscribers can make and receive calls with subscribers on the other networks. However, the call termination rates were simply to be set between the parties subject to broad principles. There are also provisions for facilities leasing so that entrants can gain access to the facilities in existence but, similarly, the terms and mechanisms for this were not specified.

On the face of it, the issues appear to be quite different from those in transport and energy. After reviewing the outcomes and assessing the role of economic regulation and the links to competition, we point to areas of common concern. In particular, we argue that the South African experience of telecommunications regulation points to the need to regulate for increased competitive rivalry and participation in the economy, recognising the implications of the past state investment.

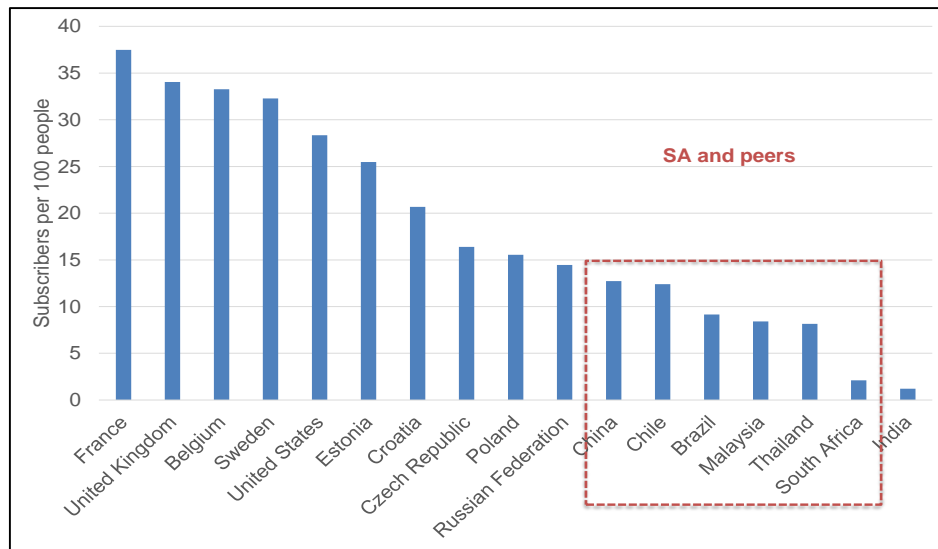
Outcomes in telecommunication

In terms of South Africa's rankings for the information and communications technology sector, the World Economic Forum's Network Readiness Index (NRI) has South Africa at 70 out of 144 countries, while the International Telecommunications Union ICT Development Index ranked South Africa 84 out of 154 countries.²² These indices combine a number of measures but to a large extent these outcomes reflect relatively poor broadband coverage, speeds and pricing. The number of broadband internet subscribers is substantially below South Africa's peers (Figure 3). This could be attributed to the very unequal income distribution in South Africa, however, in terms of broadband speeds South Africa has also been falling behind other BRICS countries, aside from India (Figure 4). Prices for fixed broadband are also substantially higher in South Africa, and four times those in India (Figure 5).

²¹ The Independent Communications Authority of South Africa Act, no. 13 of 2000 (the ICASA Act), provides for the establishment of the industry regulator, ICASA as well as for the Complaints and Compliance Committee (CCC). The ECA and the Competition Act provide an economic regulation mandate to the competition authorities and ICASA in a number of areas, including interconnection and facilities leasing, spectrum management and universal service and access and competition and price regulation.

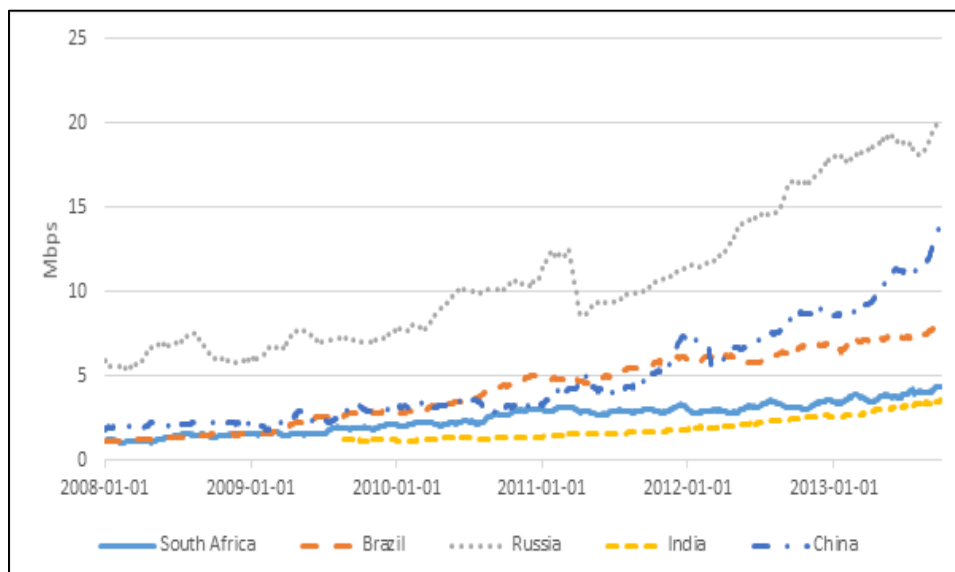
²² This compares with a rank based on purchasing power parity GDP per capita of 81 out of 185 countries calculated by the World Bank. Taking into account the number of countries, the ICT rankings are thus below the GDP per capita ranking.

Figure 3: Fixed broadband internet subscribers per 100 people (2012)



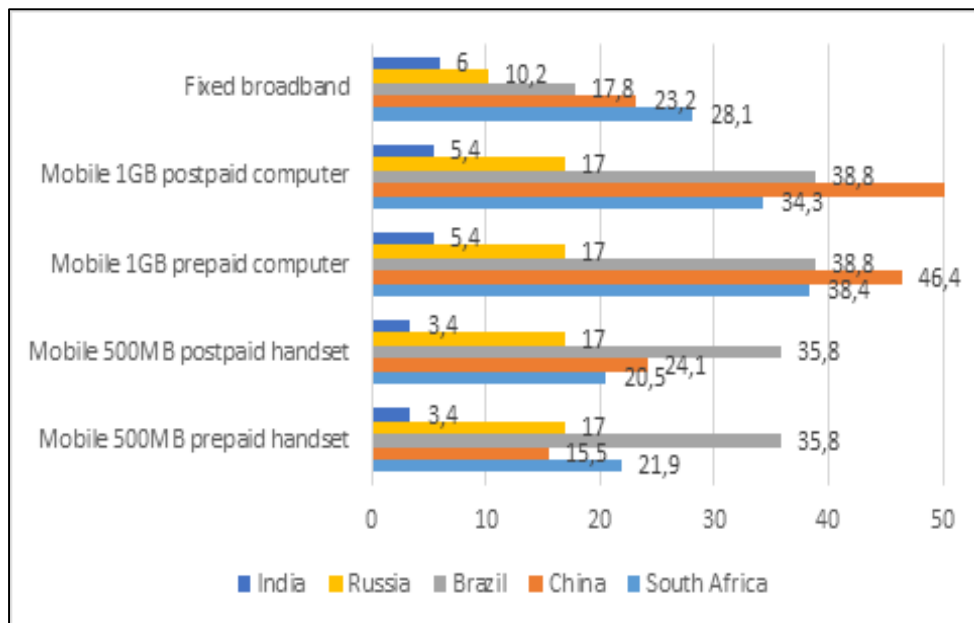
Source: World Bank, <http://data.worldbank.org/indicator/IT.NET.BBND.P2>

Figure 4: Broadband speeds



Source: Analysis of Ookla Netindex (2013)

Figure 5: Prices for fixed broadband (US\$, 2012)



Source: Analysis of International Telecommunications Union prices, (2009-2013)

Mobile phone prices have also been relatively high, and above the SADC average until the reductions in prices from 2008 (Hawthorne, 2014a: 48). There were larger reductions from 2010 onwards which followed the reductions in call termination (voluntary at first), with the largest reductions in 2013 following the imposition of lower call termination charges.

Regulation and competition in mobile telephony – interconnection and call termination

South Africa appears to have relatively strong rivalry in mobile telephony with four operators in 2014. And, there have been three operators for more than a decade following the entry of Cell C. Why then have South Africa's mobile rates remained higher than in many other countries which have a similar number of competitors? Developments in recent years reveal the importance of strong regulatory action for smaller rivals being effective competitors. It is well established in economic theory that a duopoly may well not mean vigorous competition, even without there being an explicit collusive agreement. In the case of mobile telephony the historic South African model of two-year contracts and the obstacles to number portability meant subscribers were unlikely to switch, dampening price competition (ICN, 2006). Cell C's entry was thus meant to be competitively significant.

The mobile to mobile call termination rates had originally been set at R0.20/minute between Vodacom and MTN by their mutual agreement, when the mobile operators were licenced in 1993 (Knott-Craig, 2009; Hawthorne, 2014b). By the time prior to Cell C's entry in 2001, however, the call termination rate had been increased to R1.19/minute for peak hours and R0.65/minute for off-peak.²³ This effectively placed a floor under the price that Cell C could

²³ The rates were subsequently increased a little more, to R1.25 for peak hours, by 2005 (Aproskie et al., 2008).

offer to attract subscribers, as with a small subscriber base a majority of the calls made by Cell C subscribers would be terminating on the networks of other operators. The call termination charges reinforced network effects, as the charges are obviously not payable for on-net calls. When combined with the existing obstacles to switching, Cell C remained a marginal player having an insignificant impact. Competition was not working in terms of prices to consumers.

Regulation has an important role to play in understanding these outcomes. The interconnection guidelines of 1999, 2000 and 2002 under the Telecommunications Act required major operators to set their call termination rates at the long run incremental cost of call termination (Aproskie et al., 2008). But, MTN and Vodacom were not declared major operators by ICASA.²⁴ Under the Electronic Communications Act which came into force in 2005 ICASA can, in general, regulate prices where markets are characterised by ineffective competition (under Chapter 10). It is also specifically empowered under section 41 may prescribe regulations for wholesale interconnection rates. After a public inquiry into interconnection in 2006 and 2007 ICASA decided it had to develop regulations for Chapter 10 before it could regulate interconnection. This effectively stalled the process until regulations were published in November 2010 to come into effect in March 2011. ICASA stipulated that MTN and Vodacom would charge call termination rates of R0.40/minute from 1 March 2013, while Cell C and Telkom Mobile could charge 10% more.

Actual call termination rates were reduced earlier than stipulated in the regulations as the Parliamentary Portfolio Committee on Communications held hearings in 2009 which led to reductions being agreed by the operators with the Minister of Communications, to reduce peak rates to R0.89/minute (Mcleod, 2009). This political pressure then provided the base for ICASA's subsequent regulations. While the agreed reductions in 2009 supported Cell C, in particular, being a somewhat more effective competitor, reflected in increased subscribers and some competitive pressure on prices, the really big change in prices towards those at the lower end of SADC countries was only in 2013 (Figure 6) after the ICASA regulation came into force.

Subsequent final regulations in 2014 lowered termination rates further, and increased the asymmetry, although these have been taken on review by MTN and Vodacom.²⁵ The new regulations also however lowered the rates that Cell C and Telkom Mobile is able to charge Vodacom and MTN, down from R0.44 to R0.31. Cell C has subsequently objected to this (Paelo, 2015).

A number of lessons can be drawn from the South African experience over the past two decades. First, competition requires appropriate regulation. This includes incorporating principles related to addressing market power, and the ability to enforce. Second, competition does not equate to the number of competitors and nor can we be complacent about technology changes meaning competition will blossom of its own accord, even while technical natural monopoly factors become less significant. Third, entrenched first movers can protect their

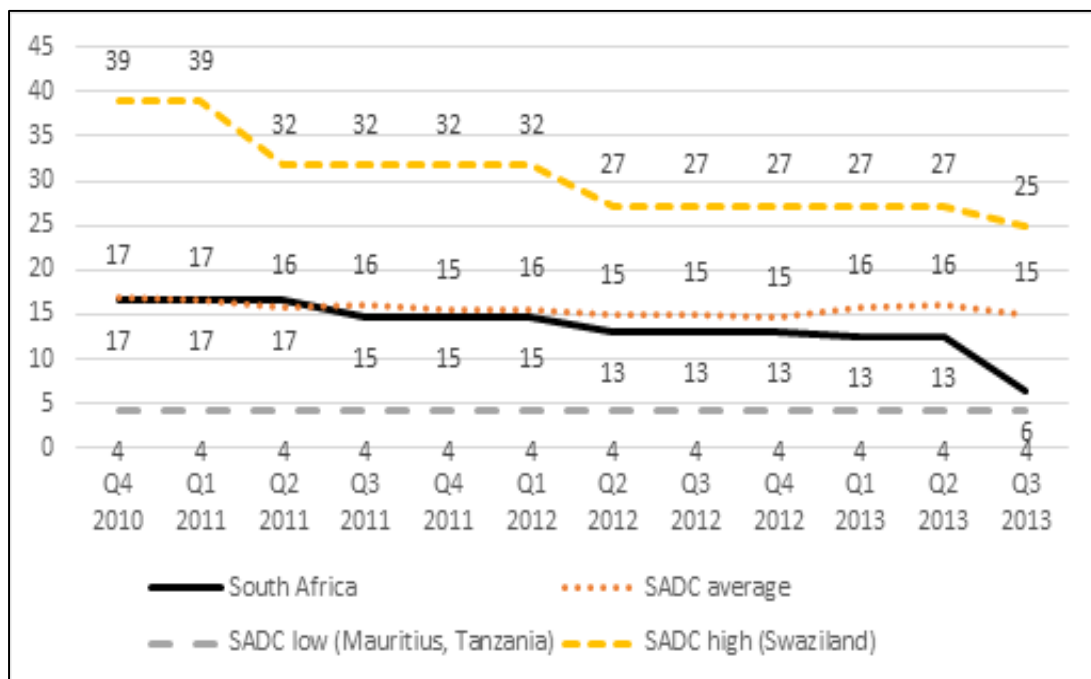
²⁴ Cell C made an application to have Vodacom and MTN declared major operators but later withdrew it.

²⁵ Rates are to fall to R0.10 from 1 March 2016, while the smaller operators could charge R0.40, and R0.20 from 2017.

advantages. This motivates for asymmetry in call termination between incumbents and entrants, although only for a relatively short time (Hawthorne, 2014b). In other words, regulation is required to change the rules of the game to foster effective competitive rivalry.

Fourth, the de jure independence of institutions is less important than their mandate, powers and political support. In this case, the change appears closely linked to a shift in the balance of interests evident in the portfolio committee hearings. This is possibly linked to the interest of Telkom as a new mobile entrant. The change in call termination certainly contrasts with the developments in facilities leasing where Telkom is the incumbent, to which we turn now.

Figure 6: Prepaid mobile prices (US\$), OECD usage basket



Source: Analysis based on data prepared by Research ICT Africa, 2013

Regulation and competition – facilities leasing

If anything, the competition and regulation issues related to the position and market power of the fixed-line incumbent Telkom have been longer running than those of the mobile operators. They are also arguably more important as they underpin the poor ICT performance of the South African economy. There have been many reviews of these issues (for example, Aproschie et al., 2008, Gillwald, et al., 2012, Makhaya and Roberts, 2003). The South African fixed line telecommunications utility, Telkom, was incorporated in 1991 as a state-owned enterprise governed by the Department of Posts and Telegraphs.²⁶ The privatisation of Telkom was presented as solution to attract investment and to assist a financially ailing state-owned

²⁶ As per the Post Office Amendment Act 85 of 1991, before this telecommunication services were provided by the department itself.

enterprise, through a 30% stake sold to a consortium (Thintana) comprising of Malaysia Telecommunication and SBC Communications as ‘strategic equity partners’.²⁷

The privatisation to these entities coincided with the extension of Telkom’s monopoly in voice telephony for five years from 1997 to 2002, justified by the imposition of universal service obligations.²⁸ The monopoly period was also seen as necessary for Telkom to prepare itself for the onslaught of competition. Competition was effectively delayed by a further five years to 2007, due to various factors including a protracted licencing process (Horwitz and Currie, 2007). The Second National Operator (SNO) Neotel was licenced in 2005, launched in August 2006, and commenced services in 2007.

As with the entrant into mobile telecommunications, the presence of a competitor to the incumbent did not realise apparently competitive outcomes. While the competition authorities have taken on a number of matters, these are *ex post* evaluations of past conduct and the rulings are many years after the conduct being complained of. They relate to conduct by Telkom which undermined downstream competition (see Makhaya and Roberts 2014, and Hawthorne 2014a, for a fuller review of the decisions).²⁹ One rationale for this conduct is to inhibit the growth of the upstream rival as downstream firms may support and provide custom to the upstream entrant.

Facilities leasing, on which we focus here, is a more direct challenge for an entrant. To address the incumbent’s position regulators have developed means of separating the upstream and downstream divisions of vertically integrated upstream incumbents and have developed open access frameworks for third parties to make use of monopoly inputs, being Local Loop Unbundling (LLU). In South Africa the facilities leasing regulations under the telecommunications legislation are designed to ensure that new entrants are able to gain access to the existing facilities in order to build their own infrastructure linked into the existing infrastructure and this to climb the “ladder of investment” (Hawthorne, 2014a).

The Electronic Communications Act of 2005 makes provision for the leasing of Telkom’s facilities by other parties. However, Telkom declined to conclude an infrastructure sharing agreement with Neotel, favouring a case by case approach to managing access. In 2007, a policy decision was taken to commence with local loop unbundling. According to the Ministerial Policy Directive of 2007, ICASA was given until November 2011 to publish local loop unbundling (LLU) regulations.³⁰ In 2010, ICASA issued regulations for general facilities leasing, but not for LLU. By 2011, ICASA had not instituted any significant steps to effect the orderly implementation of local loop unbundling, save for issuing a Discussion Paper and holding public hearings into the matter. The Discussion Paper outlined various methodologies to effect the policy directive on local loop unbundling. Telkom raised various objections to this process. In its Findings Note,³¹ issued after its hearings on LLU, ICASA found that the

²⁷ SBC is an American company spun out of the AT&T stable.

²⁸ It should be noted that by the end of the period of exclusivity, there was a net decline in fixed line and internet penetration (see Makhaya and Roberts, 2003).

²⁹ Tribunal case number 11/CR/Feb04. See Competition Commission media release, 14 June 2013 for the settlement of the second case.

³⁰ These remained outstanding in February 2014.

³¹ Findings Note on the ICASA Framework for Introducing Local Loop Unbundling

obligation to lease facilities applies to all licensees providing Electronic Communications Network Services. The Findings Note also sets out a timetable for fixed-line LLU, which had a numerous steps including further industry consultation and engagement, a regulatory impact assessment on the costs and benefits of the various forms of LLU, followed by market reviews, and the introduction of supplementary LLU Regulations. The DOC set a deadline for ICASA to implement LLU by the end of 2011 but ICASA did not achieve this target and has not to date implemented LLU.

In the midst of this vacuum, in December 2011, Neotel made a request to Telkom to lease local loop infrastructure at two specific sites. Neotel framed this request under the provisions of the Electronic Communications Act. Telkom rejected this approach by Neotel on the basis that the regulatory framework envisages a separate process for local loop unbundling and, in any event, Neotel had not framed its request according to the provisions of the ECA. Neotel's subsequent complaint against Telkom³² was referred by ICASA to the Complaints and Compliance Committee (CCC).³³ The CCC³⁴ is a mechanism for resolving disputes. Alternatively, ICASA could impose a remedy unilaterally or negotiate with the parties to resolve a matter. The CCC issued an interim order that acknowledges that Neotel's request is legally valid and holds that Telkom's response to Neotel is inadequate. Thus Telkom has contravened Regulation 3 (2) of the ECA Facilities Leasing Regulations of 2010. However, as a matter of practicality, the CCC decided that it would be necessary for the LLU Regulations to be in place to enable the leasing of copper infrastructure.³⁵ The CCC instructed ICASA to develop terms and conditions consistent with Chapter 8 of the ECA within a period of three months from its decision, which was taken on 18 May 2012.

The LLU process, and the dispute between Telkom and Neotel with regards to the leasing of infrastructure, demonstrates the privileges of incumbency enjoyed by Telkom and the difficulties faced by an entrant in competing with such an incumbent. It also illustrates that the rules have not properly addressed the conduct they were meant to, while more attention needs to be paid to the way institutions work in practice.

The actions of the state as owner have been contradictory to its aims as a reformer and economic policymaker. Unlike with other entities such as the transport and electricity parastatals, the government shareholding in Telkom is held by the Department of Communications which is also responsible for the policy framework. This compounds the conflict of objectives and adds to the inclination to retard the development of ICASA into a strong regulator. For example, Telkom's long battle to keep competitors from offering voice services was assisted by the Department of Communications delays in providing clarity to the extent to which value added services providers could also provide voice services.³⁶

³² Under section 43(5)(c) of the ECA.

³³ The matter was heard on 16, 17 and 18 May. Case Number 59/2011 Neotel (Pty) Ltd vs Telkom SA Ltd.

³⁴ Established in terms of section 17A of the ICASA Act of 2000 as amended

³⁵ In accordance with s (44)(3)(m) of the ECA.

³⁶ Only when Altech brought a case through the courts was it confirmed that under the ECA value added network service providers can convert licences into individual electronic communication services (I-ECNS) and roll out their own networks, as there was no legal monopoly held by Telkom.

5. Common lessons drawn: what is the role of competition in economic regulation?

The reviews of the different regulated industries expose both similarities and differences in the approach to regulation, particularly with regards to the consideration of competition principles in the implementation of regulatory rules. Important lessons from the interface between competition and regulation in these sectors can be drawn which are useful for economic regulators in terms of learning from each other, for engagement between economic regulators and competition authorities, as well as for policy makers.

There are clear differences in regulator structure, capacity and experience, yet some of the most effective decisions which promoted increased participation have been made by relatively new regulators with very limited capacity as we describe later.

In terms of structure, in electricity the fully integrated and corporatised SOE, Eskom, is regulated by independent regulator, NERSA. In rail freight and ports there is also an integrated SOE but without an independent regulator until the recently established Ports Regulator. All operate within a policy framework determined by a line department. In telecommunications, the main operator has been privatised with a long established regulator and enforcement actions by the competition authorities.

The reviews in each of these industries has shown that entrenched interests have frustrated investments in infrastructure that would have otherwise increased participation in line with government's economic and social objectives. Favourable treatment of powerful industries and groupings such as mining and metal smelters (justified by short-term financial performance measures) has resulted in similarities in terms of the historic investment patterns which were oriented to these industries. Regulators in many instances have not taken into account diversified users' needs.

An exception is in the renewable energy sector, where a proactive and coordinated approach by the state and the regulator in the renewable energy procurement programme led to introducing greater participation in electricity generation by IPPs, the benefits of which are evident in falling tariffs and encouraging local content. While there are also private operators in mobile telephony, the benefits of increased participation have not resulted in the desired outcomes. Entrenched market power of the incumbent has been protected historically and there is a need to regulate more for increased competitive rivalry and participation in the economy.

With regards to rail and ports, many of the problems of underinvestment need to be understood in terms of the wider fiscal framework and corporatisation of Transnet as owner, the user and self-regulator of the infrastructure (until recently for ports), along with the governance exerted by the state as owner through DPE. These factors are related to the practice of Transnet using the profit generated by rail and ports operation to subsidize other operations in the group, and have led to underinvestment and inappropriate (and uncompetitive) pricing, especially for diversified container freight. Unlike with other entities, the government shareholding in Telkom is held by the Department of Communications which is also responsible for the policy framework. This compounds the conflict of objectives and

adds to the inclination to retard the development of ICASA into a strong regulator in the telecoms industry.

A lesson from this would be to separate regulators from their line departments. And although the interim Ports Regulator has still not seen a full separation of powers, the benefits of independent regulation in ports is seen in the significant progress made by the Ports Regulator in reducing tariffs through changing tariff structures to different user groups. This is in contrast with the approach of the regulator in the electricity supply industry, where NERSA has done little to change the pre-existing relative tariff structures biased to historically-favoured user groups.

Also markedly different are the different rates of reform in the sectors reviewed. Positive and pro-competitive outcomes were achieved much quicker in renewable energy and in ports compared to rail and telecoms. Further, in the case of ports, this was done with limited capacity. Therefore, it is not necessarily about the capacity and experience of the regulator - effective decisions can be taken quickly with limited capacity.

What is also evident is that there is limited transfer of learning between the regulators from their respective failed or successful experiences. For instance, useful lessons from the auction system design of the renewable energy programme could potentially be adopted in other regulated industries. One way in which this transfer could be achieved is to consider merging the regulators into a single economic regulator, possibly including even the competition authorities.

It is apparent from the sector reviews that effective regulation is necessary to ensure that the competitive space remains open and to govern aspects such as access to critical infrastructure. Even in industries where scale economies would advocate that only one firm operate, regulation that is conducive to creating 'synthetic competition' by ensuring participation by several competitors has shown positive outcomes in terms of the dynamic gains from rivalry.

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