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Concept paper: Reviewing regulation and regulators in the context of economic development in South Africa

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1. Introduction

This concept paper is part of the review of the capacity and performance of economic regulators which includes understanding their constraints and challenges, and how they can be addressed. Such an exercise is essentially about identifying the appropriate questions – these will set the scope for the possible answers and thus frame the enquiry.

Economic regulation in South Africa, as in other countries, is in the main about regulating the 'natural monopoly' parts of the economy that were state-owned and have been privatised. Regulators have also been introduced where entities remain state-owned but have been corporatized and regulators are thus part of the governance of state owned enterprises (SOEs). In some cases, the functions of economic regulation are undertaken by government departments.

The role of economic regulation can be understood in terms of prices and access (Viscusi et al., 2000). *Prices* are controlled or capped because otherwise they would be set at monopoly levels. Economic regulation can also require *access* to be provided to essential facilities or inputs which cannot be easily replicated and are controlled by the incumbent. This is, however, a relatively narrow delineation of the scope of regulation as it is focused on existing infrastructure and static considerations of efficiency. Regulation also needs to take into account investment decisions, the impact of infrastructure on the development path of the economy, and the creative role of competitive rivalry.

In addition, regulation is sometimes portrayed as addressing a market failure or imperfect competition. This implies that the norm is perfectly functioning competitive markets. Given that market power and market imperfections are intrinsic to a market economy, it makes sense to see economic regulation more broadly - as the set of rules within which businesses make investment, production and supply decisions. Viewed in this way, competition enforcement is part of economic regulation.

While in a 'mature' or 'developed' economy regulation may be presented as relatively limited in scope – only for those parts of the economy where natural monopoly elements remain – in a developing economy such as South Africa, where the provision of infrastructure itself is part of a skewed economy, the role for economic regulation cannot be divorced from economic policies to change the development path. Even in developed economies where it had been widely believed that regulation would 'wither away' as competition developed, it has become evident that regulation is required to ensure the competitive space remains open and to govern aspects such as access to critical infrastructure. 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.[1]

Influencing the structure of incentives, including prices, is a critical part of industrial policy to alter the development path (see, for example, Amsden, 1997). Regulation is part of these

[1] At least, in static terms.

choices, for example, in deciding about relative energy prices, incentivising renewable energy and about pricing and access to transport infrastructure. There are thus fundamental choices at the heart of economic regulation.

Economic regulation is generally understood as *ex ante* because it sets up the 'rules of the game' in advance, for a set period of time. Regulators seek to ensure that a fair return is earned on investments made but not an exploitative one while incentivising innovation and investment (Newbery, 1997). Competition law is part of the wider set of economic regulations although its provisions also seek to change behaviour by penalising contraventions evaluated on a backward looking, or *ex post*, basis. Countries vary significantly in the standards they adopt in their competition law, as in economic regulation more broadly (Roberts, 2004a; 2010).

Choices about economic regulation and competition law can be likened to deciding on the 'economic constitution' of a country (Gerber, 2010). These are part of a set of rules and institutions which influence who has access to economic opportunities and on what terms and whether, in the terms of Acemoglu and Robinson (2012), the economy tends towards being inclusive or extractive.[2] It is about processes *and* outcomes.

We start by briefly reviewing the theory and practice of regulation in section 2, together with a comment on previous reviews undertaken of regulation in South Africa. We then explore the relationship between regulation and economic development, in sections 3 and 4. Section 3 addresses questions of access and participation in the economy as they relate to economic regulation while section 4 discusses issues of economic structure and industrial policy, including in the South African context. Section 5 concludes and motivates the research agenda.

2. Theory and practice of regulation

The case for economic regulation is premised on the existence of significant market failure resulting from economies of scale and scope in production, from information imperfections in market transactions, from the existence of incomplete markets and externalities, and from resulting income and wealth distribution effects (Jalilian et al., 2006). The most widely regulated markets are natural monopoly markets, where regulators impose limitations on monopoly behaviour regarding price, quantity or entry and exit into the market. The two critical variables that regulators have controlled is price and the number of firms. These variable are critical as price and the number of firms are the key determinants of both allocative and productive efficiencies (Viscusi et al., 2000).

Regulation theory can be viewed from several perspectives. The normative perspective seeks to determine when regulation should be introduced and what optimal regulation should be while the positive perspective focuses on economic, political and legal forces that lead to regulation, and influences the institutions and their performance (Joskow and Rose, 1989).

The performance of economic regulators is dependent on a variety of factors including the

[2] Acemoglu and Robinson note that the antitrust law enacted in the USA over 100 years ago was at the behest of farmers who argued for checks on the power of the trusts to which they were subject for many of their inputs.

motivation for regulation, the nature of the regulatory instruments, the structure of the regulatory process, the industry's economic characteristics and the political environment (Joskow and Rose, 1989). These factors will determine to what extent the benefits of regulation are maximised and the costs minimised. Note that positive externalities and social discount rates that are lower than private discount rates imply on-going state support for investment in expanded provision and pricing (as we discuss further in section 4 below).

When an industry is regulated, industry performance in terms of allocative efficiency and productive efficiency is co-determined by market forces and administrative processes. Thus it is important have effective regulators. The performance of economic regulators is assessed on the quality of the outcomes as well as the process of regulation. The outcome can be assessed on yardsticks of effectiveness and efficiency. Effective regulation achieves the policy objectives set by government for the regulator and efficient regulation achieves the policy objectives at minimum economic cost (Jalilian *et al,* 2006). As noted above, dynamic efficiency considerations tend to be ignored.

The ineffectiveness of regulators is commonly attributed to four key institutional weaknesses namely: limited regulatory capacity; limited accountability; limited credibility; and, limited fiscal efficiency (Estache and Wren-Lewis, 2009; Laffont, 2005).

Limited regulatory capacity is often observed where there is a lack of resources, preventing regulators from employing sufficiently skilled staff. In developing countries there is also a scarcity of professionals with specialised training in regulation. If the regulator is staffed with inexperienced non-specialists, it is less able to extract information from the firm. In these circumstances careful consideration must be given to the incentives of the firm to provide information to the regulator.

Where there is limited accountability, collusion between the government and various interest groups is more likely to occur and illegal transfers between the firm and the regulator are less costly.

Limited credibility flows from lack of, or limited, commitment. There are three different types of commitment problems that can arise, namely, renegotiation, non-commitment, and limited enforcement (Estache and Wren-Lewis, 2009). Long term commitment to regulatory rules is important to encourage private investment in infrastructure. However, governments are often perceived as being susceptible to lobbying and thus the independence of regulators becomes important. An independent regulator may increase commitment as it may hold a different objective function from the government.

It is generally accepted that regulators should be free of conflict of interest and thus should be independent from the regulated companies and consumer representatives. The core role of regulators is to implement government policy through the administration of regulatory instruments. This must be done in a manner that is predictable, consistent and firm, to encourage private capital in regulated industries. To achieve this the regulators must be independent from government ministers who may be susceptible to lobbying and fluctuating short term pressures.

The final institutional weakness is limited fiscal efficiency. Where the ability of the consumers

to pay tariffs at a level that will ensure cost recovery is limited, the onus is on the government to collect adequate revenues to allow for subsidies. However, limited fiscal efficiency will mean that governments are not in a position to finance high levels of subsidies. Fiscal efficiency is also important for capacity of the regulator.

South African economy

Prior to 1994, energy, water, telecommunications and most transport services were run by public utilities and state-owned enterprises. Post-1994 and in line with international best practice independent regulators were established and entities were corporatized. The intention was to reduce the role of government in these industries, through restructuring, competition and privatization and to have regulatory oversight to ensure the efficient development of these industries. This was presented as part of an agenda which emphasised the potential role that the private sector can play as a source of 'pro-poor growth' (Basten, 2007). In this, the state's role was cast as creating the legal and regulatory framework for private sector enterprise. To accomplish these objectives a regulator must be effective and efficient. However, such an agenda does not take into account the influence of history on who has the ability to participate in the economy nor how entrenched interests can protect their position.

The South Africa context is characterised by the legacy of apartheid, namely inequality and poverty. This calls for emphasis to be put on policies and services that will address these challenges. In respect of regulation and competition, competitiveness and efficiency must be pursued, while simultaneously ensuring access for those that were previously denied equal opportunities to participate in the economy (Schwella, 2002).

There has been substantial work done to review the performance of regulators in South Africa, we reflect on the key findings of earlier reviews. The different studies that have reviewed South African regulation appear to have common themes with regard to their findings namely: a lack of policy coherence regarding the regulators; limited capacity of the regulators; and, insufficient impact on national objectives. These factors are similar to those identified by Laffont (2005) as the institutional weaknesses that hinder the success of regulatory institutions.

In 2003, the South African presidency commissioned a study to assess the effectiveness of specific regulators established post-1994.[3] The study undertook a detailed analysis of the sectors covered (telecommunications, electricity and transport). It emphasised the lack of policy coherence with regards to regulatory design, mandates and approaches to regulation. The authors recommended improving regulatory efficacy within the existing structural and policy framework, with a focus on independence of regulators and regulatory capacity (see Steyn, 2012 for a detailed discussion of the findings). As part of the review process a 'Consensus development paper' sought to establish agreement on the regulatory model that should be adopted in South Africa. However, the main finding was that there were key weaknesses in South African regulators without properly considering why.

[3] This was linked with the Presidency's 10 Year Review.

In the same year National Treasury commissioned a series of studies on administered prices.[4] These studies highlighted the importance of: coordinating price regulation with national policy objectives; ensuring that prices are set at efficient levels to avoid excessive demand (and over investment in supply) or too high price levels resulting in underutilisation of infrastructure; and, of ensuring that regulators are properly resourced.

In a paper on the performance of Eskom's investments in power sector infrastructure Steyn (2006) highlighted the need to ensure transparency of the economic assessment of SOE infrastructure investment plans and for empowering economic regulators to vet such decisions. A review of telecommunications for the 15 Year Review (Hodge et al., 2008) found that there has been some success in terms of costs of voice calls, however, there were still significant challenges facing access.

In 2011 a FRIDGE study reviewed existing studies related to the drivers of administered prices to identify the factors driving administered prices in South Africa and understand the economic implications of administered pricing decisions in the country. The study identified concerns related to limitations in the mandates, power and capacity of regulators to exert effective control over prices and promote efficiency. Among other recommendations the study highlighted the need for greater focus on the economic impacts of administered pricing decisions and an assessment of the effectiveness of administered pricing in terms of its contribution to national objectives.

In summary, the various reviews found that regulatory frameworks have been developed on an ad hoc basis and are often inconsistent; regulatory decisions are sometimes unpredictable, arbitrary or of poor quality; tariff increases are often high, but may still be insufficient for investment; regulators are unable to review new market entry and new capital projects effectively; regulators are unable to protect consumers against poorly executed SOE project overruns; and, regulators are not effective in preventing monopoly abuse.

3. Regulation, competition, and inclusive growth

Traditionally economic regulation is viewed as the control of market power in instances where competition is either not possible or is not desirable, while competition law is presented as being about addressing structural changes (mergers) and anti-competitive conduct in the absence of which there would be competition (de Streel, 2004; Lang, 2009). This fits neatly with the distinction drawn between the *ex-ante* nature of regulation and *ex-post* nature of competition law intervention in markets. However, this is at best over-simplified. Regulation may be forward looking in effect, but it is based on a backward looking analysis of information and data. And, while competition enforcement addresses past practices which may have contravened legal provisions, it does so to influence conduct in the future. Moreover, competition remedies include those that are essentially regulatory, such as in mandating access. Regulation is also required *for* competition in, for example, ensuring access to essential facilities or inputs. Regulation and competition enforcement are thus obviously over-

[4] See Teljeur *et al* (2003)

lapping and should be mutually reinforcing.

There are reasons why regulators may not pay as much attention as they should to the opening up economic opportunities. Regulators by their nature engage with a small number of large firms on which they develop detailed information and with which they have extensive interactions. The relationships that develop will naturally lead to an appreciation of the firms' capabilities, the importance of the incumbent(s) in ensuring security of supply, and a tendency to under-estimate the value of opening up to new rivals.

The relationships which form will therefore tend to reinforce the influence of entrenched interests, including SOEs and privatised incumbents, who can set themselves up as custodians of ensuring supply is not compromised. They can also take on the mantle of meeting development objectives. But, there are likely to be substantial dynamic benefits from enabling increased participation. These include new ideas, creative solutions, and improved service, quality and product offerings. In addition, increased participation should not be confused with debates about ownership. The alternatives may well come from co-operatives and local governments, in addition to private firms. Given the incumbent's advantage, however, opening up the space implies regulating *for* competition.

While it will intrinsically be less stable in the short term, greater access and rivalry generates information for the regulator, and tests assumptions in the established system which can make it more robust in the longer-term. There are examples of auctions in the area of renewable energy which will be studied as part of the project. Competitions that are set up through regulation can also determine that criteria other than purely financial ones can be used to allow access.

The ability of entrenched incumbents to deter entry suggests that regulation can extend beyond what are defined as pure natural monopoly areas.[5] In practice, it tends to be the case that regulation is associated with formerly state-owned industries yet the persistence of quasi-monopolies in some other industries provides a rationale for regulation to open up access. This could take the form of competition enforcement regarding access to essential facilities. Where a single incumbent or group of incumbent firms has a long established position, they are likely to have established arrangements that favour their position and make it more difficult for entrants and smaller rivals. As such, it is important to understand the way in which competition works in practice and to guard against over-simplifying it, for example, by simplistically seeking to separate natural monopoly elements for the regulator and assuming there will be 'free' competition elsewhere (Helm and Jenkinson, 1998: 2).

Choices about competition law and about regulation ought to be considered together in terms of rules governing the decisions of firms, to reward effort and innovation, rather than incumbency, and to open up sectors to new entrants where feasible. A critical view needs to be taken of regulatory provisions – both with regard to the existing framework and with regard to the potential for proactive regulation to support increased participation. Regulators are part of a set of rules and institutions which influence who has access to economic opportunities and on what terms, and whether economic access is unduly limited allowing extraction of rents

[5] See, for example, Geroski and Jacquemin (1984) on the durability of dominance.

from established incumbency (see North et al., 2009; Acemoglu and Robinson, 2012).

In reviews of the South African economy, the high levels of concentration and the ability of incumbent firms to undermine effective rivalry have been commented on (see Chabane et al, 2006; OECD, 2013; Roberts, 2012). The need to pay critical attention to increasing participation and opening up access is all the more important given that many, if not most, of the very large firms in South Africa owe their position in substantial measure to former state support under apartheid.

4. Regulation and economic development

The development of the economy is about its changing structure and the nature of economic growth. More developed economies mean improved productive capabilities, associated with more complex and sophisticated production and higher levels of education and physical capital.[6] This is about the inter-related decisions of firms and governments, particularly regarding investment (see, for example, the Spence Growth Commission, 2008; Page, 2012). Well recognised market failures and path dependency underpin the motivation for industrial policy as a set of measures to alter the structure of the economy (for example, Cimoli et al., 2009).

Economic development is also generally associated with the ability of a country's population to meaningfully participate in economic activity, to have some control over their own livelihoods and future well-being (as in Amartya Sen's conception of 'Development as Freedom'). Distributional implications are clearly important here.

Economic regulation, as the regulation of firms with entrenched market power, is therefore evidently at the heart of questions of economic development. The regulation affects the investment by these firms, including in economic infrastructure by natural monopolies. The conduct of regulated firms, in terms of both the investment in expanding networks, services and production and the pricing of the goods and services, shapes the decisions of other firms to invest in productive capacity.

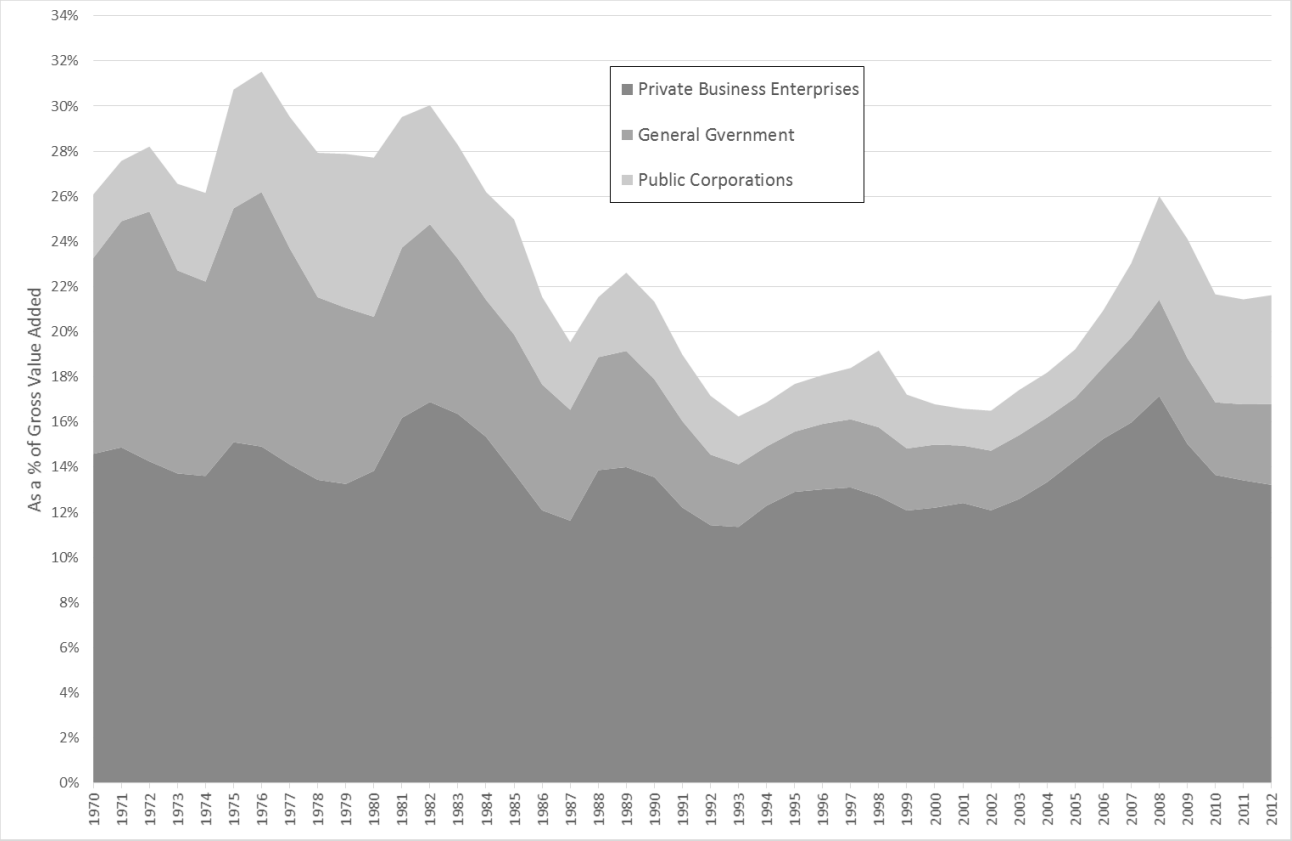
The South African economy is one where economic activity has been powerfully shaped by the past decisions around economic infrastructure under apartheid. Broader productive capabilities were deliberately not supported, and a very skewed economy resulted where economic infrastructure was oriented towards a narrow advanced economy, with a high dependence on revenues generated from mineral extraction and related processing. For example, there was investment in railway infrastructure to grain silos, coal mines and cement plants and for mineral exports such as through Richards Bay (the largest coal terminal in the southern hemisphere). Electricity generation and transmission also served mines and heavy industry, mostly processing minerals (such as large metal smelters) (see Fine and Rustomjee, 1996). White commercial farmers were also well served with water, storage silos and electricity for grain milling (a substantial proportion of which was done by agricultural co-operatives). However, the grand apartheid policy to bar the black population from most economic activity

[6] Fagerberg et al. (2007); Sutton (2012); Imbs and Wacziarg (2003)

and to restrict education meant blocking the development of diversified productive capacity.

Industrial policy since 1994 has been oriented towards broader-based sustainable economic growth in an attempt to confront the apartheid legacy. This has been associated with attempts to stimulate higher levels of investment. However, other policies, specifically macro-economic policy, worked in the other direction in that fiscal considerations meant low levels of public sector and SOE investment (Roberts, 2004b). Investment rates in the economy fell sharply over the 1980s and public sector and SOE investment rates remained low and even shrank further inn the 1990s, measured as a % of GDP (Figure 1). From the mid-2000s there was some recovery in private investment with overall investment remaining below the benchmark of 20% of GDP until 2006. There was then an increase in investment by public corporations at the end of the decade, but the levels of public investment were still far below the levels of the 1970s.

Figure 1: Investment rates, as % of Gross value added



Source: South African Reserve Bank

Regulation and investment in infrastructure

The private sector will generally under-invest in network infrastructure which has meant that typically these businesses have been state-owned while the large investments in expanding the infrastructure have been made. The reason for private under-investment is that there are positive externality effects and the private discount rate is higher than the social discount rate.

The positive externality effects mean that the returns to the economy (in terms of the value of all the activity that is enabled by the infrastructure) are higher than the returns that can be captured by the infrastructure provider in the pricing of the service to the individual user. We may also collectively place different value on the distribution of economic activity (including in spatial terms) than a private investor - who has little reason to place any weighting on distributional considerations.

A private investor discounts future returns by a measure of the time value of money (such as an interest rate that can be earned). An investment with returns far into the future will be less valued than one earning short-term profits. However, collectively we care about the future for ourselves and future generations, that is, the social discount rate does not reduce the value of future returns by as much as a private investor would do. This has major implications for investment decisions. It also matters for the value placed on pollution and, by implication, on investments in renewable energy.

In addition, infrastructure provision is typically a natural monopoly - where network and scale economies mean only one provider as otherwise there will be wasteful duplication of costs. The monopoly position means a profit-maximising owner can charge a monopoly price and earn supernormal profits. Some form of regulation is required if the firm is not to abuse its position.

What is less well appreciated is that for a natural monopoly even a price which only covers average total cost is likely to be considerably above the cost of supplying an additional customer. At such a price means there is unsatisfied demand in that there are consumers that place a higher value on the additional supply than the cost of that supply. But, lowering the price to this level means that the cost of the investment will not be recovered (and a subsidy would be required).

All of these considerations mean that decisions around investment in expanding infrastructure are part of the state's role in the economy, as they are effectively part of wider decisions about public finance and taxation. This needs to be distinguished from where infrastructure is relatively mature and lower levels of investment are required. It is no coincidence that the move to privatisation and a narrower focus on regulation to restrict market power has been adopted by countries that have already industrialised and where economic infrastructure, such as for transport, water and energy, has already been rolled out. Economic growth is also much less energy-intensive as heavy industries move to developing countries. Shared infrastructure needs such as in public transport are also made largely at the level of metropolitan areas, where local government plays the major role.

For South Africa, the skewed nature of the economy and infrastructure provisions means especially difficult choices. Viewed as a whole, there are large infrastructure backlogs, however, for the centres of established economic activity there is generally very good provision already. Financing the expansion of infrastructure implies raising the revenue either in taxation or through cross-subsidy in higher charges on existing users as, by implication, the existing pattern of economic activity means user charges in the under-provided areas will not finance the investment. In the absence of financing the investments, the structure of the economy will remain substantially the same in spatial and sectoral terms.

It should be noted that a focus on ownership as such may obscure the important choices. Where, as has been the case in South Africa, entities are corporatized and managers are incentivised according to financial performance measured in the short-term then their private incentives militate against considering long-term implications. For example, it appears as if such an approach led to senior Eskom management cutting back on maintenance and reducing coal stocks both of which cut costs and raised short-term financial returns (and therefore their own bonuses). However, the implications in the medium and longer-term were negative for the economy.

Conversely, it is possible to have private ownership with incentives that are in line with social returns. For example, private investors can bid to supply services for a given subsidy, or bid to supply a specified service at the lowest subsidy. This requires specification of the contest to ensure that rivalry between providers (whether for the market, or in the market) is in line with social returns. An example is the bidding for renewable energy which has brought down prices (and thus the implied subsidy to renewable energy measured as the price premium over coal generation).

Regulation and industrial policy

The existing infrastructure provision and its pricing are closely linked with the structure of the economy. Policies to change the structure – to a more diversified and labour-absorbing industrial base – cannot be divorced from considerations about infrastructure.

Moreover, patterns of provision and pricing are associated in ways which can continue to work in the opposite direction. A striking example of this is in electricity. Over-investment by the apartheid state in the 1970s based on their forecast of growth meant idle generation capacity. This in turn meant pricing below cost, *particularly* to heavy, capital-intensive industry. In effect, the earlier decisions around generation investment meant a (further) subsidy to exactly the industry (such as smelters) from which South Africa needs to move away. As these industries are export oriented the electricity pricing meant an export subsidy to capital-intensive industry implying exchange rate over-valuation working against the competitiveness of more labour-intensive tradable activities. Altering the structure of incentives to reflect a fundamental change in priorities implies major and disruptive changes.

Infrastructure development has been a priority for the South African government in the last decade. This is in recognition of the need for a relatively good core network of national economic infrastructure. The New Growth Path highlights the important role that infrastructure investment must play, building on the earlier ASGISA plan. The National Development Plan emphasises the need for the maintenance and expansion of current infrastructure to address the demands of the growing economy. This follows the acknowledgement of the constraint placed on the economy by inadequate investments and ineffective operation and maintenance of infrastructure.

The Industrial Policy Action Plan (IPAP) has identified that South Africa is faced with challenges that undermine the industrial policy efforts such as: sharply escalating administered prices; high port charges for the export of value-added goods; inefficiencies in rail and port freight logistics; and, high input costs for the manufacturing sector. These factors relate primarily to the utility industries and emphasises the need for policy coherence between

the regulation, competition and other government policies in order to achieve the developmental objectives. The challenges identified in IPAP mirror the sentiments of the National Industrial Policy Framework (NIPF) which calls for a stronger role for both competition policy and sector regulation particularly with regard to input costs, such as utilities and raw materials, for the diversified manufacturing.

5. Conclusion: mapping the key questions

Existing studies have typically listed a set of factors which explain why the outcomes of regulated industries have not met expectations. These are drawn together in the critical review of Steyn (2012), as follows:

- Ministers and senior government officials often undermine separation of powers established between policy, SOE regulation, and corporate governance
- Finalisation of policy and regulatory frameworks often subject to inordinate delays
- Policy makers often do not understand role for, and strategies to achieve, market based competition
- Fundamental policy contradictions often left unresolved
- Mandate given to SOEs often too broad
- Regulatory accountability is limited
- Regulatory independence compromised by nature of appointments
- Regulators do not have proper control of secretariat supporting them
- Regulators often under-resourced
- Regulators generally fail to implement modern performance and talent managements practices
- Regulatory methodologies are inconsistent and subject to frequent change
- Regulators suffer from a dearth of teaching and research capacity in field of regulatory and infrastructure economics

Our approach is different. Rather than itemising the gaps between the practice and an ideal world we seek to understand the development of the regulatory framework (defined broadly, to include governance of SOEs) and of regulatory institutions at a somewhat deeper level in terms of the competing interests and their influence. In such a world, policy contradictions and using delaying tactics as a form of opposition are not surprising. Instead of a notional independence, it is more useful to think of whether institutions have relative autonomy, and perceived credibility and legitimacy – which in turn depends on how they take into account the needs of different groups.

These considerations require assessing the record at a disaggregated level. For example, rather than simply considering changes in average electricity prices, the prices charged to different groups of users is important. Similarly, the investment (or lack thereof) in expanding services is relevant.

The assessment also obviously depends on what standards are used. If one sets a standard of financial viability the record will be assessed in one way; if the standard is pricing to existing customers it will appear in another light; and, if it is the expansion of infrastructure then a third view will be presented, of the same record. Where groups in the economy have been affected

differently, then answers will differ according to who has been impacted. We can also ask who has been involved in the economic activity and to what extent opportunities have been opened up. It is not just about whether mobile phone services have been rolled-out, but who has offered them and earned the return?

These different ways in which the record is assessed effectively then set the agenda for questions about causality.

To gain a deeper understanding of the processes at work, the studies take focused case studies, located in a broad overview of the sector developments. Where possible, comparative data will be reviewed to allow for a relative assessment of the performance over time.

Two core concerns underlie the assessment:

- The imperative for higher levels of investment to alter the long-run development path of the economy, taking into account externality effects and reflecting a social discount rate that values the future more highly than a typical private rate

- Increasing access and economic participation

This means going beyond a static analysis which is premised on prices reflective of average costs to where social objectives are taken into account. We ask in what ways such objectives have been incorporated. Why did government subsidise or support certain investments and not others?

A focus on investment decisions needs to consider both project selection and project execution. What capacities do regulators and government departments require in order to be able to critically evaluate the performance of regulated entities in these terms? And, what explains the often observed large cost over-runs and delays in implementation? This in turn raises issues about whether incentives within SOE are aligned with long term developmental goals, and what governance arrangements exist.

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