Fair Trading Commission

Consultation Paper

PRICE CAP MECHANISM

Document No. FTC/CONS02/04 Date: September 6, 2004

TABLE OF CONTENTS

This Consultation Paper is not a legal document and does not constitute legal, commercial or technical advice. The Commission is not bound by this document. The consultation is without prejudice to the legal position of the Commission or its rights and duties to regulate the telecommunications market generally.

PURPOSE OF THIS CONSULTATION

The Fair Trading Commission (the Commission) is in the process of changing the regulatory framework used to regulate the provision of certain telecommunications services in Barbados.

The Commission, is through this document, embarking on a process of consulting with all stakeholders in order to give them the opportunity to inform the Commission of their views on the new regulatory framework and how it should be designed and implemented.

The system of regulation will change from the "Rate of Return" mechanism, which is the traditional form of regulation practiced in Barbados, to the "Price Cap Mechanism" which is considered to be more reflective of an efficient regulatory mechanism demanded in an environment of liberalised markets for telecommunications services.

The price cap system is expected to lay the foundation for improvements in the delivery of high quality telecommunication services by promoting innovation and efficient production of telecommunications products and services. The focus of the price cap system, as the name suggests, is on the prices of outputs, and on what it costs the service provider.

The rate of return system on the other hand focused on the total cost of the service provider and on allowing the service provider to recover those costs plus a return on the rate base or return on capital used to provide utility services.

With the rate of return system, it has been strongly argued that there was little or no incentive on the part of the service provider to improve efficiency and

reduce costs, and that the service provider could engage in manipulative behaviour to meet its revenue requirements.

The liberalisation process and telecommunications reform agenda in Barbados call for incentive based regulation and the promotion of efficiency and innovation. The Commission has chosen the Price Cap Mechanism to meet these objectives.

The use of the Price Cap mechanism will represent a fundamental change in the manner in which regulation will be conducted in the future, and therefore has significant implications for every individual, business and organisation in the country.

The new regulatory framework will impact on the ability of Barbados to meet its international commitments with respect to telecommunications reforms and on investors' views of the impact of regulatory environment on their investment decisions relative to Barbados.

At the level of the local economy, the new regulatory framework is likely to impact on the prices that businesses and individuals have to pay for telecommunication services, the level of innovation and efficiency in the provision of these services. A major area of impact will relate to the cost of doing business in the manufacturing and services sectors of the economy.

In undertaking this consultation the Commission is following the mandate specified in section 4 of the Fair Trading Commission Act CAP 326B which states that:

> *"The Commission shall in performing its functions under subsection 3(a), (b), (d) and (f) consult with the service providers, representatives of consumer interest groups and other parties that have an interest in the matter before it."*

The Commission processes also seek to satisfy all stakeholders that it is applying the principles of accountability and transparency, in seeking to transition from the "rate of return" regulatory framework to the "price cap" regulatory framework.

The Appendix provides a summary examination of the general characteristics, advantages and disadvantages of each regulatory framework.

The Commission encourages the widest possible participation in this consultation process. In addition to making this document available at its offices, the Commission will post the document on its website and will also embark on a series of educational and information sharing initiatives to engage in oral consultations with interested parties.

The information collected by the Commission through these processes will enable the Commission to design a Price Cap Plan.

Section 1 – PRICE CAP PLAN

1. BACKGROUND

1.1 Fundamentals of Regulation

The need to regulate public utilities stems from the goal of ensuring that the monopoly or dominant player does not abuse its dominance in the market place. This objective was particularly relevant in the Barbados environment in which telecommunications was considered to be a monopoly utility service prior to the opening up of the mobile market in 2004.

The provision of utility services such as telecommunications, water, natural gas, electricity, transport and sewerage used to be regarded as "essential goods" and as such economic and regulatory focus was on the provision of such services on the basis of universality and government subsidy to allow members of society who could not afford to purchase services on an economic basis to be offered a lifeline in terms of access.

In essence, regulation has in the past and continues to act as a proxy for competition by seeking to ensure that there is efficient allocation of resources, and constant improvement of productivity levels and quality assurance for consumers.

Much of the modern thinking on markets and regulation is derived from a shift in thinking about the manner in which the provision of utility services is viewed. Many countries including Barbados are transitioning from monopoly markets to competitive markets with the aim of increasing access to basic telecommunications, providing innovative products, increasing efficiency and lowering telecommunications prices.

In the current era of globalisation and trade liberalisation, utility services are often seen as "competitive goods" which are tradeable internationally. The catalyst for this paradigm shift was the General Agreement on Trade in Services (GATS)[1] which established a multilateral framework of principles and rules for trade in services.

Whilst member states have the right to certain basic protection measures they also have obligations relating to transparency of their regulations, the removal of inappropriate uncertainties over those regulations, openness, consistency and credibility in their actions.

As part of the process of progressive liberalisation, member states including Barbados undertook to effect reforms in key service industries including telecommunications.

The role of the Commission as regulator is pivotal to the successful reform of the telecommunications market.

Regulatory reforms in the telecommunications service sector have been seen as critical to the provision of a number of other services as well, and to the survival and prosperity of the manufacturing and service sectors in Barbados. This is based on the recognition that telecommunications costs and quality are important factors in determining overall levels of a country's competitiveness.

A major consideration for regulators faced with liberalisation of telecommunications markets has been the need to effectively identify and manage risks arising to the various stakeholders including incumbent operators, consumers and potential investors.

[1] GATS is Annex 1B of the Marakesh Agreement establishing the World Trade Organisation which came into effect on 1 January 1995. Barbados became a member of the World Trade Organisation on 1st January 1995.

Regulators have therefore had to look inward at their own regulatory practices and at deficiencies in the regulatory systems which they utilised before liberalisation and the shift in thinking took effect.

This could be done through a comparison of the rate of return mechanism with modern regulatory schemes like the Price Cap that address critical issues that the regulator must consider in the new telecommunications reform framework such as:

(a) Access to telecommunications markets by foreign investors
(b) Universality of access to service
(c) Interconnection of networks
(d) Rate rebalancing
(e) Removal of cross subsidies
(f) Pricing flexibility
(g) Stimulating efficiency and innovation

The Commission conducted a research analysis to compare the rate of return regulation[2] with alternative methods of incentive regulation including Price Cap regulation.

At the end of this review the Commission was satisfied that the Price Cap mechanism would better allow the objectives of regulation in a liberalised environment to be achieved and announced on November 30, 2001 that it would use the Price Cap to regulate the provision of telecommunications services in Barbados.

[2] *A summary of the comparative assessment is set out in the Appendix*

1.2 Transition to Liberalisation

In consideration of the length of time required to develop and establish a Price Cap Plan and cognizant of the need to move away from rate of return regulation, the Commission established the Interim Mechanism on November 8th 2002, to apply during the transition period to a fully liberalised environment.

The primary objectives of the Interim Mechanism were to:

- establish rate setting principles to move towards cost-oriented pricing;
- review the cross subsidy between domestic and international services; and
- permit the service provider some degree of pricing flexibility.[3]

The principles established in the Interim Mechanism were to govern rate adjustments during the transition period to full liberalisation.

The Interim Mechanism has some of the features of the Price Cap system such as the use of price indices, pricing flexibility, and use of service baskets. The use of the Interim Mechanism provided a prospect of achieving a level of rate rebalancing before the Commission sought to implement the Price Cap Plan.[4]

[3] Consultation Paper on the Interim Mechanism-Rate Setting Principles, Document No. FTC02/01 Aug 26 2002.
[4] Rate Rebalancing – refers to the adjustment of rates charged for different services to more closely reflect their costs

2. DEVELOPMENT OF THE PRICE CAP PLAN

The Commission intends to present a number of issues which are relevant to the principles and methodologies for determining Price Cap regulation. These include the key issues for consideration in designing this method of regulation and what the Commission believes is pertinent to Price Cap regulation in Barbados.

By consulting with stakeholders on the design of the Price Cap Mechanism the Commission intends to balance the interests of the various stakeholders whilst focusing on the objectives and criteria of the Price Cap.

The criteria which the Commission will use to determine the satisfactory design of the Price Cap system is its ability to:

(a) provide the company with economic incentive to reduce its operating costs;
(b) provide the company with incentive to be innovative and replace plant in an efficient and prudent manner;
(c) provide the opportunity for the company to recover its real cost for producing the service;
(d) force the company to lower its prices as its expected efficiency improvement levels materialise;
(e) provide sufficient safeguard to consumers of wholesale and retail services that quality of service and safety standards will not to lowered in pursuit of economic objectives; and
(f) allow the regulator to establish sub-constraints on certain services.

The Commission is of the view that the price of the company's output should increase based on increases in the prices of its inputs but that increases in overall economy-wide productivity should cause a reduction in the price of such outputs.

The company will be provided with incentives such that except when price floors[5] are set, the regulated company can sell its services at essentially any price below or equal to the Price Cap while retaining whatever profits it earns within this pricing constraint. Conversely, the Commission will not allow the company to recover any increase in actual costs that exceeds the target specified by the Price Cap from consumers. The adjustment mechanisms in the Price Cap plan will be designed to reflect these incentives and safeguards.

3. PRICE CAP FORMULA

Price cap regulation uses a formula to determine the maximum allowable price increase for a regulated operator's services for a specified number of years. The formula is designed to permit an operator to recover its unavoidable cost increases through price increases. Unavoidable price increases are represented by an 'Inflation Factor' in the price cap formula. The formula also requires the operator to lower its prices regularly to reflect productivity increases that an efficient operator would be expected to experience. Expected productivity increases are represented by a 'Productivity Factor' .

Price cap regulation is meant to provide incentives that are similar to competitive market forces. Competitive forces require operators to improve productivity and, after accounting for unavoidable increases in their input

[5] Price floors are restrictions placed on the company in terms of how far it can reduce its prices. Conversely, a price ceiling stipulates how high it can increase the cost of its services. These are sometimes imposed to counteract predatory and anti-competitive behaviour by the incumbent.

costs, pass these gains on to their customers in the form of lower prices. The price cap formula has a similar effect.

Price cap regulation is a means to regulate prices over time. The price cap formula determines the rate of change in prices from an initial level. The initial price levels may be set by the regulator. Future financial performance for a price cap regulated operator is highly dependent on the initial price levels. Therefore, it is critical for the regulator to ensure that the initial levels of prices are consistent with the operator's revenue requirement.

- **The Basic Price Cap Formula**

There are a number of ways to express the price cap formula. In its simplest form, a price cap formula allows an operator to increase its rates annually by an amount equal to an inflation measure, less an amount equal to the assumed rate of productivity increase. For an operator offering only one service, the allowable price increase in any one year is given by:

Allowable price increase for a year = Starting price + I – X

Notes:

(1) I = Inflation Factor for the year

(2) X = Productivity Factor

If the operator is highly efficient and able to reduce its costs by more than the amount specified by the productivity factor, the additional earnings which result from such efficient operations may be retained as profits to shareholders or used for other purposes such as new investment. The earnings could also be used to reduce prices further, for example to meet competition. However, such additional cost reductions will not be required by the regulator. The price cap formula determines the maximum required price decrease through the productivity factor.

- **Price Indices and Weights**

In practice, telecommunications operators do not offer a single service at a single price. Instead, they offer a range of different services at different prices. A typical price cap formula will, therefore, generally use an index of the prices charged by the operator and not a single price. In such cases, the operator will be required to keep an index of its actual prices (Actual Price Index or API) below a Price Cap Index (PCI):

$$\text{Basic Price Cap Rule:} \qquad API^t \leq PCI^t$$

That is, the API for a particular time period must always be less than or equal to the PCI for that period.

From year to year, the PCI is adjusted according to the following formula:

$$PCI^t = PCI^{t-1} \times (1 + I^t - X)$$

i.e. the PCI for a given year (t) will be equal to the PCI for the previous year (t – 1) multiplied by 1 plus the Inflation Factor for year t (I^t) minus the Productivity Factor (X).

The API for year *t* is the product of the API for year *(t – 1)* and the weighted average of the change in prices from year *(t – 1)* to year *t*. Using the revenue weighting approach we have:

$$API^t = API^{t-1} \times \sum_i \left[\frac{R_t^i p_t^i}{TR_t p_{t-1}^i} \right]$$

API^t = actual price index at time *t*

API^{t-1} = actual price index at time *t – 1*

R_t^i = revenue for service *i* at time *t*

TR_t = total revenue at time *t*

p_t^i = price of service *i at* time *t*

p_{t-1}^i = price of service *i* at time *t – 1*

The basic features of price cap formulae that are based on indices are:

(i) The actual prices of the operator (as measured by the API) may not exceed the price cap for the year (as measured by the PCI);

(ii) The operator has pricing flexibility; some prices may be increased above the weighted average of the change in prices, as long as others are not; and

(iii) Prices for services with heavier weights in an index will affect the index more. Therefore, prices for major services (measured by revenues) may not be increased as much as prices for less significant services.

4. ANALYSIS OF ELEMENTS OF THE PRICE CAP PLAN

The following discussion gives an indication of the Commission's views on how critical elements of the Price Cap formula should be measured and determined. The discussion will focus on:

- The Inflation Factor;
- The Productivity Factor (X);
- Initial (Going in) prices;
- Variation to the Basic Formula
    - the Exogenous Factor
    - the Quality of Service Factor
- Service Baskets;
- Price Cap Duration; and
- Treatment of unused headroom

4.1 The Inflation Factor

The inflation factor accounts for changes in the input cost of the operator. In the simplest terms the factor takes into account the increase in the costs of industry inputs. Inflation may not only be positive, resulting in the tendency for prices to get more expensive, but it may also be negative to indicate a reduction in prices.

The index is dependent on what the regulator determines as an appropriate inflation measure (GDP deflator, RPI/CPI). Once initial rates are set, the inflation index serves as an indicator of the extent to which overall price levels will increase overtime.

The index selected meet the following criteria.

i. be reflective of the changes in the operators cost;
ii. be obtained from a creditable, published independent source;
iii. be easily understood by operators and the public;
iv. be a stable measure and not subject to frequent revision; and
v. be consistent with the total factor productivity of the economy.

Choices of factors include:

i. The GDP deflator, which is determined by dividing the cost of the basket of goods and services that make up the GDP at current prices by the cost of the same basket at constant prices. The deflator then reflects changes in the baskets as well as pure price changes;
ii. The Consumer Price index (CPI) or Retail Price Index (RPI) which reflects changes in prices paid by the consumer;
iii. An inflation index of another country;
iv. Produce Price Index; and
v. A composite index which is obtained by using a combination of different indices from different jurisdictions.

- **GDP Deflator**

The GDP deflator is traditionally determined by dividing the cost of the basket of goods and services that make up the GDP at current prices by the cost of the same basket of goods at constant prices. Hence, the deflator reflects not only pure price changes, but also changes, if any, in the weights attached to the GDP components.

The GDP deflator is broad based. It reflects changes in the prices affecting a large basket of goods and services. Many regulators in the US and Canada

have chosen the GDP deflator as the inflation factor to be included in their price cap formulae.

- **Retail Price Index (RPI)/Consumer Price Index (CPI)**

The Commission is concerned about the ability of the Retail Price Index in Barbados to adequately reflect the changes in cost of inputs for the telecommunications industry. The items measured in the Retail Price Index in Barbados reflect items purchased by a typical consumer and are classified into the following groups:

(a) Food
(b) Alcohol Beverages and Tobacco
(c) Housing
(d) Fuel and Light
(e) Household Operations and Supplies
(f) Clothing and Footwear
(g) Medical and Personal Care
(h) Transportation
(i) Education, Recreation and Miscellaneous

The Commission notes the difficulties associated with identifying how changes in these categories relate to changes in telecommunications inputs. If there was a separate category that identified telecommunications the Commission could adopt the Retail Price Index with confidence. However since this is not separately identified and having regard to the fact that Cable & Wireless purchases a significant proportion of its telecommunications equipment and materials inputs from overseas the argument for using the Barbados Retail Price Index is weakened.

The Telecommunications Handbook[6] explains that the use of the retail price index poses a disadvantage in the Telecommunications industry. Their view is predicted on the fact that the telecommunications operators incur only a portion of their cost in retail consumer markets. Accordingly, this index may be a poor indicator of the inflation affecting the operator's cost structure.

On the other hand, some regulators for example in the UK, Europe and Australia have considered the consumer price index as the most appropriate standard. In Australia, for example, the consumer index was proposed as the standard measure for inflation on the basis that it was clearly beyond the control of the firm to manipulate the index. The argument is that other indices allow for some measure of manipulation by firms.

- **Producer Price Index**

The Producer Price Index measures changes in the prices of goods and services purchased by different types of production industries (e.g. prices for labour, freight transport, industrial electrical power.) The Commission recognises the need to use utmost care in attempting to use a Producer Price Index from the U.S.A. or Canada to ensure that only standard telecommunications cost inputs were measured.

- **Inflation Index**

According to the Telecommunications Regulation Handbook, it may be appropriate in a given circumstance to use an inflation index from another country (or inflations measured produced by United Nations organisations and/or international financial institutions, regional development banks, The World Bank, the IMF, etc.)

[6] Intvan, H., J. Oliver, and E. Sepulveda. 2000. "Telecommunications Regulatory Handbook – Module 1 Overview of Telecommunications Regulation" infoDev.

- **Composite Index**

The Commission is of the view that given that most of the infrastructure utilised by Cable & Wireless (Barbados) Ltd. is purchased in the Canadian and the United States markets, an inflation index chosen from their economies may be a better indicator of the material and equipment input costs of Cable & Wireless (Barbados) Limited.

Q1. Do you agree with the Commission's view that the Retail Price Index is likely to be a poor indicator of input cost changes in Barbados? Please give reasons why you agree or disagree.

Q2. What are your views on the Commission's suggestions that a composite index may better reflect the input costs of Cable & Wireless (Barbados) Limited.

4.2 Productivity Factor (X)

The productivity factor (X) is an efficiency objective set by a regulatory body for use in reducing revenues in a price cap formula. It is a measure of the operator's expected productivity increases over a relevant period. It provides the means by which the regulator allows consumers to benefit from cost reductions and improvements in the productive efficiency of the regulated firm under the Price Cap, without diminishing the ability of the company to achieve efficiency thresholds. The productivity factor specifies what productivity gains should be achievable by the company. If the company is able to achieve a greater level of productivity the company can retain the benefits of the efficiency within the term of the price cap plan.

The X-factor may be divided into basic offset and adjustment factors**.** The basic offset should reflect the operator's productivity growth and the adjustment factors are included to account for the operating environment.

- **Basic Offset**

The basic offset should reflect the operator's historical achievement of productivity growth. It is attained through an assessment of historical data on past productivity levels and input price growth rates. It provides the basis from which a future growth rate of return is derived.

Productivity levels are derived from an amalgamation of factors including:

- The potential for productivity growth in the industry and by the company;
- Expected growth in market demand;
- Expected market share of the company;
- The cost of capital to the company;
- The asset base of the company; and
- The profitability of the company at the beginning of the control period

- **Adjustments**

Once the basic offset is calculated certain adjustment factors may be added or subtracted to take into account changes in the operating environment of the regulated operator. Many regulators have adjusted the basic offset to take into account significant changes in the operating environment of the regulated operator. Adjustment factors are often determined based on benchmarking or predictive methods.

- **Historical Productivity**

There are two major approaches to determination of the X-factor. One approach, referred to as the historical productivity method, relies on historic information about the productivity performance of the regulated firm to set the basic offset.

Once the basic offset is calculated, adjustment factors based on regulatory benchmarking or other predictive methodologies may be added or subtracted to take into account changes in the operating environment of the operator. This approach is based on the understanding that past productivity, with adjustments, is a good indicator of future productivity. The implementation of this approach is subject to the availability of specific data. The calculation may be very data-sensitive and requires reliable and consistent data of adequate detail for a sufficient time period.

- **Regulatory Benchmarking**

The other approach, referred to as the regulatory benchmarking method, recognises that in some instances, past productivity performance may not be a good indicator of future expected performance. In these cases, the adjustment factors may be much more significant than the calculated basic offset. A benchmarked productivity factor is likely to be the only practical alternative in many developing countries. There the regulator is not likely to have access to reliable and consistent historical productivity data to determine the historical productivity factor.

Q3. What are your views if any, on how the X factor should be calculated?

Q4. What value of X do you think is appropriate? Please justify the value proposed by showing how it was calculated.

4.3 Initial Prices

The initial prices or going-in rates are extremely critical for the Price Cap Plan to accurately predict the company's revenue requirements so as to ensure an appropriate return on the service provider's investment in plant. The initial prices used in the Price Cap formula are generally the existing rates at the start of the Price Cap plan.

The ideal rates that should enter the Price Cap Plan are rates that have been rebalanced so that they reflect the true costs of providing individual services. In the event that rates are not rebalanced at the start of the plan the service provider may be permitted to rebalanced rates on specific services. This rebalancing should be subject to certain to limitations and terms to be determined by the regulator after consultation with the service provider.

The Commission may have to make adjustments to the going in rates for certain services, moving them from the approved rates or rates determined by the hearing where the Commission is of the view that changes in the market signify a material change in future earnings for that service.

For those services which fall outside of the reach of the regulator and the Price Cap it is expected that competitive forces will ensure that prices will tend toward cost orientation, provided that the regulated services are not allowed to provide them with cross-subsidies.

For those services which are to be regulated under the Price Cap, Cable & Wireless will be required to prove through approved cost studies that the prices are cost oriented and therefore that rates have been rebalanced.

The Commission has given consideration to the trend for certain overseas rates to move downward even without the direct influence of competition in

the market and has therefore considered the option of establishing going in rates for international services that reflect forecasts of the level of these rates over the length of the Price Cap review period.

Q5. Do you agree with the Commission's view that the going – in rates for some international services may need to be set based on forecasts that take into account the downward trend in such rates? Please give reasons for your conclusions.

4.3 Variations to the Basic Formula

- **The Exogenous Factor**

Exogenous factors may include significant industry structural changes and other factors outside of the operations of the company.

To the extent that exogenous factors are provided for in the Price Cap formula, the price cap index would be represented by:

$$PCI^t = PCI^{t-1} \times (1 + I^t - X \pm Z)$$

The Commission however, does not envisage any situations that are likely to give rise to exogenous factors that would warrant inclusion in the basic formula, and is therefore minded to exclude the exogenous factor "Z" from the Price Cap formula.

Q6. Are there any exogenous factors that you believe the Commission should consider for inclusion in the Price Cap formula? Please explain the nature of the exogenous factor and why you believe that it should be included.

- **Quality of Service (QOS) Factor**

The provision of telecommunication service in Barbados has traditionally been supplied by one company Cable & Wireless (Barbados) Ltd[7]. The establishment and monitoring of service standards is critical in areas where consumers do not have a choice of operators.

A major concern with the introduction of the Price Cap plan is that after the particular mechanism is agreed to and pricing parameters are set, the firm's attempt to increase efficiencies may be at the expense of the quality of service offered to customers. The monitoring of quality of service is therefore used to protect the consumer.

In establishing and monitoring quality of service standards, the Commission will seek to ensure that business and residential consumers of Cable & Wireless' regulated services receive value for money in the form of consistently high quality of service and that there is no unduly preferential or unduly discriminatory provision of such services.

The Commission is of the view that there is a direct correlation between quality of service and the prices charged for such services. The Commission therefore gave careful thought to the inclusion of a quality of service factor in the Price Cap Formula.

[7] Or one of the former entities C&W BARTEL, C & W BET, C & W Information Systems, C & W Caribbean Cellular

The inclusion of a quality of service factor may be done by:

- Establishing a series of QOS targets and assessing them individually;
- Determining a series of QOS targets with preset penalties or incentives; or by
- Including a QOS variable in the Price Cap formula.

Since the Commission wants to encourage Cable & Wireless to achieve an optimum level of efficiency and quality of service in order to improve the overall level of telecommunication services in the island, it is of the view that the company should be rewarded if the level of quality increases or penalised if the level of quality decreases relative to the price level.

The Commission considered the inclusion of a *Q* (quality of service) factor to ensure that the cost of service is commensurate with the quality of service offered to consumers and is not compromised in the company's quest for efficiency gains. However the Commission is of the view that it would be overly burdensome at the start of the Price Cap regulatory mechanism to seek to include a quality of service measure in the Price Cap formula.

The Commission is therefore minded to set a series of quality of service standards that Cable & Wireless must meet or exceed, but which will not be reflected as a component of the Price Cap formula. These standards would be established as overall standards and guaranteed standards. Failure to meet agreed overall and guaranteed standards would expose the company to predetermined penalties and fines to be paid to the Commission or to customers.

These standards are an integral part of the Price Cap framework. The level of the actual quality of service[8] and associated penalties and fines will be determined by a separate consultative process.[9]

Q7. Do you agree with the Commissions suggestion that quality of service issues should be excluded from the Price Cap formula and dealt with through a series of guaranteed and overall standards with appropriate penalties and rewards based on performance? If you disagree with this approach please explain what alternative approach you would recommend and why.

4.5 Services to be Regulated

Section 39 (5) of the Telecommunications Act, CAP.282B sets out the criteria by which the Commission should determine which services and rates should be subject to regulation by the Commission under the Price Cap.

This section states that:

> *"The Commission shall regulate the rates to be charged by a provider in respect of regulated services only where*
>
> *(a) there is one provider providing that service;*
>
> *(b) the Minister finds as a question of fact under subsection (6)*
>
> *(i) there is a dominant provider, or*
>
> *(ii) the market is not sufficiently competitive."*

[8] *For a more comprehensive discussion of quality of service issues see Appendix C*
[9] Telecommunications Service Standards Consultation Paper FTC/CONS01/04.

Under Statutory Instrument (S.I.) No. 108 Telecommunications (Regulated Services) Order 2003, the following categories of telecommunications services were determined to be subject to regulation by the Commission:

(a) International telecommunications services;
(b) Domestic voice telecommunications services;
(c) Services in respect of interconnection charges;
(d) Leased circuits; and
(e) International simple resale.

The Unregulated Services Policy of the Ministry of Energy and Public Utilities dated November 11, 2003 specifies that all other telecommunications services will be unregulated. These include but are not limited to :

(a) Mobile Retail Services;
(b) Internet Retail Services; and
(c) Customer Premises Equipment (CPE).

4.6 Service Baskets

Generally, related services may be grouped into "baskets" based on either homogeneity or similarities in demand price elasticities. However, the types of customers served by the firm and the need to provide pricing flexibility whilst protecting certain customer groups from price increases may also be considerations. Prices for individual services within the basket may increase or decrease provided that, in aggregate, they conform to the Price Cap formula. The Commission took the following factors into consideration in determining how to group services:

1. The number of baskets;
2. The number of services in each basket;

3. Whether further restrictions/sub-caps will be placed on the price movements within the baskets. The additional constraints can be upper or lower limits to price changes for services within the basket;
4. The treatment to be given to tariff packages and discounts;
5. The period specified for review of the formula; and
6. The degree of competition within each basket.

A service basket may, for example, include services such as local connection charges, monthly subscription fees, and local, domestic long distance and international call charges. Different baskets are subject to different price indices. In general, regulators apply cap regulation to services provided under monopoly or dominant provider basis and generally on basic services. In some instances, interconnection services are also capped to prevent anti-competitive behaviour by the dominant service provider.

The Commission is considering two options with respect to determining the number of baskets for regulated services as follows:

Option 1: Establish a single service basket to include domestic voice, interconnection charges, international simple resale, leased circuits and international telecommunications services.

In the case of this option, the Commission would be concerned over the fact that certain external factors such as declining accounting settlement rates and the penetration of voice over internet protocol (VOIP) are causing international rates to decrease and these decreases could be used to justify increases in other services in the basket.

The Commission could try to counteract this threat by establishing going-in rates for international services on the basis of forecasted rates given the

decrease expected from external forces such as the decline in accounting settlement rates and VOIP.

Option 2: Establish two separate baskets. Basket One (1) would include domestic voice, interconnection charges and leased circuits. Basket Two (2) would include international simple resale and international telecommunications services.

This option would reduce the propensity for the company to compensate for decreases in international revenues resulting from external factors by increasing rates to domestic customers.

Q8. Which option would you propose that the Commission adopt? Please explain the reasons for your choice of option

Q9. Would you prefer as an alternative that a separate basket be set up for international services in which the going –in rates could be set as the tariff rates or those set by the Commission and which allowed the company to increase some rates and lower others within the Price Cap.? Please give reasons for your views.

4.7 Duration of Price Cap

The duration of a price cap plan is an important consideration because the time granted should allow the incentive programmes implemented by the operator to be fully achieved. The longer the term of a price cap plan, the stronger the incentive for the operator to improve its performance.

In choosing a time period for the price cap plan it has to be taken into consideration that a regulator cannot estimate future productivity growth

with absolute certainty. In addition if the X factor were set imperfectly, the operator would either earn either sufficient revenues or unacceptably high profits.

Bearing the above in mind, regulators are generally of the view that the price cap duration should represent a minimum period during which the X factor will not be revised. The practice has been to choose a period ranging between three to five years.

Where all relevant factors are have been taken into account, a price cap plan should be sufficiently long to allow efficiency incentives to be acted on but not too long that market developments undermine the regime.

In considering the appropriate duration for the initial Price Cap regime, the Commission took the following into consideration:

- the rate of change in the market due to competition;
- the rate of change in the market due to innovation in technology;
- the degree of uncertainty in the economic parameters used to determine the level of X;
- the degree of risk associated with longer periods;
- the experiences of other jurisdictions; and
- the length of time afforded by the Telecommunications Act, which is a maximum of five years.

The Commission is minded to set the initial duration of the Price Cap plan at four years.

Q10. Do you agree with the proposal of the duration of four (4) years? Kindly provide your comments or concern(s) and alternative recommendations with respect to this proposed period are welcomed.

4.8 Treatment of Unused Cap Or Headroom

Some jurisdictions have allowed the service provider the option of carrying unused cap or headroom from one period to another in order to allow it to maintain greater flexibility in terms of the timing of its rate changes. Unused cap or headroom refers to any room for rate increases within the Price Cap formula that has not been exhausted within a period. This approach would allow the carrier the option of delaying legitimate rate increases if it so desires.

The Commission is of the view that the carryover of unused headroom from one period to the next becomes an issue in circumstances where sub-constraints placed on services within a basket restrain the firm from pricing to the level they would otherwise do to bring the headroom to zero and maximize profits. In most other circumstances, it will be in the interest of the firm to reach zero headroom each period and not elect to carry over excess. Since in doing so the company can capitalise on the profits that are afforded during a stipulated period.

The factors which would affect the firm's decision would be its discount rate and the supply and demand factors that affect a potential monopolist, including the growth in demand expected over the next period, and the change in sensitivity to prices[10].

Simply put, in order for the firm to carryover headroom, it must believe that the foregone profits in the current period due to pricing below the allowable level (to create headroom) will be more than offset by the discounted value of the extra profits gained in the next period due to the ability to price above the

[10] That is, the shifts in, and slope changes to, the demand curve respectively.

zero headroom levels of that period. It would be somewhat unusual for this to occur.

Q11. What are your comments on whether Cable and Wireless (Barbados) Limited should be permitted to carry over un-used cap from one year to the next.

SECTION 2 – CONSULTATION PROCESS

5. CONSULTATION PROCESS

5.1 Background

The Fair Trading Commission ("the Commission") established by the Fair Trading Commission Act, CAP 326B, is the independent regulator of international and domestic telecommunications services and electricity services.

In carrying out its duties as an independent regulator, the Commission must operate in a transparent, accountable and non-discriminatory manner. Consultative documents and the public consultation process are the main ways in which the Commission discharges its responsibilities relating to transparency and accountability.

In addition, the Commission is specifically charged under the Fair Trading Commission Act CAP 326B to consult with interested persons when it is discharging certain functions.

Section 4(4) of the *Fair Trading Commission Act, CAP. 326B* states:

> *"The Commission shall, in performing its functions under subsection (3)(a), (b), (d) and (f)[11], consult with the service providers, representatives of consumer interest groups and other parties that have an interest in the matter before it."*

[11] Section 4(3) of the Act states:

The Commission shall, in the performance of its functions and in pursuance of the objectives set out in subsections (1) and (2):

(a) establish the principles for arriving at the rates to be charged by service providers;
(b) set the maximum rates to be charged by service providers;. . .
(d) determine the standards of service applicable to service providers;. . .
(f) carry out periodic review of the rates and principles for setting rates and standards of service of service providers.

5.2 Consultative Documents

On important issues that arise in the regulation of the utility industries, the Commission may issue a consultative document, a public discussion paper, in which the Commission:

(a) brings to public attention important issues relating to utility regulation to promote public understanding and debate;
(b) puts forward options and/or proposals as to the approach to adopt in dealing with these issues, to seek to resolve them in the best interests of the consumer, the service provider and the society at large; and
(c) invites comments from interested parties, such as consumers, service providers, businesses, professionals and academics.

The issues at hand will influence the nature of the document and its content. On some issues, the Commission may simply set out what it regards as the available options and, although there would be some analysis of the pros and cons of the options, it might be that no one option emerges as the favoured or proposed approach. On other issues, the Commission might set out a clear preference for a particular approach and invite comments on this basis.

The views and analysis set out by the Commission in a consultative document are intended to invite comments which may cause the Commission to revise its views.

The consultative document generally includes a series of specific questions on which the Commission is particularly seeking comments. To ease the task of analysing comments, respondents should reference the relevant question numbers in the document. If they consider it appropriate, respondents may wish to address other aspects of the document for which the Commission has not prepared specific questions. Failure to provide answers to all questions

will in no way reduce the consideration given to the entire response. Commercially sensitive material should be clearly marked as such and included in an annex to the response.

5.3 Responding to this Consultation Paper

The Commission invites and encourages written responses in the form of views or comments on the matters discussed in the Paper from all interested parties including Cable & Wireless (Barbados) Limited, other regulated or soon to be regulated utilities, other licensed operators, government ministries, non-governmental organisations (NGO'S), consumer representatives, residential consumers, business of all sizes and their representatives, the academic community and all other stakeholders.

The Consultation period will begin on **September 6, 2004** and end on **October 15, 2004 at 4.00 p.m**. All written submissions should be submitted by this deadline. The Commission is under no obligation to consider comments received after 4:00 p.m. on October 15, 2004.

Copies of this Consultation Paper can be collected between the hours of 9.00 a.m. to 4.00p.m, Mondays to Fridays during the consultation period from the Commission's offices at the following address:

Fair Trading Commission
Manor Lodge
Lodge Hill
St. Michael
BARBADOS

The Consultation Paper can also be downloaded from the Commission's website at http://www.ftc.gov.bb

Respondents to the Consultation may submit responses in electronic format. The Commission would prefer that email responses be prepared as word documents, attached to email cover letter and forwarded to: info@ftc.gov.bb

Responses can be faxed to the Commission using fax number (246) 424-0300.

Mailed or hand delivered responses should be addressed to the Commission Secretary at the above mailing address.

5.4 Confidentiality

The Commission is of the view that this consultation is largely of a general nature. The Commission expects to receive views from a wide cross section of stakeholders and believes that views and comments received should be shared as far as possible with all respondents.

Respondents should therefore ensure that they indicate clearly to the Commission any response or part of a response that they consider to contain confidential or proprietary information.

5.5 Analysis of Responses

The Commission expects, in most consultations, to receive a range of conflicting views. In such circumstances, it would be impossible for the Commission to agree with all respondents. Through its documents the Commission will seek to explain the basis for its judgments and where it deems appropriate give the reasons why it agrees with certain opinions and disagrees with others. Sometimes analysis of new evidence presented to the Commission will cause it to modify its view. In the interests of transparency and accountability, the reasons for such modifications will be set out and,

where the Commission disagrees with major responses or points that were commonly made, it will in most circumstances, explain why.

5.6 List of Questions/Comments

Q1. Do you agree with the Commission's view that the Retail Price Index is likely to be a poor indicator of input cost changes in Barbados? Please give reasons why you agree or disagree.

Q2. What are your views on the Commission's suggestions that a composite index may better reflect the input costs of Cable & Wireless (Barbados) Limited.

Q3. What are your views if any, on how the X factor should be calculated?

Q4. What value of X do you think is appropriate? Please justify the value proposed by showing how it was calculated.

Q5. Do you agree with the Commission's view that the going – in rates for some international services may need to be set based on forecasts that take into account the downward trend in such rates? Please give reasons for your conclusions.

Q6. Are they any exogenous factors that you believe the Commission should consider for inclusion in the Price Cap formula? Please explain the nature of the exogenous factor and why you believe that it should be included.

Q7. Do you agree with the Commissions suggestion that quality of service issues should be excluded from the Price Cap formula and dealt with through a series of guaranteed and overall standards with

appropriate penalties and rewards based on performance? If you disagree with this approach please explain what alternative approach you would recommend and why.

Q8. Which option would you propose that the Commission adopt? Please explain the reasons for your choice of option.

Q9. Would you prefer as an alternative that a separate basket be set up for international services in which the going –in rates could be set as the tariff rates or those set by the Commission and which allowed the company to increase some rates and lower others within the Price Cap.? Please give reasons for your views.

Q10. Do you agree with the proposal of the duration of four (4) years? Kindly provide your comments or concern(s) and alternative recommendations with respect to this proposed period are welcomed.

Q11. What are your comments on whether Cable and Wireless (Barbados) Limited should be permitted to carry over un-used cap from one year to the next.

APPENDIX - COMPARISON OF RATE OF RETURN AND PRICE CAP REGULATION

Rate of Return Regulatory Environment

The traditional regulatory scheme used to regulate telecommunications in Barbados has been rate of return regulation. The focus of the regulator under the rate of return scheme is on cost or more precisely on the "cost of service" of the regulated entity. This cost of service establishes the revenue requirement of the utility, and includes a provision set by the regulator for the company to earn up to a certain level of return on capital employed in providing regulated services.

Rate of Return regulation provides an operator with relative certainty that it can meet its revenue requirement on an ongoing basis. Its application was very popular in jurisdictions where monopoly operators operate.

Under the rate of return system of regulation therefore, the telecommunications service provider could be confident of its ability to achieve its financing objectives.

Advantages of Rate of Return Regulation

Flexible in Design

Regulatory lags which originate from within rate reviews, provide some cost incentives to the firms. Regulators have strong incentives not to accept all costs and investments at face value. Finally as there is no such thing as an exogenously given required rate of return, regulators could penalise the firm for unusually high costs.

Limits Monopoly Rents

Monopoly rental refers to when a operators lobby governments for taxing, spending and regulatory policies that confer financial benefits or other special advantages upon them at the expense of the taxpayers or of consumers or of other groups or individuals with which the beneficiaries may be in economic competition.

Provides Stable Environment to Attract Investment

A stable environment attracts investment and this stable environment occurs because investors are guaranteed that the operator would meet a specified revenue every fiscal year.

Disadvantages of Rate of Return Regulation

Encouragement of Over-Capitalisation

Rate of Return regulation encourages over-capitalisation which is one of its major weaknesses. The higher the capital expenditure, the higher the rate base, and the greater the total return the operator can earn. It therefore encourages the operator to use an inefficient input mix. The operator will have an incentive to use an inefficiently high capital/labour ratio for its level of output.[12]

Lack of Incentive to Minimise Costs

In Rate of Return regulation, the operator's prices are set at a level sufficient to cover its costs. This is why Rate of Return regulation is often referred to as "cost plus regulation". The operator therefore has little incentive to reduce its rate base or its operating costs.

[12] This is commonly referred to as the Averch-Johnson effect

Inhibits Productivity Improvement

Over time Rate of Return regulation of a monopoly operator will lead to a lower rate of productivity than would occur under effective competition as Rate of Return regulation does not provide the operator with a strong incentive to increase its productivity.

Inhibits Technological Advancement

The system provides no incentive for the operator to increase efficiency by introducing new technologies since the operator is guaranteed a fixed rate of return.

There may also be some reluctance to introduce new services as a result of new technologies since a regulatory hearing may be required and the operator may not wish to incur the expense associated with such hearings.

Occurrence of Regulatory Lags

The process of rate hearings and reviews could be lengthy and by the time the regulator makes a decision the market could have changed.

Cost of Regulation

ROR regulation requires the operator and the regulator to spend significant amounts of time and money. The rate base must be repeatedly calculated by the operator and reviewed by the regulator. The cost of capital must also be recalculated. Rate reviews or hearings must also be held regularly incurring costs to the regulator, operator and other participants.

Difficulties Determining the Value of the Rate Base[13]

The key issue in determining the rate base is the valuation of the utility's plant and equipment. This has been the cause of much controversy over the years since the total valuation of the plant and equipment may vary with the particular method of valuation applied.

Prices that accurately reflect costs not only encourage the efficient allocation of resources but permit productivity gains and investor confidence. Price regulation can be viewed as an attempt to create an environment where prices reflect efficient costs whilst simultaneously minimizing the adverse effects of monopoly behaviour.

Price regulation addresses financial prudence and sustainability, efficiency and equity.

- Financial prudence and sustainability occurs where the regulated firm or firms are permitted to earn sufficient revenue to finance on-going operations and future prospects.

- Efficiency pertains to the attainment of allocative, productive and dynamic efficiency.

    - Allocative efficiency is attained when prices reflect marginal costs or the relative scarcity of resources.
    - Productivity efficiency where efficient service is attained through minimal, yet correct mix of inputs; and
    - Dynamic efficiency where there is a shift from the efficient use of one set of resources to another.

[13] Public Utility Economics (1964) by Garfield and Lovejoy –Prentice Hall Inc

- Finally, equity implies that the consumer benefits from the productivity gains of the company and that the costs of service are fair and reasonable to the extent that it permits universal attainment of service.

It is therefore left to the regulator to ensure that the mode or method of price regulation used encapsulates the incentives and distributes the rewards of effective pricing to the relevant stakeholders – the government, Cable & Wireless, other telecommunications service providers, rate payers (residential and business), potential investors, and non governmental organisations.

Regulation in a Liberalised Environment

The difficulties associated with rate of return have encouraged regulators to look for an alternative regulatory framework where there is a streamlining of the rate-setting process, a focus on efficiency and incentives and increased emphasis on quality of service issues.

In the case of the Commission, the movement toward an incentive based rate setting mechanism was facilitated by the Telecommunications Act CAP 282B. Part V111 of the Telecommunications Act addressed the issue of the rates to be charged by a service provider[14]

Under section 39 (1) the need for the Commission to establish a rate setting mechanism is established and subsection (2) adds the requirement that "the rates referred to under subsection (1) shall be such as to facilitate the policy of market liberalisation and competitive pricing.

[14] Section 37 (1) states "For the purpose of this Part, "provider" means a service provider that provides a regulated service under this Act. Under subsection (2) "A regulated service" means a service designated by the Minister as a service in respect of which the Commission or the Minister approves the rates of the service in a manner referred to in section 38.

Subsection (3) of section 39 of the Telecommunications Act[15] states that the Minister shall after consultation with the Commission, requires that the Commission use an incentive based rate setting mechanism to establish the rates to be charged by a service provider.

The Commission and the Minister duly consulted and on November 30th 2001, after careful consideration of alternative systems of incentive based rate setting mechanisms, the Commission advised the Ministry that it would adopt the Price Cap Mechanism with a quality of service factor, as the incentive based mechanism.

The Price Cap plan is expected to be established before the last phase of the liberalisation process where licenses are awarded to other providers of international telecommunications services.

The advantages and disadvantages of price cap regulation are given below[16]:

Advantages of Price Cap Regulation

Provide incentives for greater efficiency

The operator has the incentive to increase his efficiency so that the actual productivity of the firm would be greater than the expected X-factor. They will benefit from this additional profit until the price cap factors are revised.

Streamlines the regulatory process

The regulators are able to schedule hearings and plan their work better because the period of the price cap is determined and in most cases there is no requirement for hearing outside of this period.

[15] *For a fuller discussion on the legislative framework see Appendix A*
[16] *An comprehensive discussion on price cap regulation in provided in the Commission's Information Paper on Price Cap Regulation*

Provides greater pricing flexibility

The operator has the freedom to adjust prices of services as long as the prices are within the price cap.

Protects the consumers and competitors by limiting price increases

The operator cannot increase prices greater than that set by the price cap

Limits the opportunity for cross subsidization

The regulators choice of the services in each basket will protect the consumer from cross subsidisation.

Administratively simple

Ideally this should happen but experiences in the USA and UK have shown that there was not the hands-off regulation of prices that was expected. This is due primarily to the regulators frequent intrusion to fine tune the simple formula

Disadvantages of Price Cap Regulation

Difficulty in determining appropriate efficiency factor

Unrealistic efficiency factors may give the operators unacceptable levels of returns. If the efficiency factor is too low the operator will gain unreasonable profits.

A direct relationship between utility costs and indices does not always exist.

It has been shown that utility costs are not directly related to general inflation indices.

Operator's flexibility could be inhibited

If the price cap scheme becomes too complex with a large number of baskets and restrictions it will inhibit the operators flexibility[17].

The operator has increase risk which tends to raise their cost of capital

Unlike rate of return, the regulator sets no target rate of return so the firm's rate of return may vary and the investor would consider this a riskier investment. Studies in the United Kingdom, USA and Japan show that beta (a measure of the risks that affect the firm's capital cost) is greater for industries that use the price cap regulation than those that use rate of return.[18]

[17] Price Cap regulation for telecommunications. Patrick Xavier
[18] Public Policy for the Private Sector ;World Bank Group September 1996