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**The Determinants of Regulatory  
Effectiveness in Liberalised Markets:  
Developing Country Experiences**

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**Gertrude Makaya**

University of the Witwatersrand, Johannesburg

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# **The determinants of regulatory effectiveness in liberalised markets: developing country experiences**

**Gertrude Makaya (WITS)**

## **Introduction**

The past two decades have witnessed far-reaching reforms in the provision of telecommunications services. Before the 1980's, telecoms services were mainly provided by state-owned enterprises and in rare cases by private monopolies with territorial or functional licenses. The 80's saw the role of the state being increasingly changed from that of service provider to that of regulator and policymaker. These developments were a result of technological changes that enabled some segments of telecommunications to be subject to competition. Regulatory reform was also often undertaken by governments as a strategy to attract investment in the sector to enable increased telephone penetration. Developing countries also faced pressure from Bretton Woods institutions and other international organisations to liberalise their markets. Liberalisation, privatisation and deregulation thus became the order of the day (Frempong and Atubra, 2001).

This paper deals with an issue that is often mentioned as an afterthought in discussions of regulatory reform: regulation and regulatory institutions. A review of a recent collection of writings on privatisation in developing countries reveals that little detailed work has been carried out on the experience of regulation (Makhaya, 2001). This tendency to overlook regulation is worrying as a study on developing countries found that the most disturbing issue in telecoms reform is the slow pace in developing regulatory capabilities (Achterberg, 2000). It is now a well-accepted fact that liberalisation and/or privatisation of utilities such as telecommunications requires post-reform regulation for various reasons. These industries are characterised by natural monopoly in some segments; local calls are a well-cited example. Regulation is needed to protect consumers in areas that, even with modern technology, are still not contestable. In areas that can be opened up to competition, there are barriers to entry due to the nature of capital investment required and incumbency advantages such as customer loyalty. Competition has to be nurtured and the regulator has the power to influence the development of competition and the form it will take (Helm and Jenkinson, 1998).<sup>1</sup> Regulation is also needed to ensure that license obligations (e.g. quality standards, interconnection) are met and to monitor the performance of any social obligations that firms have to undertake. Most importantly, regulation is needed to ensure that competition emerges in the sector. Without proper regulation, abuses of market power can go on unchecked and competition stifled.

It should also be acknowledged that privatised infrastructure facilities continue to occupy a strategic role in an economy: they have links to growth, poverty and the environment and regulation has to be put in place to deal with these externalities (Naidu, 1995). Telecommunications form the backbone of the knowledge economy. It is an important provider of income, employment and is a determinant of a nation's competitiveness (Chowdary, 1998). Public investments in communications and transport have been linked to economic growth.<sup>2</sup> Community economic development also flows from increasing access to telecommunications: job creation, job maintenance and the creation of home-based industries are all facilitated by access to telecommunications. All the countries that are mentioned in this discussion regard competitive

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<sup>1</sup> This observation was made for the UK experience.

<sup>2</sup> A study of 119 countries spanning the 1960 to the 1980s found a strong correlation between economic growth and public investment in transport and telecommunications (Easterly and Rebelo, 1993).

prices for telecommunications services as an important policy goal, given the linkages of the sector to production in other sectors.

The issue of regulation is particularly relevant to South Africa at this stage as the telecommunications industry is undergoing restructuring. Various policy directives have been issued to determine the course of the sector's development. The development of regulatory institutions is thus a crucial matter that needs to be adequately addressed. The regulator has various important functions to perform in this period of transition and beyond. Thus it is a cause of concern that ICASA is perceived as weak and under-resourced (Business Day, 01 February 2001). Policies such as market liberalisation and privatisation can lead to sub-optimal outcomes if the right institutions and processes do not exist. A study by Wallsten (1999) demonstrates that privatisation without competition can have negative effects. Wallsten performs a regression using data from 30 African and Latin American countries between 1984 and 1997 to show that privatisation, by itself, is negatively correlated with mainline penetration and connection capacity. Only when a strong regulator and competition accompany privatisation do gains such as increases in per capita main lines, increases in payphones and decreases in local price calls begin to emerge.

Most discussions of regulatory reform often assume that the appropriate regulatory institutions exist without exploring the validity of this assumption. This paper will attempt to identify the main determinants of regulatory effectiveness, especially in the context of setting up new institutions. The discussion will include a comparative study of the development of regulatory institutions in Ghana and Malaysia and the lessons these countries hold for South Africa. The paper will begin by a brief outline of the countries and their efforts towards regulatory reform followed by a discussion of what is meant by an effective regulator. The paper will then provide a comparative study of the determinants of regulatory effectiveness followed by a concluding section.

## **Methodology**

This paper presents a case study of two countries that have grappled with regulation in their telecommunications markets. The case study approach does not allow one to draw general principles, but allows for a process where one can gain insights from experience. The purpose of the case studies is to shed light on the important issues through examining the actual experiences of countries. A lot has been written over international best practise in regulatory reform yet work also needs to be done that focuses on what actually happens when countries attempt to implement these models. Developing countries were chosen for the study, as it is important to examine how ideas that were first applied in countries such as the United Kingdom fare in lesser-developed settings. Developing countries also face unique challenges such as introducing private ownership and competition whilst still having to deal with low service penetration rates.

The two countries that are discussed are very different in their approach to reform and some of these differences can be attributed to their political economies. In the concluding section, South Africa's experience with regulation will also be briefly discussed. The two countries were chosen for various reasons. Both are developing countries that are further down the road with regulatory reform. They both face similar challenges to South Africa. The way the countries have allowed their institutions to evolve also holds interesting lessons for South Africa. The theory of regulation has attracted contributions from various 'branches' in economics and other disciplines. This paper relies mainly on contributions from transaction cost economics, political economy and industrial economics. The material for the cases was collected from a combination of secondary

and primary sources. Interviews were sought from the key stakeholders in the sector.<sup>3</sup> The regulatory institutions in developing countries are still relatively new thus information about their functioning is not readily available. The telecommunication sector is also undergoing fundamental changes with a lot at stake, making transparency a delicate issue. This paper is in some ways a preliminary account of the experiences of regulatory institutions in Ghana, Malaysia and South Africa and it will be interesting to see how these institutions develop.

#### **Malaysia<sup>4</sup>**

Telecommunications sector reform in Malaysia occurred in two stages, the first of which was in 1987, when the national provider was corporatised. The second stage was in 1990, when a stake in Telekom Malaysia was offered for public listing, with the government remaining as the majority shareholder. It should be noted that there is no significant foreign ownership in Telekom Malaysia. An interesting feature of the policy framework is the 'golden share' provision, which ensures that the government has to sanction all major policy decisions of Telekom Malaysia.

When the telecommunications market was reformed in the late 80's, the emphasis was more on corporatisation rather than competition. The telecommunications market in Malaysia is estimated at R14bn in year 2000 in terms of company revenue. Telekom Malaysia represents 60% of this figure. The competition provisions of the former act were simply not invoked and the country does not have a competition regulator<sup>5</sup>. However, measures such as the Equal Access policy have been introduced to the sector to encourage competition. The first phase of Equal Access enabled consumers to dial a three-digit prefix so they can be routed from Telekom Malaysia's lines to a service provider of their choice. The second phase, which has been delayed, would enable pre-selection of carriers. It should also be noted that Telekom Malaysia is dominant in basic services and online services, but faces stiff competition in mobile. In 1999, it only ranked fourth in terms of market share in the mobile segment (Malaysian Communications and Multimedia Commission, 1999).

The lack of emphasis on competition is reflected in the development of regulatory institutions in the country. Until 1998, the regulator was a government department, staffed by former employees of the SOE after restructuring. The agency focused on technical as opposed to economic regulation. The Ministry, in pursuit of general economic aims undertook most of the economic regulation. For example, the price of local calls was 13 cents, irrespective of duration, between 1982 and 1996. This is characteristic of the political economy of the country, where the state is strong and intervenes in various sectors to achieve the goals set out in periodic national 'plans'.

A new regulatory framework was announced under the Communication and Multimedia Act of 1998 and the Malaysian Communications and Multimedia Commission Act of 1998. These acts reflect a move towards economic regulation by an autonomous regulatory agency. This arrangement is more in line with best practise yet it should be acknowledged that the country achieved a lot under the previous regulatory regime. Teledensity in Malaysia more than doubled in the period between 1990 and 1998. Annual telecommunications investment rose from \$471.27m in 1991 to \$2 191.45m in 1997 (ITU Yearbook of Statistics). The official line on the

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<sup>3</sup> In Malaysia access was more difficult and interviews were granted by the regulatory agency and the Multimedia Development Corporation. In Ghana, the regulatory agency, the former Minister of Telecommunications, the former chief executive of Ghana Telecom and the second network operator granted interviews.

<sup>4</sup> See appendix for detailed figures for the country.

<sup>5</sup> From interview with senior regulatory officials.

new regulatory framework is that change was necessary to reflect convergence in information technology, broadcasting and telecommunications. The changes are also said to bring forth a new era of 'self-regulation' where industry will be more involved in regulation, creating various forums for dealing with regulatory issues. The new model has four key regulatory principles: transparency, less rather than more regulation, flexibility and a focus on generic rules or technology neutrality.<sup>6</sup> The division of roles is such that the Minister issues licenses and imposes license conditions in addition to making policies and setting priorities for the sector. The Commission monitors and enforces compliance with legislative and license requirements. The regulatory framework in Malaysia has thus evolved towards less regulation, after a period of intervention.

## **Ghana<sup>7</sup>**

Liberalisation in Ghana began in 1990 and gained steam in 1994, with the launch of the Accelerated Development Plan by the Ministry of Transport and Communications. This served as a blueprint for liberalisation, stating goals such as improved reliability of service, increased access to telecoms and competitive pricing (Frempong and Atubra, 2001). Ghana followed the conventional route of corporatising the state-owned enterprise, selling a stake to foreign investors and licensing a second network operator, Westel.<sup>8</sup> The two operators have similar rights. Both were given exclusivity over voice telephony in exchange for some rollout obligations. The NCA Act of 1996 established the regulator for telecommunications and broadcasting, the National Communications Authority. The authority became operational in 1996 and has the power to issue licenses, to allocate and regulate frequency, to provide guidelines on tariffs and to offer policy advice and development strategies. Thus the authority enjoys the requisite legal backing to carry out its functions (Frempong and Atubra, 2001).

It is not clear whether the reform was successful. Ghana Telecom, the incumbent, has certainly become very profitable and has engaged in the rollout of public payphones, greatly aiding universal access. The second network operator has failed dismally to make in-roads into the sector, mainly due to internal struggles. Thus the standard model, which emphasises the gradual introduction of competition through licensing new players, failed in practise. Westel is partly owned by the state's petroleum company and the future of this shareholding is subject to speculation. The company also claims to have been delayed by disputes over interconnection as it took a year for it to settle interconnection with Ghana Telecom.<sup>9</sup> Lack of clarity over interconnection also does not bode well for the emergence of competition. As of July 2001, both companies had not satisfactorily met their license targets and there was a general perception that the regulator will not enforce the penalties stipulated in licenses. The regulator faces various challenges concerning the development of the sector. The country has low teledensity. Main telephone lines per 100 inhabitants increased from 0.29 in 1990 to 0.75 in 1998. The sector also suffers from poor quality mainly because Ghana Telecom's expansion plans did not take into account the capacity constraints of the network.

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<sup>6</sup> See Country Status Report at the Asia Info-Communications Council.

<sup>7</sup> See appendix for detailed figures for the country.

<sup>8</sup> This consortium is led Western Wireless International from the United States. The other members are Ghana National Petroleum Corporation and the Adesemi Communication Group based in Massachusetts.

<sup>9</sup> From interview with senior employees at Westel.

## **What is effective regulation?**

The literature on regulation does not offer precise yardsticks for measuring regulatory effectiveness. On a basic level, it can be argued that the regulatory agency should facilitate the accomplishment of policy goals with regard to the sector. Regulatory reform is often undertaken for some public policy objectives such as increasing teledensity or increasing investment in a sector. The regulatory regime has to make sufficient provision for the attainment of these goals. Problems may arise where the objectives are not clearly stated or where they are conflicting. Achieving policy goals will normally involve promoting effective competition and protecting consumers. The regulator will also be responsible for the realisation of universal service and other social aspects of telecommunications.

The effectiveness of a regulatory agency can also be 'measured' by its efficiency, its ability to arbitrate and its ability to retain human capital.<sup>10</sup> A regulator should be able to play the necessary roles, as stated in its enabling legislation, satisfactorily. It should engage in constant monitoring of the sector, serve as an arbitrator and provide the necessary legal guidelines. It is the duty of the agency to provide a level playing field for all the actors in the market (Atruba and Frempong, 2001). Others have argued that successful regulation should be simple and predictable (Veljanovski, 1991). An efficient regulator has been described as one that achieves its mandate at least cost. Efficiency can also be defined as regulation that leads to efficient results. For example, it should encourage innovation and investment.

## **The determinants of regulatory effectiveness**

### *Political Will*

One of the most important determinants of the success of a regulatory agency is political will. By this, I mean a commitment by the relevant Ministry to creating a strong, efficient capable regulatory agency.<sup>11</sup> Successful reform requires a strong regulator who is able to balance the demands of different interest groups. Yet the state may find it to be in its own interest to create a weak regulatory agency, allowing it to favour the interests of certain interest groups, sometimes at the expense of the public interest (Abdala, 2000).

The case of Ghana clearly demonstrates how a lack of political will can undermine the capabilities of a regulatory agency. Ghana set out to liberalise telecommunications with the hopes of achieving greater competition in the market, efficiency in service provision, private sector led expansion and improvement of services nationwide and the establishment of a modern, transparent regulatory framework (Republic of Ghana, Investor Presentation, 1996). The need for an effective regulator was acknowledged very early in the process of regulatory reform, signalling a good start to the process.

Yet the government failed to act according to its own stated objectives as it delayed to appoint the Board that governs the regulatory agency, the National Communications Authority (NCA). The Board performs a variety of very crucial roles as stated in legislation. These include appointing staff to the regulatory agency, allocating licenses and approving the agency's budget. Legislation provides that if the Board does not exist, the Minister has to assume its roles. As the NCA Annual Report 1999 states: "The Board is not in place. The continued absence of the Board of Directors

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<sup>10</sup> This was aptly put by a senior ICASA official.

<sup>11</sup> See also Ramanadham.

thus puts a lot of pressure on the Honourable Minister who has to combine his already heavy schedule *with the direction and control of the affairs of the NCA.*”(own emphasis). In spite of the stated objective of creating an independent, transparent regulatory agency, the affairs of the regulatory agency in Ghana ended up under the control of the Minister. This debacle demonstrates the impact that politicians have on the future success of a regulatory agency.

The NCA has been unable to carry out some of its basic functions such as monitoring firms and releasing draft regulations on time due the long absence of a governing Board.<sup>12</sup> This has earned the regulator a negative image in the eyes of the public and the industry, further undermining its effectiveness. Some have argued that the previous government had an interest in keeping the regulatory agency weak. All this holds an important lesson: the creation of a successful regulatory framework and an effective regulator requires political will from the relevant Ministries and politicians.

### *Relationship between the Ministry and the regulator*

The standard arrangement after liberalisation is to leave the development of the policy framework in the hands of the Ministry whilst implementation becomes the function of the regulatory agency. This normally involves the regulatory agency developing and monitoring guidelines or regulations that will govern the industry, in pursuit of the goals articulated under the policy framework. The relationship between the Ministry and the agency should thus be supportive as the two are governed by a common vision.

International best practice calls for the creation of an independent regulatory institution, with its own funding. Various reasons are given for this insistence on independence. The government usually retains a stake in the incumbent thus a conflict of interest may arise if the state then has to regulate its own competitors. Others have argued that regulation by departments will be less likely to be questioned and scrutinised due its political weight (Ramanadham, 1994). A high level of political interference in regulatory decisions can also encourage industry to participate in rent-seeking activities (Bitran and Serra, 1998). Yet, it should be noted that the lack of formal, legal independence does not necessarily mean that the agency does not have autonomy. A semi-autonomous agency within a government can be effective. Similarly, the independence of a regulatory authority does not guarantee its effectiveness. A regulatory agency should have an arm's length relationship with government yet such autonomy should not give way to capture by industry or to a lack of accountability to the public (Bitran and Serra, 1998).

The relationship between the Ministry and the regulatory agency is an important one because any conflict between the two can be exploited by the regulated and can generally be costly. A problematic relationship often arises where the government tries to keep a firm hand over the market by creating a weak regulatory agency. This does not bode well for the development of the sector. This is the likely explanation for the situation in Ghana, where an independent regulator is still struggling to get off the ground although it has been in existence since 1997.

Malaysia has not escaped the difficulties surrounding the relationship between the state and the regulator. In an article on regulation in general, Naidu (1995) argues that although independent agencies exist in Malaysia, the relevant Minister still has ‘considerable’ influence over the policies of privatised suppliers. Kennedy (1995) confirms this view for the telecommunications sector where she argues even after liberalisation, the Minister still had significant powers over the

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<sup>12</sup> The government of Rawlings finally elected a Board soon before handing over power to the new government. The new government dissolved this Board and a new Board has been put in place.

sector; some of which she thought rightfully belonged to the regulator. The Minister could change the terms of Telekom Malaysia's operating license, had the ultimate ratemaking power and no formula for rate revisions existed. Furthermore, the Minister decided who sat on Telekom Malaysia's Board of Directors, thus having an influence over the selection of top management and the business decisions of the firm. Some authors thus paint a disturbing picture of the level of political interference in the Malaysian case. It is not clear if it is a case of excessive interference by a state infringing on regulatory jurisdiction or co-ordination by a strong state. In Ghana, there have also been reports of political interference in purely regulatory matters, such as ministerial intervention in the resolution of interconnection disputes between Ghana Telecom and the second network operator (Atubra and Frempong, 2001).

The relationship between the state and the regulatory agency also depends on the type of people that are appointed at senior management and Board levels. A successful agency will require the appointment of autonomous individuals with high integrity. In Ghana, the President appoints all members of the governing Board, excluding the Director-General, for a fixed four-year term. The Director-General, who is the chief executive of the authority, holds office on such terms and conditions as shall be specified in his letter of appointment.<sup>13</sup> This provision may infringe on the autonomy of the Director-General in the long run. The appointment of senior officials by a President is common thus the quality of people chosen will depend on whether the government is genuinely interested in creating a strong regulatory agency or not.

Regulatory institutions need to enjoy a certain degree of autonomy. Yet, this autonomy should not come at the price of less co-ordination between the policymaker and the regulator or even conflict. The regulated should never be given an opportunity to play the two entities against each other. The line between policymaking and regulation is often blurred. Given the issues that developing countries face, such as the promotion of universal access, there is no simple way of deciding where this line should be.

#### *Resources: human capital, funding, and information*

Much has been said about the importance of adequate resources to regulatory outcomes. Resources are needed to enable the regulator to carry out its mandate, including the capacity to monitor industry performance and to enforce regulations. The regulator also needs to have sufficient capacity to deal with information asymmetries and strategic behaviour by the regulated firms. Financial resources are less likely to pose an acute challenge as funds are normally raised through license fees. It is with human resources that most countries, especially developing countries, struggle. Regulatory functions often require the exercise of expert judgement, often based on incomplete and shifting information. The issue of resources is closely linked to the legitimacy and independence of the regulator (from the state and the regulated firms). An agency that is perceived as under-resourced will find it difficult to assert its autonomy and will also struggle to gain legitimacy. This can be seen at the NCA, which is still battling to fill vacant positions. In 1999, three years after its inception, the agency still did not have an accounting division and relied on the services of an accountant from the Ministry. The legal department also made use of Ministry employees. Thus the agency had been bestowed with formal independence but it still continued to rely on the government for its basic operations.

There is a tendency for agencies lacking analytical capabilities to rely on outside expertise through outsourcing. This strategy can alleviate constraints in the short run but does not nurture in-house skills and experience. Implementing a more forward-looking human resources strategy

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<sup>13</sup> National Communications Authority Act, 1996.



does have its challenges, most notably that of staff turnover. The wages the regulator offers may create incentives for staff to seek employment in the industry. This will erode the negotiating capacity of the regulatory agency. Agency staff may also attempt to increase their chances of future employment in the industry by being biased towards its interests whilst still in the employ of the regulator. This could lead to regulatory capture by the industry. A partial remedy to this could be a 'cooling off' period where former employees of the regulator are barred from taking up employment in the regulated industry immediately after leaving the agency (Bitran and Serra, 1998).

Malaysia has more resources than Ghana and has had more experience with regulation.<sup>14</sup> Yet competition regulation is new in the country and capacity strains are felt in this area.<sup>15</sup> There are enough skills to deal with the technical (in an engineering sense) aspects of telecommunications and the country has moved from being a recipient to a donor of assistance in that area. The relative weakness of the country in economic regulation should be seen in light of the fact that economic regulation was not a regulatory priority in the past. The important lesson here is that a human resources strategy has to exist to make sure that regulatory priorities can be skilfully executed. Competition is an important goal in South Africa thus the appropriate skills for economic regulation have to be developed if the goals of the policy framework are to be realised. The skills challenge in Malaysia was tackled by placing emphasis on the development of attractive employment terms and working environment. Recruitment was highly selective, a factor which enhances the prestige of the regulator. The target number of staff was not reached at the end of 1999, thus some functions had to be outsourced.

Effective regulation requires the regulator to have access to information about the industry and the firm that is being regulated, including information that will enable it to set the correct prices and the correct interconnection fees. There will always be information assymetries as the regulated firm will necessarily have more information about its cost conditions, market conditions and its actions than the regulator. The firm's cost-reducing efforts will not be perfectly known or observable to the regulator. The seriousness of the information problem is related to how fast the environment changes and how fast the regulator learns (Sappington and Stiglitz, 1987). A study on Chile found that the efficiency gains of privatisation were not passed on to consumers in the form of lower prices. This was attributed to the relative weakness of the regulator i.e limited information and technical capacity in relation to the industry. The regulator was unable to gather precise cost data from companies who were not only better resourced, but had also cultivated political alliances (Bitran and Serra, 1998).

The legislation that governs the regulator should give it the necessary legal backing to request information. For example, in Malaysia the Communication and Multimedia Act of 1998 gives the regulator wide-ranging powers to request information from individuals and companies.<sup>16</sup> The Act provides that a person who does not comply with the direction of the Commission to provide information commits an offence punishable by a fine or imprisonment for six months.

The scarcity of regulatory resources is one of the main reasons that regulatory institutions take time to strengthen in developing countries. Various approaches can be taken to meet this

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<sup>14</sup> As of July 2001, the regulatory agency had 8 economists, 4 accountants, 16 lawyers, 23 engineers and 2 technicians (from interview with agency officials). Three years after its inception, the NCA in Ghana had no economists, no lawyers, no accountants, 7 officers in the technical division and 1 senior engineer (from 1999 annual report).

<sup>15</sup> Interview with regulatory agency senior officials.

<sup>16</sup> Section 73.

challenge. The tasks that require analytical capabilities that the agency does not currently possess can be outsourced. This strategy is however, a short term one and if possible, should be executed in a way that skills are transferred to agency staff. The consultants that are used should also be carefully selected and monitored, especially concerning their relationship to the industry. The working conditions of the agency are unlikely to match those of the regulated firms yet opportunities for training and development will go some way towards attracting skilled employees. Finally, the information problem may be addressed by shifting the burden of proof towards regulated firms in processes such as rate reviews.

### *Legitimacy and Credibility*

In this section, it will be argued that for a regulatory agency to be successful, it needs to acquire legitimacy in the eyes of the regulated and the general public. Agencies should be seen as dispensing non-arbitrary decision-making and due process (Samarajiva, 2000). This is especially important since regulation will inevitably involve a lot of discretionary judgement, as it is more than just applying formulas. As mentioned earlier, the key stakeholders in the Ghanaian market, such as the SNO, do not take the regulator seriously as yet. The regulatory staff is viewed as untrained and the agency is said not to have a meaningful role.<sup>17</sup> As Samarajiva points out, negative perceptions such as these cost the regulatory agency its legitimacy. More often than not, the regulated firms start appealing to the executive or the legislature on regulatory issues. This could have the effect of undermining the regulatory agency's autonomy and ability to perform core functions.

Legitimacy is often associated with expertise yet a lot of judgement is involved in a situation of imperfect knowledge. Malaysian regulation has tended to emphasise technical expertise until recently. Yet there is more to legitimacy than being able to dispense with technocratic decision-making. A regulatory agency will gain legitimacy if it has qualified staff and encourages relevant, on-going training<sup>18</sup>. Samarajiva emphasises that the training efforts of the regulator should be publicised and communicated to the public and industry as a confidence-building exercise.

The regulatory agency will also gain legitimacy by being open. All procedures should be open and inclusive. The legislation that governs the regulatory regime or the guidelines that the agency develops should be explicit on the procedures that are to be taken to resolve disputes, to file complaints etc. In a study on Argentina, Abdala (2000) highlights weaknesses such as consumers being unable to file complaints to the regulator due to lack of procedures. There were no internal procedures to make regulatory decisions and there was no auditing or verification on fulfilment of regulatory targets set in licenses.

Due process is very important in a quasi-judicial process such as regulation. The framework will be successful if it pays attention to issues such as equality, fairness, consistency of treatment, participation by the public, consumers and other affected parties. This may slow decision-making, especially where disputes arise over the appropriate mode of participation (Baldwin and Cave, 1999). Yet, the quality of decisions will benefit if the principles of due process are observed. Giving parties the option to take matters up for judicial review can also enhance the credibility of the regulatory framework. This however should not lead to a second layer of regulation, with the judiciary becoming unreasonably involved in technical, sector-specific matters (Joskow, 1998). Judicial review has been found to be inadequate in Ghana due to the judicial system's lack of

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<sup>17</sup> Interview with Westel employee.

<sup>18</sup> Attracting qualified staff will require that adequate compensation be in place.

expertise and resources to deal with sector issues, coupled with a long list of cases and lengthy judgement periods.<sup>19</sup>

Finally, legitimacy is also gained if the agency is seen to act in the public interest. An important point to bear in mind is that legal independence without legitimacy means nothing. Parties will try to bypass the regulatory agency if it does not earn legitimacy.

#### *Other determinants*

Flexibility has been identified as an important factor in determining the effectiveness of a regulator. The telecommunications sector undergoes rapid technological developments and regulation has to keep up with these. In general, the regulatory mechanism has to be flexible enough to deal with changing circumstances at low cost. In Malaysia, flexibility is one of the key principles of the new regulatory framework. The Commission interprets this principle as recognising that it does not always serve the public good to 'strictly' enforce the law.<sup>20</sup> A regulatory review is also to be carried out every three years, or whenever required, to keep up with developments. Flexibility is an important quality that a regulatory regime should have to a certain degree, yet there is a danger that ad-hoc decisions can be taken under the name of flexibility and this may create uncertainty in the industry. Thus there needs to be a firm balance maintained between flexibility and some contractual rigidity that will be needed to restrain firms and governments from opportunistic behaviour (Abdala, 2000).

#### **Concluding Remarks**

Regulatory institutions remain under-researched yet they are one of the main pillars of regulatory reform. Effective regulation is crucial for the success of the sector, especially when it comes to facilitating competition, encouraging quality service and capturing the externalities from telecommunications. Moreover, investment will be negatively affected in an environment with a weak regulatory regime.

This paper has attempted to identify various factors that impact on the effectiveness of regulatory institutions. Evidence from the experiences of developing countries has been presented to make the issues concrete and to gather insights. This type of information is still not readily available, partly reflecting the fact that regulatory institutions are still new to developing countries. Developing countries face various challenges with regulatory reform. The extension of services remains a crucial policy priority yet many states have given up the option to pursue this end through ownership of telecommunications utilities. Thus service extension and general sector development will depend to a greater extent on the regulatory institutions that are put in place. Developing countries thus face the challenge of creating strong, capable regulators to deal with these issues in the face of limited resources and experience with regulation.

This paper identified political will, resources and legitimacy and credibility as the key factors that will influence the effectiveness of regulatory institutions. The list is certainly not exhaustive and more practical research needs to go into determining the general applicability of these and other criteria. The experiences of Ghana and Malaysia were used to illustrate how these concepts are or are not translated into practise. Both countries have set up functioning regulatory institutions facing various challenges. The need for an effective regulatory agency was identified early in Ghana yet a lack of political will crippled the realisation of that goal. The Ghanaian case can also

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<sup>19</sup> From a copy of a presentation by a Westel employee, date unknown.

<sup>20</sup> Annual Report of the Commission, 1999.

be seen as an example of the application of a model that does not take cognisance of the realities of the country. Malaysia has been more successful with regulation and unlike Ghana, allowed the institution and the sector to evolve before attempting to apply 'international best practise'.

### *Reflections on South Africa*

This final section will briefly discuss the South African experience to demonstrate how the issues raised above are relevant to our experience. South Africa is undergoing a process of privatisation and liberalisation whilst attempting to address very unequal access to telecommunication services. South Africa had a teledensity of 12.5 telephone lines per 100 people in 1998 (ITU, 2000). Household survey data reveals the extent to which access to service is skewed. In October 1999, only 7% of African households in non-urban areas and 32% in urban areas had a telephone (this includes mobile). This can be contrasted with 86% of white rural households and 88% of white urban households that had access to a telephone.

The 1996 Telecommunications Act lays out the reform agenda for the sector, which involves the corporatisation of Telkom and partial privatisation. In 1997, a 30% stake was sold to a strategic equity partner. To facilitate rollout to under-serviced area, Telkom was granted exclusivity in basic services but will soon be exposed to competition. Telkom's license obligations included providing 2.69m new working exchange lines, with 1.676m of these reserved for under-serviced areas. A regulatory agency, SATRA<sup>21</sup>, was set up under the 1996 Act and its functions included monitoring Telkom's license obligations and implementing the Telecommunications Act in general. Due to the perceived shortcomings of SATRA and as a response to technological convergence, a new institution (ICASA) was created under the Independent Communications Authority of South Africa Act, 2000. The new agency is tasked with the regulation of both telecommunications and broadcasting.

The relationship between the regulator and the Department of Communications has been problematic. For example, following disputes between Telkom and independent service providers over voice-over Internet protocol, the former regulator, SATRA, issued guidelines dealing with interconnection and leasing. The Minister withdrew these guidelines even though they had been initially approved and gazetted. The guidelines were later reinstated by the High Court. The issuing of policy directives earlier this year by the Department of Communications was also not without controversy, as the new regulator argued that it was not given enough time to meaningfully comment on the directives before they were gazetted (Financial Mail, 20 April 2001). This is symptomatic of a troubled relationship between the two entities and measures need to be taken to create a more supportive relationship, without sacrificing the autonomy of the regulator. The confusion that follows disputes between the regulator and the department will hamper the sector's development.

As mentioned in the introductory section, the regulatory agency's capabilities have been questioned thus it risks not gaining the requisite legitimacy. The lack of resources at ICASA is a well-publicised issue. The agency has struggled with both financial and human resources. The agency does not have financial independence and relies on Parliament for funds (ICASA Act, 2000). The agency had to make an urgent application for funds earlier this year, amid speculation that the government was not co-operative (Financial Mail, 20 April 2001). Problems with human resources can also be detected at ICASA, where a lack of analytical capabilities has meant that Telkom figures are taken at face value. The regulator has also been unable to verify whether

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<sup>21</sup> South African Telecommunications Regulatory Authority.

Telkom has met its license obligations or not.<sup>22</sup> For example, it has been argued that due to high prices, a significant proportion of the new lines that were rolled out had to be disconnected. This means that, on a net basis, the increment in lines is less than what Telkom rollout figures would suggest.<sup>23</sup> This raises an important policy issue with regard to universal access yet the regulator is unable to effectively research the claims and to suggest remedies.

The South African regulator faces various challenges, which include the proposed listing of Telkom and the implementation of the policy guidelines that are about to be finalised. In the coming years, the regulator is faced with the task of nurturing competition in the market, currently dominated by a powerful monopoly. Participation in the global, knowledge economy requires a viable telecommunications sector. There is also the issue of the digital divide, which needs to be addressed adequately for the sake of economic growth and citizen empowerment. The regulator needs to be empowered to be able to rise to these challenges.

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<sup>22</sup> Interview with senior ICASA officials.

<sup>23</sup> For a critical discussion of Telkom's performance, see Makhaya and Roberts, forthcoming.

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## Appendix

### Ghana: key indicators

<b>GHANA</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Main telephone lines/ 100 inhabitants	0.29	0.3	0.3	0.3	0.3	0.37	0.44	0.57	0.75
% digital lines	-	31.7	48.4	49	58	89.5	90.9	93.8	70
Public payphones (000s)	-	-	23	25	26	30	453	483	1815
Waiting list for main lines (000s)	11.9	10	9.7	10	12.8	28.3	-	-	-
International traffic (both ways, mil.)	20.9	28.4	36.2	39.1	43.6	51.8	84.8	101	130
Faults/100 main lines per year	-	120	159	176	176	138	86	-	-
3 minute local call (peak rate in U.S.\$)	0.06	0.05	0.05	0.15	0.1	0.08	-	0.1	0.09
Estimated internet users	-	-	-	-	-	60	1000	5000	6000

Source: ITU Yearbook of Statistics

### Malaysia: key indicators

<b>MALAYSIA</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Main phone lines/100 inhabitants	8.93	9.91	11.2	12.6	14.6	16.6	17.8	19.5	20.2
% digital lines	-	78	82	87	92.5	95	96	97	100
Public payphones (thousands)	25	28	35	46	64	88	138	172	189
Waiting list for main lines (thousands)	82	140	169	142	122	140	160	-	-
International traffic (both ways, mil. of minutes)	241	305	364	562	746	811	1152	1301	-
Faults/100 main lines per year	76	78	78	67	63	60	46	39	38
3 minute local call (peak rate in U.S \$)	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.02
Estimated internet users (thousands)	-	-	0.2	5	20	40	200	600	800

Source: ITU Yearbook of Statistics