TELECOMMUNICATIONS: FINANCIAL ANALYSIS – CHECKS AND AUDITS

INTRODUCTION

Worldwide privatisation of the telecommunications industry and the introduction of competition to this sector, along with the increasing rate of technological advances in telecommunications, raise new and critical challenges for regulation. Regulation is about compromise and use of privileges and responsibilities to achieve public policy objectives. The effectiveness of telecom markets depends upon the establishment of an independent, competent and effective regulatory system. Regulators are a necessary constant influence, to remit some rights so that we may enjoy the benefits of others. Telecommunication is no longer considered a convenient public service it has become a valuable economic resource and important infrastructure for economic growth and development, this is particularly the case for developing nations as telecommunication has become the window to the global economy and environment.

The main functions of telecommunication regulators include regulation of market activity in the sector; authorisation/licensing of new operators; removal of barriers to market entry by new operators and the oversight of the interconnection for new entrants with incumbent operators.

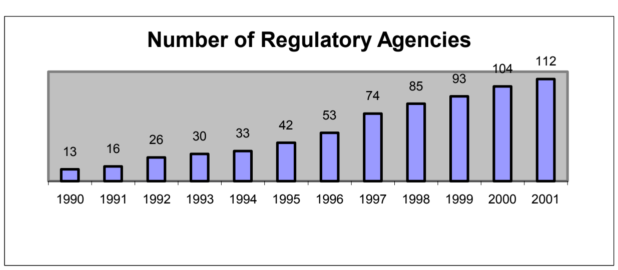
In order for the regulatory body to perform its objectives, it requires information, which will allow for effective monitoring of the regulated operator. The regulator will then be able to conduct a detailed analysis of the operations and financial affairs of the regulated operator. The information required for regulation, the type of analysis, and the process of validating that information changes dependant on where the telecommunications industry is in the process of liberalisation. For example, reporting for Rate of Return (ROR) calculation in the case of a monopoly or very limited competition or setting of monetary Price Caps in a competitive market. In the analysis of the regulated entity the regulator is concerned not only with the well being and financial stability of the operator and the securing of a reasonable rate of return for shareholders, but the interests of the consumers, ensuring fair and reasonable pricing relative to cost.

THE CHANGING REGULATORY ENVIRONMENT

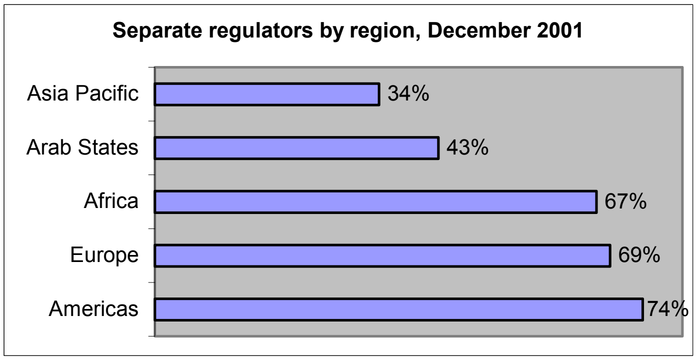
GLOBALLY

The regulatory environment for telecommunications has been in a transitory mode for the last 20 years starting with AT&T, which, in 1982 formally agreed to the break-up of the North American Bell system and various privatisations of state-owned enterprises worldwide. By 2001, 110 countries had created independent telecommunications regulatory authorities. The International Telecommunications Union (ITU) estimates that by 2005 there will be 140 countries with similar regulatory bodies. New regulators are working towards increased knowledge to become more effective; and all regulators new and previously established have to address changes resulting from the convergence of the information and communication industries.

Countries have realised that to establish effective and transparent regulatory authority it is necessary to create regulatory bodies. The charts below are a graphical testament to this statement indicated by the steady increase over the last decade in the number of regulatory bodies. The year 1997 marked the boom of Internet and the growth of mobile and other wireless services, resulting in a 39% increase in regulator bodies from 1996.



Source: Trends in Telecommunication Reform, ITU, 2002



Source: Trends in Telecommunication Reform, ITU, 2002

The term ‘separate regulators’ relate to organisations other than Government ministries. The graph above shows the number of ‘separate regulators’ categorised into distinct regions. The Americas in which the Caribbean is included has the greatest percentage of ‘separate regulators’.

REGIONALLY

The chart below illustrates a snapshot of the level of competition for the region. It indicates that a significant portion of Caribbean islands are either under partial competition or full competition for at least one service. Paging and ISP’s are observed as being the main entry channel for other operators to the Caribbean market.

Jamaica and the Dominican Republic are regional leaders in terms of attaining partial competition to full competition for the services listed in the table.

Country	Local Services	Domestic Long Distance	Int'nl Long Distance	XDSL	Wireless local loop	Mobile Analog	Mobile Digital	Leased Lines	Data	VSAT	Paging	Mobile Sat	Fixed Sat	Cable TV	GMPCS	IMT 2000	ISP
Antigua and Barbuda	P	…	M	…	M	…	P	M	…	P	…	…	P	M	…	…	P
Bahamas	M	M	M	M	M	M	M	M	C	C	C	P	P	M	P	M	C
Barbados	M	…	M	M	M	M	M	M	M	…	C	…	…	C	…	…	C
Dominca	M	M	M	…	…	M	M	M	M	…	M	M	M	C	…	…	…
Dominican Republic	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Grenada	M	M	M	…	…	M	M	M	M	…	M	M	M	…	…	…	…
Guyana	M	M	M	…	…	…	C	M	D	…	C	…	…	…	…	…	…
Haiti	C	C	C	M	C	P	P	M	C	C	…	…	P	P	…	…	C
Jamaica	C	C	C	…	C	…	P	P	C	C	C	…	…	P	…	…	C
St. Lucia	M	M	M	…	…	M	M	M	M	…	C	M	M	C	M	…	M
St. Vincent and the Grenadines	M	M	M	C	C	C	C	M	C	C	M	…	…	M	…	…	C
Trinidad and Tobago	M	M	M	M	M	M	M	M	C	C	C	…	…	M	…	…	C

Source: Adapted from ITU

Key: M=Monopoly; D=Duopoly; P=Partial competition; C=Full competition

Remarks: Services not commented on do not exist

Jamaica - The term full competition is misleading. It suggests that the markets are competitive if entry is permitted. This is far from the truth. Liberalisation (free entry) should not be equated to full competition.

THE REGULATORY PROCESS

Regulatory decision makers require multi-disciplinary skills. Specific types of regulatory decisions require qualified economists, engineers, lawyers, accountants and financial analyst. Other decisions benefit from having a range of different professional skills and perspectives and may need to be brought in where high calibre professional skills may not be immediately available within the public service. While some regulators are responsible for spectrum management, licensing of new operators, and regulation of broadcasting and other related services, others must actively regulate prices, and yet others are responsible for verifying compliance with a Price Cap regime prescribed in a long term license or adjusting the X-factor in a Price Cap periodically. The telecommunication industry in the Caribbean is one of the last remaining sectors of the industry globally to liberalise and introduce competition. The industry in the Caribbean is therefore transitioning from its current primarily monopolistic state to one of competition. This liberalisation sets the telecommunication industry apart from other currently regulated utilities, which remain in a monopolistic state. Regulation and the role of the regulator of the telecommunication industry must therefore transition with the changing economic environment of the industry in order to enforce fair-trading. The regulatory body must therefore ensure that the financial analysis, checks and audits in place to regulate the telecommunication operators do not discourage fair-trading, but rather, promote self-regulation. These approaches must achieve the broad objectives of regulation, namely Financing, Efficiency and Equity. This paper will focus on the approach to the financial analysis aspect of regulation as it relates to the different stages of liberalisation.

PHASE I – CURRENT MONOPOLISTIC ENVIRONMENT

The Caribbean telecommunications current environment is marked by monopolistic behaviour, transitioning to a liberalised telecommunication sector. Price regulation is usually introduced, and normally justified when telecommunication markets fail to produce competitive pricing. The challenge of regulation in this environment is to ensure that the incumbent operator is fair in its dealings with new entrants. The major objectives of regulation fall under three broad categories, Financing, Efficiency and Equity.

Financing – Regulation needs to ensure that regulated operators are able to earn sufficient revenue to finance ongoing operations and future investments.

Efficiency – Regulation should provide:

(i) Allocative Efficiency - the price of services reflects their relative scarcity; and,

(ii) Productive Efficiency - the most efficient mix of inputs for a given level of output and that services are produced as efficiently as possible by minimising all inputs.

Equity - Regulation should provide fair distribution of welfare benefits among members of society. Specifically, as it relates to Operator-Consumer equity, which is the distribution of benefits between consumers and the regulated operator; and Consumer-Consumer equity, the distribution of benefits between different classes of telecommunication operators.

A number of approaches have been developed to regulate telecommunications. In a monopolistic environment regulators have utilised an accounting approach to cost assessment. Their task is to ensure that the monopoly does not exploit its power, and its prices are reasonable. The approach regulators use relies on embedded costs recorded in the books of the operators. The most widely used method is ROR, which in short allows the regulated operator a specific return on its investment calculated on the rate base. The most critical drivers for the size of the rate base are the capital expenditure on new plant and equipment and the asset lives applied from which the depreciation is derived.

ROR regulation is a rules-based form of price regulation, providing the operator with relative certainty that it can meet its revenue requirement on an ongoing basis. The steps of ROR regulation entails the calculation of the operator's revenue requirement, followed by an adjustment to their individual service prices so that aggregate service revenues cover their revenue requirements. If the operator earns more than its allowable ROR, the regulator will require price reductions to bring the operator's ROR down to an allowable level. Conversely, if the operator does not meet its allowable ROR, it will request price increases to raise its revenues.

In addition, rate cases are held subject to requests made by operators for rate changes. When the operator requests a price increase characteristically a rate case will ensue. The regulatory body needs detailed financial reports to arrive at an acceptable rate base, regulated revenue and allowed expenditure incurred in deriving that revenue. Having an in-depth understanding of the regulated entity's financial affairs and ensuring the integrity of the data presented is essential. The regulator needs to have an in-depth understanding of the transactions and items underlying the data, how the information is produced, its source, its agreement to underlying statutory financial records, the key policies used in preparing them, their compliance with generally accepted practice and an understanding of areas where significant judgement is exercised in determine material items.

During the transition from a monopolistic phase of telecommunication there are issues of special importance. Of great importance is the allowance of the incumbent for interconnection that allows operators to exchange traffic between their networks and reach customers that are located on other operator networks. The interconnection charge is normally cost based and does not seek to reimburse any subsidies; detailed costs studies are required to establish their charges. The information requirements and financial review rely heavily on the transparency of the data provided to the regulator.

Other areas of importance are tariffs and price rates, which enable operators to earn reasonable returns. In a monopolistic market structure tariffs may not be cost based. Some Governments in the region have permitted the international telecommunications prices to be set high to subsidise the domestic service prices, which were set below cost. For example in Barbados in accordance with Statutory Instrument 1989 No. 54, fifty five percent (55%) of revenue received from international revenues is paid to the domestic operator, the basis for this was not derived from cost of interconnection but rather based on requirements to sustain the financial viability of domestic service. In order for competition to be efficient and effective there needs to be a stable, flexible and predictable framework for setting tariffs. In addition to this, the proceeding section highlights some of the key challenges to the ROR system of regulation. In conducting any financial analysis and validation of information these issues need to taken in consideration.

CHALLENGES TO ROR REGULATION

Regulation based on this methodology is close to a cost–plus regulation because this approach relies on embedded costs recorded in the operators' books. There is little incentive to the operators for cost minimisation. Thus, productive efficiency is thwarted and because costs are assessed based on historical data this tends to also lead to allocative inefficiency. However, there are long time elapses between rate cases, and the operator should strive to be more cost efficient as time passes. Prices are fixed from one rate case to the next and the operators' return can exceed or be less than the approved ROR during that time. This effect is know as Regulatory Lag, the period the operator is motivated to become more efficient.

The operators usually have very detailed information about both demand and costs whereas the regulator usually has poor information about cost and a fairly good idea about demand. One common result of ROR is that it has been recognised as creating perverse behaviour in the regulated company, which may include improper cost allocation, misrepresentation of expenditures and a capital bias where the operator is inclined to increase capital invested to manipulate the rate base.

Utilisation of ROR regulation requires the operator and the regulator to spend significant amounts of time and money. The rate must be repeatedly calculated by the operator and reviewed by the regulator and the cost of capital must be recalculated. Rate reviews or hearings must be held on a regular basis, incurring costs to the regulator, the operator, and other participants in the process.

The regulator is required to review numerous aspects of the operation and management of the firm in a detailed manner. This includes scrutiny to prevent rate base "padding". Over time, this type of detailed regulation may place a regulatory burden on the operator impeding its ability to function as a normal business enterprise.

ROR regulation operates relatively slowly, and generally does not allow operators the pricing flexibility needed to respond to competitors.

The introduction of competition in some parts of the telecommunications sector, combined with continuing ROR regulation in monopoly segments, means that vertically-integrated operators have an incentive to engage in anti-competitive practices (e.g.: anti-competitive cross-subsidisation).

PHASE II – FUTURE INTERIM STATE

During the period of change from a monopolistic environment to one of limited competition, regulators will find their role changing from an environment of strict regulation to one of limited deregulation or self-regulation in certain areas due to increased competition. This signifies that market forces will dictate the prices of the goods and services offered and will reduce the need for a regulatory body, for example in the area of wireless communications.

The primary objective of regulation is to promote and sustain competition. Regulators must ensure that national and social objectives are met through pricing, service quality and continued investment in the sector.

In the transition to full market competition the regulators will be required to exercise the minimum level of regulation possible to achieve the policy objectives of the Government. This is to allow for self-regulation as the sector expands with the introduction of competition. In this phase issues surrounding interconnection should not be of as much importance as they were under that of a monopolistic structure. 'Pricing wars' will ensue and competitive forces should keep prices in balance, should there be enforced regulation it will deter market forces from developing. The table below displays the roles of the regulator in the transition towards competition.

RESPONSIBILITIES OF THE REGULATORY BODY
Regulation of the telecommunications industry in accordance with the telecommunications policy as determined by the Government policy maker responsible for telecommunications
Administer pricing rules
Monitor rates charged by providers to ensure compliance
Agree and publish service standards where necessary and monitor compliance
Receive and investigate customer complaints and facilitate settlement of disputes
Oversee interconnection between operators
Educate public about reform and other matters related to the telecommunications industry

Source: Adapted from the Barbados Final Green Paper 2000

Under a monopolistic environment, ROR regulation is the most widespread and efficient method of determining rates and tariffs. However, given the changing role of the regulator during the liberalisation process the difficulties arise in the monitoring of the accelerated pace of the industry.

In order to monitor the inputs and components of the ROR calculation, such as the capital base and the net profit figure, the regulatory board requires access to both the capital and operating expenditures that the utility company makes during the year. Capital expenditures increase the capital base (the denominator in the rate base calculation) and the operating costs serve to decrease the net profit figure (the numerator in the rate base calculation). Hence a company is more likely to increase the capital base rather than attempt to control other costs which would result in a lower than prescribed rate of return.

The consequences are such that the ROR is not readily achievable and thus no savings in the form of lower rates may be passed on to the consumer. Otherwise known as the Aversch-Johnson Effect (capital bias), operators would choose too much capital over other inputs because profit varies directly with the size of the rate base (capital). Leading to inefficient costs and subsequently less than optimal pricing based on a ROR base. More capital invested means a greater surplus for the shareholders for the same ROR.

In a competitive environment, regulators must utilise a different method of accounting regulation. The most widely used would be Price Cap regulation. In newly de-monopolized countries some form of Price Cap regulation is introduced to regulate the incumbent but not the new entrants.

Price Cap regulation seeks to emulate a competitive environment; the initial price is adjusted for inflation and productivity. These new elements in the calculation incorporate factors that are outside of the company's control, in order to determine the appropriate price to be charged for a product or service. The Price Cap formula forces the company to pass on any savings, which would normally result due to increased productivity and after accounting for increases in inputs, to consumers.

The Price Cap approach is based on the premise that a given volume of a service or basket of services may have its total price increased, usually on an annual basis, in line with an inflation indicator (typically a Retail Price Index or Consumer Price Index) less an Efficiency Factor of x%. Companies transferring to Price Cap from ROR are highly motivated to cut their costs and be more efficient and may sharply increase their profitability and return to shareholders. This can be controlled to some extent by using fairly high efficiency factors.

The use of Price Cap regulation forces the company to become more responsible with its spending. However, the regulator must be conscious of the level of the efficiency factor that is prescribed. Further, quality of service must be regulated and benchmarked for steady improvement.

One caveat that may be encountered where one part of the incumbent's business is regulated and another is not is that inefficiencies and losses incurred by the unregulated business may be passed on the customers in the regulated sector. Regulators in the UK, Singapore and Australia have sought to mitigate this problem through the introduction of Accounting Separation of the retail and wholesale sides of a company's operations.

The use of Price Cap regulation decreases the frequency for rate case hearings, including the time lags and costs associated with them. It is a more efficient and effective means of regulating prices over time. The key factor to the success of an effective Price Cap is the setting of the initial price level and the level of efficiencies that are achieved based on current cost of operations and inefficiencies contained in those costs. The regulator needs to be cognizant of the revenue requirements of the company when determining that level. This is critical as the Price Cap formula determines the maximum required price adjustments. Hence, once again transparency and ease of access to financial statements of the operator is essential for the effective management of Price Cap regulation.

In summary, the role of the regulator is greatly reduced. It is now key for the setting of the initial price; however, further involvement is limited than within the scope of a Rate of Return regulated environment. In Jamaica the incumbent telecommunication operator has been recently transferred from ROR to Price Cap regulation as it has become increasingly important as the market moves towards liberalisation. Since then the Government has licensed other operators and moves towards a competitive international and long distance market as it moves towards competition.

PHASE III – FUTURE STATE

Competition requires a change in the regulatory paradigm from that of interim competition. Barriers that previously deterred competition from other operators need to be removed to allow for competitive action. Successful transformation of monopolistic telecommunications markets into a competitive one requires regulatory intervention. Without regulation viable competition is not likely to emerge.

When the telecommunication sector is fully competitive, no regulation of tariffs will be required. However, general competition regulation, which is applicable to all markets for ensuring fair competition, regulation of service standards and the investigation of consumer complaints by the regulatory body, will continue. The table below provides the role of the regulatory authority during competition.

RESPONSIBILITIES OF THE REGULATORY BODY
Regulate market activity of sector participants (competition regulation)
Monitor rates and service standards and take action only where there is abuse of market dominance or where the service is not sufficiently competitive
Receive and investigate customer complaints, facilitate settlement
Make recommendations to Minister responsible for Telecommunications regarding granting of licences
Educate public about industry

Source: Adapted from the Barbados Final Green Paper 2000

Regulators information needs and or methods of gathering information during a state of competition will have to differ from that of monopolistic environments. In fact, regulation is most needed when there is a state of competition as opposed to any other phase previously explored (i.e. current monopoly and future interim)

As the life cycle of the sector moves to one marked by normal growth and maturity the regulatory body is faced with new challenges that may include the likelihood of cartels. Hence there is a need for stiffer regulation as it pertains to pricing and the interests of the consumer.

Regulators adopt accounting separation as a competitive safeguard to separate the various business activities of each operator in order to prevent cross subsidies of unregulated services by regulated service revenues and predatory pricing. This is achieved by preparing accounts under both the Current Cost Accounting (CCA) convention and the Historical Cost Accounting (HCA) convention. The purpose of the requirement for CCA is to lend greater transparency to the sustainability of the costs of operations as they pertain to the household and business consumer and to the large contract consumer.

Interconnection becomes an area of importance once again and the terms of interconnection should be agreed between operators on a commercial basis. Agreements should be non-discriminatory and provide equal access. Rates need to be transparent, reasonable and cost based. Cost based pricing is of significance for a competitive market because new operators would be inclined to focus on providing the high margin telecommunication services to international and large businesses. Also, unbalanced tariffs limit the opportunity market entry where prices are set below costs and competition in the domestic service would not be profitable. In addition if competition is pursued utilisation of cost based pricing is essential to ensure that the level of funding for provision of Universal Service is sufficient.

Financial analysis would come into play in ensuring that accurate costs are recorded and reported by providing appropriate validations for expenditures related to the service in question.

Competition also requires more attention to the quality of service to the consumers of telecommunication services. The regulator is required to determine their role in ensuring quality of service, formulate definitions of appealing quality of service and how it should be measured across the sector and operators. Where Price Cap regulation exists strident standards and or penalties become necessary to ensure that operators do not take advantage of Price Cap arrangements to minimise service quality. Legislation measures may be required to safeguard consumer interest.

CONCLUSION

As we move towards an era of liberalisation the regulatory body must ensure that there are controls in place to guarantee fairness and transparency to all its stakeholders. As liberalisation of the telecommunications sector in the Caribbean changes so to must the role of the regulator. The regulator must not by its very nature discourage fair-trading, but rather as in the case of an Interim Competitive environment, promote self-regulation. In the competitive environment the regulators role becomes important again as there is a risk for oligopolistic practices. Regulators must clearly set out their information requirements and have legislative power to attain access to key records and key people, facilitating regulatory objectives in the effort to conduct the tests and analysis necessary to certify that transparency requirements are met.

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