



# **Price Regulation Framework for Telecommunications Services in Trinidad and Tobago**

<b>Maintenance History</b>		
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# 1 Introduction

## 1.1 Requirements for a Price Regulation Framework

The objects of the Telecommunications Act ("The Act") as outlined in Section 3 of the Act are to establish conditions for, inter alia:

- An open market for telecommunications, including conditions for fair competition;
- The facilitation of the orderly development of the telecommunications system that services to safeguard, enrich and strengthen the national, social, cultural and economic well-being of the society;
- Promoting and protecting the interests of the public; and
- Promoting the telecommunications industry in Trinidad and Tobago by encouraging investment in, and the use of, infrastructure to provide telecommunications services.

Price regulation is sometimes necessary in a liberalised market to ensure the achievement of these objectives. Accordingly, section 29 of the Act grants the Telecommunications Authority of Trinidad and Tobago ("the Authority") the power to regulate the prices of telecommunications services under certain market conditions. In particular, as outlined in Section 29 (2) of the Act, the Authority may "...establish price regulation regimes, which may include setting, reviewing and approving prices, in any case where-

- (a) there is only one concessionaire operating a public telecommunications network or providing a public telecommunications service, or where one concessionaire has a dominant position in the relevant market;
- (b) a concessionaire operating a public telecommunications network or providing a public telecommunications service cross-subsidises another telecommunications service provided by such concessionaire; or
- (c) the Authority detects anti-competitive pricing or acts of unfair competition."

Most markets in the telecommunications sector are either currently serviced by one telecommunication provider or in the early stages of competition. Therefore the

determination of market prices through the principles of supply and demand may not hold. Even in situations where there may be a number of providers in a particular market for an extended period, effective competition may not exist where market prices are determined purely on the basis of supply and demand. As a result, the Authority may be required to develop alternative means ("price regulation regimes") of facilitating an environment where prices in the market will maximize society's welfare.

The purpose of this Price Regulation Framework is to outline the principles adopted by the Authority in making recommendations to the Minister for the making of the necessary regulations. The approach followed in this document is based on the requirements of Section 29 of the Act, for the Authority to define relevant telecommunications services markets, assess whether there is dominance or exclusivity of supply within those markets, and impose price regulation only so justified. The presumption, as indicated in Section 29(1) of the Act, is that in the absence of dominance (jointly or otherwise) or proven anti-competitive behavior, prices will be determined by providers in accordance with the principles of supply and demand in the market.

## **1.2 Review Cycle**

As the telecommunications sector grows and develops into more competitive markets the need will arise to revise and update the type of price regulation regime that is employed by the Authority. And as such, the price regulation framework will be modified in consultation with concessionaires, stakeholders, interested parties and the public, as the Authority deems appropriate. The maintenance history will be modified accordingly.

## **1.3 Consultation Process**

On December 6<sup>th</sup> 2006, the Authority published the first draft of this document and invited the comments and recommendations from all interested parties. The first consultation period ended on January 29<sup>th</sup> 2007. The Authority received several comments from the following parties:

- Telecommunications Services of Trinidad and Tobago (TSTT)
- Digicel (Trinidad) Limited
- The Ministry of Public Administration and Information
- Windward Telecom
- Columbus Communications (Trinidad) Limited

On June 27<sup>th</sup> 2008, the Authority published a revised draft Price Regulation Framework which took into consideration the comments and recommendations received in the first consultation round. A Decisions on Recommendations (DOR) Matrix was included at Annex II of that document (also included at Annex III of this version), and provides all the comments and recommendations received in the first consultation round and the Authority's decisions in respect of those. The Authority received several comments from the following stakeholders in the second consultation round:

- Telecommunications Services of Trinidad and Tobago (TSTT)
- Digicel (Trinidad) Limited
- Windward Telecom
- 360 Communications Limited
- Columbus Communications (Trinidad) Limited
- Independent Cable Network of Trinidad and Tobago (ICNTT)

Both rounds of consultation were conducted in accordance with the Authority's *Procedures for Consultation in the Telecommunications Sector of Trinidad and Tobago*. This document represents the final version of the Price Regulation Framework. A DOR Matrix has been included at Annex II of this document, which provides all comments and recommendations received in the second consultation round and the Authority's decisions in respect of those.

## 2 Market Analysis

### 2.1 Identification of Markets

The first step in the price regulation process is to identify the relevant service markets in which *ex-ante* regulation *may* be needed in Trinidad and Tobago. There are two main types of relevant markets in the telecommunications sector; markets for services provided to the end-users and markets for the inputs which are necessary for operators to provide services and products to end-users. These markets are called retail and wholesale markets respectively. However, within these two broadly defined markets, further classification may be needed to separate markets.

In sub-classifying the domestic telecommunications market, the Authority recognizes that markets have been defined traditionally, by characterizing said markets over a given time horizon, taking into account demand-side and supply side substitutability with consideration of the following parameters:

- (i) the relevant products or services; and
- (ii) the geographic extent of the market.

When given effect to the first parameter, the Authority recognizes from the global experience that many regulatory authorities expend a great deal of time and money in identifying separate telecommunications markets and in assessing the degree of their competitiveness. This is typically achieved through the utilization of market research and economic tests to identify groups of products and services that can be used interchangeably and hence to define separate markets. It is further recognized by the Authority that these regulatory agencies, assess the extent of competition in each market by judging whether any service provider is dominant or has significant market power in the identified markets, which enables it to fix prices independently of consumer demand and the price levels of competitors.



The Authority does not believe that such a complex approach is necessary in a small country such as Trinidad and Tobago prior to the establishment of price regulations and which is still at the early stages of market liberalization. The Authority is of the view therefore that for the purposes of price regulation, retail and wholesale markets should be further defined by taking into consideration the types of concessions that are granted in the Trinidad and Tobago market, as this would be consistent with the types of retail services that are eventually provided to end-users in addition to the types of wholesale services that are eventually provided to service-based concessionaires by network-based concessionaires.

In Trinidad and Tobago (T&T), concessions are awarded in accordance with the Authority's Authorization Framework for the Telecommunications and Broadcasting Sectors of Trinidad and Tobago. This Framework not only defines the different types of concessions that can be provided but also seeks to facilitate minimal barriers to entry and competition in converged telecommunications markets, by adopting, as far as practicable, a service- and technology-neutral approach to authorizing telecommunications networks, and public telecommunications and broadcasting services. In T&T therefore, concessions are granted for the operation of public telecommunications networks, the provision of public telecommunications services and the provision of broadcasting services. The types of concessions that can be granted are summarized in Table 1.

Table 1

Network-based concessions		Service-based concessions		
Type 1 <sup>1</sup>	Type 2 <sup>2</sup>	Type 3 <sup>3</sup>	Type 4 <sup>4</sup>	Type 5 <sup>5</sup>
International Network	International Network and any telecommunications service (e.g.) voice, Internet	Virtual international network and any telecommunications service (e.g.) voice, Internet	Voice services Internet Services	Free-to-Air TV Free –to-Air Radio  Subscription Broadcasting
Domestic Mobile Network	Domestic Mobile Network and any telecommunications service (e.g.) voice, Internet	Virtual domestic mobile network and any telecommunications service (e.g.) voice, Internet	Voice services Internet Services	Free-to-Air TV Free –to-Air Radio  Subscription Broadcasting
Domestic Fixed Network	Domestic Fixed Network and any telecommunications service (e.g.) voice, Internet	Virtual domestic fixed network and any telecommunications service (e.g.) voice, Internet	Voice services Internet Services	Free-to-Air TV Free –to-Air Radio  Subscription Broadcasting

While this sub-classification is necessary, the Authority recognizes that further disaggregating of markets is necessary. In accomplishing this, the Authority draws from the global experience, more specifically, the European Union (EU). In that jurisdiction, the European Commission distilled a list of relevant telecommunications product and service markets, of which it identified eighteen (18) separate markets that may be susceptible to ex ante regulations (Table 2). This EU regulatory framework came into existence in July 2003 but, after nearly three years, the market analysis process was incomplete in most EU Member States. Irrespective of the specific challenges facing the

<sup>1</sup> *Network-Only Concession (network-based):* Authorises a concessionaire to own or operate a public telecommunications network, without the provision of public telecommunications or broadcasting services.

<sup>2</sup> *Network-Service Concession (network-based):* Authorises a concessionaire to own or operate a public telecommunications network in addition to providing public telecommunications services over that network.

<sup>3</sup> *Virtual Network-Service Concession (service-based):* Authorises a concessionaire to provide public telecommunications services, without an authorization to own and/ or operate a physical public telecommunications network, in a manner that is transparent to the end user

<sup>4</sup> *Telecommunications Service Concession (service-based):* Authorises a concessionaire to provide a specific public telecommunications service(s) without an authorization to own and/ or operate a telecommunications network

<sup>5</sup> *Broadcasting Service Concession (service-based):* Authorises a concessionaire to provide a broadcasting service without an authorization to operate a telecommunications network

various National Regulatory Authorities in the EU, the Commission, decided in November 2007 to reduce the list of markets susceptible to *ex ante* regulation given the extent of liberalisation in European telecommunications markets.

**Table 2: List of markets as defined by the European Commission in 2003**

	<b>Retail</b>	<b>Wholesale</b>	
Fixed	Access market – residential	Call origination	
	Access market – business	Call termination	
	Local/national calls – residential	Call transit	
	Local/national calls – business	Leased line termination	
	International calls – residential	Trunk leased lines	
	International calls – business	Unbundled local loops	
	Leased lines	Broadband access	
	Data services *		
	Mobile	Calls*	Access and call origination
		Roaming*	Call termination
SMS*		International roaming	
		SMS*	
Broadcasting		Transmission and distribution	

\* Markets considered as competitive and therefore not subject to ex-ante regulation in the EU

Given that competition in the Trinidad and Tobago market is not as mature as that of the current European market the Authority will base its market definitions on the 2003 EU set of specific markets with minor modifications for ensuring suitability for the local environment. In this approach, the Authority utilizes the broad definition of markets (retail and wholesale), the specificities of the Authority’s Authorization Framework while incorporating the EU’s specific market definitions to distill an array of markets that can be used where it is determined that price regulation *may* be necessary. The Authority recognises however, that market definitions change over time as the characteristics of products and services evolve and the possibilities for demand and supply substitution change. Therefore when the Authority determines that a review of market definitions are warranted, the Authority will do so in consultation with the industry.

***Statement on the Definition of Telecommunications Markets for Trinidad and Tobago:***

*Where price regulation may be necessary, the Authority will use the market definitions of the EU, with minor modifications for ensuring suitability for the local environment. The Authority may review these definitions as the market environment changes. On this basis, the Authority shall adopt the following market definitions for Trinidad and Tobago at this time:*

	<b>Retail</b>	<b>Wholesale</b>
<b>Domestic Fixed</b>	Narrowband (voice) access <sup>6</sup>	Unbundled Access <sup>7</sup>
	Broadband access <sup>8</sup>	Broadband Access <sup>9</sup>
	Voice services <sup>10</sup>	Internet Services <sup>11</sup>
	Narrowband Internet <sup>12</sup>	Interconnection services- Origination <sup>13</sup>
	Broadband Internet <sup>14</sup>	Interconnection services – Transit <sup>15</sup>
		Interconnection services - Termination <sup>16</sup>
		Domestic Leased Circuits <sup>17</sup>
<b>International</b>	International voice calls <sup>18</sup>	International Leased Circuits <sup>19</sup>
		International Fixed Termination <sup>20</sup>
		International Mobile Termination <sup>21</sup>
		International Fixed Origination <sup>22</sup>

<sup>6</sup> Narrowband access to a public telephone network at a fixed location by an individual for the purpose of accessing voice telephony services, including the following services: Residential narrowband (voice) access and Business narrowband (voice) access.

<sup>7</sup> Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location

<sup>8</sup> Retail broadband access to a public telecommunications network or service at a fixed location, and may include the following services: residential broadband access and business broadband access.

<sup>9</sup> Wholesale non-physical or virtual access including bit-stream' access at a fixed location.

<sup>10</sup> Publicly available local and/or national retail telephone services available at a fixed location, and may include the following services: fixed to fixed calls, fixed to mobile calls and public payphone

<sup>11</sup> Wholesale Internet services offered to concessionaires for the purposes of providing Internet services at the retail level.

<sup>12</sup> Publicly available narrowband Internet services provided at a fixed location

<sup>13</sup> Traffic origination services provided on a public fixed telecommunications network.

<sup>14</sup> Publicly available broadband Internet provided on a public fixed telecommunications network

<sup>15</sup> Transit services provided over a public fixed telecommunications network

<sup>16</sup> Traffic termination services provided over a public fixed telecommunications network

<sup>17</sup> Wholesale terminating segments of domestic leased lines and wholesale trunk segments of domestic leased lines, irrespective of the technology used to provide leased or dedicated capacity

<sup>18</sup> Publicly available international public telephone services provided on any network.

<sup>19</sup> Wholesale terminating segments of international leased lines and wholesale trunk segments of international leased lines, irrespective of the technology used to provide leased or dedicated capacity

<sup>20</sup> The termination of international traffic on a domestic public fixed telecommunications network

<sup>21</sup> The termination of international traffic on a domestic public mobile telecommunications network

<sup>22</sup> The origination of international traffic on a domestic public fixed telecommunications network

	<i>Retail</i>	<i>Wholesale</i>
		<i>International Mobile Origination</i> <sup>23</sup>
<i>Domestic Mobile</i>	<i>Voice Calls</i> <sup>24</sup>	<i>Interconnection services - Origination</i> <sup>25</sup>
	<i>Messaging Services</i> <sup>26</sup>	<i>Interconnection services - Termination</i> <sup>27</sup>
	<i>Narrowband Internet</i> <sup>28</sup>	
	<i>Broadband Internet</i> <sup>29</sup>	
	<i>Roaming</i> <sup>30</sup>	

As it pertains to the second parameter, the Authority defines the geographical extent of markets by the extent of homogeneous, or close to homogeneous, supply and demand conditions. In applying this parameter, the Authority intends to work from the presumption that all markets in T&T should be defined as national markets unless there is strong evidence of non-homogeneous conditions across the country. This might, for example, arise from the fact that some concessions have been granted by territory (major territory = Trinidad; minor territory = Tobago), and niche concessions have also been granted, e.g. for under-served areas.

***Statement on Geographic Markets:***

*In principle, markets will generally be consistent with concessions granted by the Minister. However, for the purpose of price regulation, the Authority shall define all geographic markets as national, unless there is strong evidence of non-homogeneous conditions across the country.*

The Authority wishes to draw the reader’s attention to one important caveat namely, that although this framework proposes specific markets, it does not mean that *ex ante* price regulation will be necessary in all cases. The following sections provide the criteria that the Authority proposes to use to determine whether a defined market requires *ex ante* price regulation.

<sup>23</sup> *The origination of international traffic on a domestic public mobile telecommunications network*

<sup>24</sup> *Publicly available domestic public telephone services provided on a mobile network.*

<sup>25</sup> *Traffic origination services over a public mobile telecommunications network*

<sup>26</sup> *Publicly available messaging services provided on a public mobile network.*

<sup>27</sup> *Traffic termination services over a public mobile telecommunications network.*

<sup>28</sup> *Publicly available narrowband Internet services provided on a public mobile network*

<sup>29</sup> *Publicly available broadband Internet services provided on a public mobile network*

## 2.2 Classification of Markets

Section 29(1) of the Act states that:

*“Prices for telecommunications services, except those regulated by the Authority in accordance with this section, shall be determined in accordance with the principles of supply and demand.”*

The Act identifies two separate market conditions in which price regulation may be required. Section 29(2)(a) refers to markets in which there is only one concessionaire, or in which there is a dominant concessionaire, with dominance being defined in terms of "a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and, ultimately, consumers".

The Authority therefore proposes to classify markets, using the conditions outlined in Sections 29(1) and 29(2) (a) of the Act, as competitive, contested or uncontested. These categories may be defined as follows:

- (i) ***competitive markets*** – markets in which there is more than one concessionaire and none of the concessionaires are perceived to be dominant. In other words, markets in which prices are determined in accordance with the principles of supply and demand.
- (ii) ***contested markets*** – markets in which there are two or more concessionaires, but where one or more concessionaires may be dominant or jointly dominant.
- (iii) ***uncontested markets*** – markets in which there is only one concessionaire providing services.

In measuring the degree of competitiveness or lack thereof and in classifying markets as competitive, contested or uncontested, the Authority proposes to use the Hirschmann-Herfindahl index (HHI). The HHI index is based on the total number and size distribution of firms in an industry. In the United States (US), competition authorities use the HHI to

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<sup>30</sup> Publicly available roaming services provided on a public mobile network.

evaluate the potential effects of a merger on market concentration. The US Horizontal Merger Guidelines defines a pre-merger market as being:

- Unconcentrated if the HHI is less than 1000,
- Moderately concentrated if the HHI is between 1000 and 1800, and
- Highly concentrated if the HHI is above 1800.

The Authority proposes to use the pre-merger classifications of the US Horizontal Merger Guidelines as a guide in the classification of markets. The Authority therefore proposes to classify markets in the telecommunications sector as follows:

- Competitive if the HHI is less than or equal to 1800,
- Contested if there are more than one concessionaire in the market and the HHI is greater than 1800, and
- Uncontested if there is only one concessionaire providing services in the market and the HHI is equal to 10000.

These market classifications advance the following rationale for price regulation or absence thereof:

- In an uncontested market (where there exists only one concessionaire which may be the result of a legal monopoly or of high barriers to entry) some form of price control is necessary to counteract the tendency of a monopolist towards high prices and inefficiency.
- In a contested market (where there exists more than one concessionaire), any dominant operator is still in a position where it can set high prices and maintain inefficiencies. However, the presence of alternative suppliers in the market may place constraints on the power of the dominant concessionaire. Hence in contested markets there may be less need for price controls.
- In competitive markets there should be no need for price controls as the market should be functioning in accordance of the principles of supply and demand except where the Authority detects anti-competitive behaviour.

***Statement on Classification of Markets:***

*The Authority shall classify markets as competitive, contested or uncontested as follows:*

*(i) competitive markets – markets in which there is more than one concessionaire and none of the concessionaires is perceived to be dominant, or where the market has an HHI of less than or equal to 1800*

*(ii) contested markets – markets in which there are two or more concessionaires, but where one or more concessionaires may be dominant or jointly dominant or where the market has an HHI of more than 1800.*

*(iii) uncontested markets – markets in which there is only one concessionaire providing services in the market and the market has an HHI that is equal to 10,000.*

*The Authority will only consider imposing ex ante price regulatory mechanisms in those markets which have been classified as contested and un-contested. Markets with higher HHI levels will be given more consideration by the Authority in determining whether there is need for conducting dominance assessments or whether ex ante price regulation mechanisms should be imposed.*

### **2.3 Assessing Dominance**

The definition of dominance given in Section 29(8) of the Act is the classic definition of dominance usually used in Competition Law. Normally it is applied *ex-post* when potentially anti-competitive behavior has been identified. In the Authority's price regulation regime the principle of dominance is being applied *ex-ante*, so there is a need for a relatively simple determinant of dominance. In line with international practice, the Authority proposes that market share should be used as the first indicator of dominance. Additionally, the Authority may also consider the other factors prescribed in Section 29(8) of the Act in making a final determination.

Regulators use a range of methods to assess whether particular operators have dominance in a particular market, but principally they have used market share as the best determinant



of dominance. For example in Europe an operator with a market share of under 25% is unlikely to have market power; but with a share of over 40%, it is presumed to be dominant. Regulators may divert from these market share guidelines using other indicators of the presence or absence of market power (for example economies of scale and scope, technological advantages, and control of infrastructure).

The Authority considers that for Trinidad and Tobago, given the state of market development and liberalization, a simple rule based on market share is appropriate for determining dominance. Any operator with a market share of at least 40% will be presumed to be dominant. Market share would normally be measured by total gross revenues in the market, but the Authority may, at its discretion, also take account of market share measured in terms of subscriber numbers or call volumes.

***Statements on Assessment of Dominance:***

*The Authority will assess dominance in a market by considering the extent to which any concessionaire in that market is, based on any or all of the factors listed below, in a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers. The factors for consideration of dominance shall include::*

- *Market share measured in terms of subscriber numbers, traffic volume and or capacity;*
- *The extent to which the market is concentrated;*
- *The trends in market share in the relevant market;*
- *The overall size of the concessionaire's undertaking;*
- *Access to financial resources;*
- *Vertical integration;*
- *Diversification of products or services;*
- *Absence of, or low, countervailing buying power;*
- *There exist high barriers to entry;*
- *The power of the concessionaires operating in the market to set prices;*
- *Excess pricing and profitability;*

- *Lack of active competition on non-price factors;*
- *Barriers to switching;*
- *Customers ability to access and use information;*
- *Technology trends relevant to the market;*
- *The degree of differentiation among services in the market.*

*Where a concessionaire has 40% or more of total revenues in the relevant market, for a continuous period of six (6) months or more, the concessionaire may be subject to a rebuttable presumption of dominance. The six (6) month period may be measured retrospectively. The concessionaire may rebut the presumption by demonstrating, to the satisfaction of the Authority, that it is not in a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers. The presumption may be rebutted by reference to any or all of the factors set out above for assessment of dominance.*

*The Authority will ensure that it takes into account any presence of multi-sidedness in any market when it considers dominance in that market. The Authority will also ensure that its procedures for assessing dominance will afford affected concessionaires an opportunity to make representations to the Authority on the determination.*

Further particulars of the manner in which the above factors will be considered by the Authority are provided at Annex I.

### **2.3.1 Essential facilities**

Essential facilities (also known as *bottleneck facilities*) are found in wholesale markets, where a service provider must have access to particular facilities in an operator's network in order to provide its own (and often competing) retail services. In most countries the regulator has a role in setting the prices for access to essential facilities. Essential facilities are typically regarded as having all of the following characteristics:

- They are exclusively or predominantly provided by a single or a limited number of suppliers

- They are required by competitors in order to compete in the relevant markets
- They cannot practically be duplicated or substituted by competitors for technical or economic reasons.

A telecommunications operator that controls an essential facility has both the incentive and the means to limit access to the facility by its competitors. It becomes a matter of public interest to ensure that essential facilities are available to competitors on reasonable terms. Without such access, competition will suffer and the sector will be developed less efficiently than it could.

The most common examples of essential facilities are call termination and local loops, provided that the conditions outlined above are satisfied. In order to terminate calls to customers on another network, service providers have no choice but to use the call termination service of the network to which the called party is connected. In effect, each concessionaire is the monopoly supplier of call termination services to its customers. Similarly each provider of local loops may have monopoly control over access to its customers.

***Statement on Essential Facilities:***

*The Authority shall use the following criteria in determining whether a facility is essential:*

- *They are exclusively or predominantly provided by a single or a limited number of suppliers;*
- *They are required by competitors in order to compete in the relevant markets; and*
- *They cannot practically be duplicated or substituted by competitors for technical or economic reasons.*

*A concessionaire which controls an essential facility shall be classified as dominant in the provision of that essential facility. The pricing of essential facilities shall be cost-based.*

### 2.3.2 Joint dominance

It may be that a single participant in a telecommunications market does not meet the criteria of market dominance, but that the actions of that participant combined with the actions of other market participants result in “a degree of market power sufficient to permit them to behave independently of competitors or consumers”. This is a situation of joint dominance. In exceptional circumstances the jointly dominant market participants may have entered into an agreement to co-ordinate their behaviour – these instances can be dealt with using regulatory powers directed at anti-competitive agreements. However, it is also possible for market participants to co-ordinate their behaviour, resulting in joint market dominance, without any explicit agreement.

***Statement on Joint Dominance:***

*The Authority will declare two or more concessionaires jointly dominant if those concessionaires jointly demonstrate a position of economic strength affording them the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.*

*In making such a determination the Authority shall give consideration to the following:*

- *The extent to which the characteristics of the relevant market enable tacit coordination and the extent to which such form of co-ordination is sustainable;*
- *If the concessionaires in question have substantially the same position vis-à-vis their customers and competitors as a single company has if it is in a dominant position, provided that no effective competition existed between them;*
- *If the concessionaires in question, individually or jointly, satisfy any of the criteria for assessing dominance, in addition to the relevant market having the following characteristics:*
  - various kinds of structural, informal or other links between the concessionaires concerned,*
  - mature market,*
  - stagnant or moderate growth on the demand side,*
  - low elasticity of demand,*

- *homogeneous product,*
- *similar cost structures,*
- *similar market shares by the concessionaires,*
- *lack of technical innovation, mature technology,*
- *absence of excess capacity,*
- *high barriers to entry,*
- *lack of countervailing buying power,*
- *lack of potential competition,*
- *retaliatory mechanisms,*
- *lack or reduced scope for price competition*

*The above list is by no means an exhaustive one, nor do all of the criteria have to be satisfied to prove the existence of joint dominance.*

*The Authority shall regulate the prices of jointly dominant concessionaires in the same manner as it would for dominant concessionaires.*

## **3 Forms of Price Regulation**

### **3.1 Notification of Price Changes**

Prior to a change in the prices of telecommunications services, referred to in section 29 (2) of the Act, all concessionaires are required to give details of the proposed revision in writing to the Authority in accordance with the concession. The required period of notice to the Authority shall be 30 days prior to notification being given to customers. The Authority may waive this period in some circumstances (e.g. for services in competitive markets, or services of non-dominant concessionaires). The written notification shall include:

- The name and address of the telecommunications provider.
- The service for which a price change is requested;
- The current price or price schedule for the service;
- The proposed price or price schedule for the service;
- The date at which the price change is proposed to become effective.

The concessionaire may provide an explanation or justification for its proposed price change so as to assist the Authority in assessing the reasonableness of the proposed price.

Proposed price changes may be implemented 30 days after notification has been given to customers of the proposed price change (or earlier should a waiver of this notice period be granted by the Authority) unless, at any point, the Authority notifies the concessionaire that it has concerns about the proposed price and has determined that a Price Review Procedure is required.

Detailed procedures for Notification of Price Changes shall be included in the Telecommunications (Pricing) Regulations, 2009.

***Statement on Price Notification:***

*For services offered to the public, notification of proposed price changes must be provided to the public thirty (30) days in advance of the proposed change taking effect. For services offered to other concessionaires, notification of proposed price changes must be provided to the relevant concessionaires ninety (90) days in advance of the proposed change taking effect.*

*All concessionaires shall be required to submit a notification in writing to the Authority for proposed price changes at least 30 days prior to notifying the public in respect of services offered to the public. The Authority may waive this thirty (30)-day period as it deems appropriate in particular circumstances. Such circumstances **may** include cases where the price change proposed reflects a decrease in prices, or where the proposed price change is related to a service in a competitive market.*

### **3.2 Prevention of Unfair Cross-subsidy and Anti-Competitive Pricing**

Cross-subsidy and most forms of anti-competitive pricing (e.g. price squeeze or price gouging) involve a concessionaire pricing one or more services below cost in order to prejudice the market position of its competitors. Such pricing practices would be considered unfair, especially when practiced by a dominant concessionaire, because only suppliers in a dominant market position can generally afford to sustain the short-term losses which such practices entail, as a means of driving smaller rivals out of business. Occasionally, anti-competitive pricing may involve prices being set excessively above cost. This might, for instance, occur with wholesale services that are essential inputs to a rival operator's retail business.

The Authority considers that the following practices would constitute anti-competitive pricing or acts of unfair competition when practiced by dominant concessionaires, inter alia:

- (a) bundling of communications services, so that a customer or concessionaire is required when purchasing one service to purchase another service that it does not require;
- (b) coercing customers or competing concessionaires to purchase bundled services which they do not require by offering unreasonably large discounts or exceedingly favourable terms and conditions for bundled service offerings. A discount may be considered to be unreasonably large or terms and conditions may be considered to be exceedingly favourable if they are not justified by the cost of providing the service(s);
- (d) using revenues or allocating costs from one public telecommunications service to cross-subsidize another public telecommunications service, except where such cross subsidy is specifically approved by the Authority;
- (e) deliberately reducing the margin of profit available to a competing concessionaire, by increasing the prices for the wholesale communications services required by that competing concessionaire, or decreasing the prices of communications services in retail markets where they compete, or both;
- (f) entering into anti-competitive pricing agreements, including:
  - (i) price-fixing agreements, pursuant to which competing concessionaires agree on or otherwise manipulate consumer prices;
  - (ii) bid-rigging, pursuant to which competing concessionaires manipulate the prices or conditions in what should otherwise be a competitive tender process;



- (iii) resale price maintenance, pursuant to which a concessionaire that supplies a competing service provider with products or services attempts to impose restrictions on the prices charged by that service provider to consumers; and
  - (iv) exclusive dealing agreements, pursuant to which a concessionaire enters into an agreement with another party for the supply of products or services on an exclusive basis and with related pricing incentives, and where that exclusivity has or may have the effect of substantially lessening competition in related communications markets;
- (g) supplying to competing concessionaires essential network elements at prices above the prices offered by the supplying concessionaire for providing the retail services utilizing such essential network elements.

An understanding of a concessionaire's costs is the key requirement for the Authority to recognize and respond to cross-subsidy and anti-competitive pricing. In some circumstances the Authority may therefore require concessionaires to develop cost models and/or separated accounts to help identify the costs of individual services.

***Statement on Anti-Competitive Pricing or Acts of Unfair Competition:***

*The Authority proposes that it shall consider the following practices, inter alia, to be anti-competitive:*

- (a) bundling of communications services, so that a concessionaire is required when purchasing one service to purchase another service that it does not require;*
- (b) offering a select group of customers or a competing concessionaire more favourable prices or related terms or conditions that are not justified by cost differences, if it acquires another service that it does not require;*
- (c) supplying communications services at prices below long run average incremental costs or such other cost standard as is identified by the Authority;*
- (d) using revenues or the allocation of costs from one public telecommunications*

- service to cross-subsidize another public telecommunications service, except where such cross subsidy is specifically approved by the Authority;*
- (e) deliberately reducing the margin of profit available to a competing concessionaire, by increasing the prices for the wholesale communications services required by that competing concessionaire, or decreasing the prices of communications services in retail markets where they compete, or both, to the extent that it creates an unfair disadvantage to the competing concessionaire;*
  - (f) entering into anti-competitive pricing agreements, including:
    - (i) price-fixing agreements, pursuant to which competing concessionaires agree on or otherwise manipulate consumer prices;*
    - (ii) bid-rigging, pursuant to which competing concessionaires manipulate the prices or conditions in what should otherwise be a competitive tender process;*
    - (ii) resale price maintenance, pursuant to which a concessionaire that supplies a competing service provider with products or services attempts to impose restrictions on the prices charged by that service provider to consumers; and*
    - (iv) exclusive dealing agreements, pursuant to which a concessionaire enters into an agreement with another party for the supply of products or services on an exclusive basis and with related pricing incentives, and where that exclusivity has or may have the effect of substantially lessening competition in related communications markets;**
  - (g) supplying to competing concessionaires essential network elements at prices above the prices offered by the supplying concessionaire for providing the retail services utilizing such essential network elements.*

### **3.2.1 Criteria to be used in determining whether the bundling of services may be anti-competitive**

The Authority identifies bundling as a practice that may in some situations be considered to be anticompetitive. One example of such a situation may be where a dominant provider providing multiple services may choose to leverage its market power in one market to its advantage in another market through service bundling, in a manner which causes harm to other providers or to competition in general. However the Authority does recognise that bundled service offerings can actually bring real benefits to consumers in a competitive and converged market environment. In this regard, the Authority considers that a set of criteria is necessary in assessing the extent to which a bundled service offering would be likely to have anti-competitive effects.

The Australian Competition and Consumer Commission (ACCC) considers, inter alia, the following criteria, individually and collectively in assessing whether the conduct of bundling is anti-competitive<sup>31</sup>:

- The extent to which the provider of the bundled service is dominant in the provision of at least one of the services in the bundle;
- The state or likely state of competition in the various markets for the services in the bundle (including whether the services supplied in relevant markets are new or emerging);
- The likely future take-up of the bundled services;
- Non-price terms and conditions of the bundle, such as the length of any contract;
- Whether competitors face large one-bill effects<sup>32</sup> that would lead to a significant proportion of consumers only acquiring their services from one carrier. The assessment of one-bill effects will include the ability of competitors to offer like bundles and their ability to offer, at a reasonable price, the same suite of services;

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<sup>31</sup> Bundling in Telecommunications Markets: An ACCC Information Paper, August 2003.

<sup>32</sup> This occurs where consumers value the convenience of acquiring all services from one service provider

- The relationships between the goods or services provided in the bundle, such as whether they are complementary or a combination of wholesale and retail products, which can magnify any anti-competitive effect;
- Whether the segment of the market which is likely to purchase the bundle has particular characteristics (such as a high telecommunications spend) that will magnify or reduce the impacts on competition;
- Whether the price(s) for the bundled services involves any elements of predatory pricing or a vertical price squeeze in the relevant market(s).

The Authority considers that the above set of criteria provides a solid basis for assessing whether any bundled service offering could be determined to be anti-competitive. In this regard, the Authority shall adopt this set of criteria for assessing whether bundled service offerings provided by concessionaires are anti-competitive in nature.

***Statement on Assessing Bundles for Anti-competitive Behaviour***

*In assessing the extent to which bundled service offerings are anti-competitive in nature, the Authority shall give consideration, but shall not be limited, to the following criteria:*

- *The extent to which the concessionaire providing the bundled service offering is presumed to be dominant in the provision of at least one of the services in the bundle;*
- *The state or likely state of competition in the various markets for the services in the bundle (including whether the services supplied in relevant markets are new or emerging);*
- *The likely future take-up of the bundled services;*
- *Non-price terms and conditions of the bundle, such as the length of any contract;*
- *Whether competitors to the concessionaire in question face large one-bill effects<sup>33</sup> that could lead to a significant proportion of consumers only acquiring their services from one concessionaire. The assessment of one-bill effects by the Authority will include the ability of competitors to offer like bundles and their ability to offer, at a reasonable price, the same suite of services;*
- *The relationships between the goods or services provided in the bundle, such as whether they are complementary or a combination of wholesale and retail goods or services, which can magnify any anti-competitive effect;*

- *Whether the segment of the market which is likely to purchase the bundle has particular characteristics (such as a high telecommunications spend) that will magnify or reduce the impacts on competition; or*
- *Whether the price(s) for the bundled services involves any elements of predatory pricing or a vertical price squeeze in the relevant market(s)*

### **3.3 Cost-based Pricing for Interconnection**

As interconnection services are the most important wholesale input to rivals' retail services, the Authority is particularly concerned to ensure that these services are reasonably and efficiently priced. The Act requires that all interconnection charges are cost-based. The Authority has published its proposals for achieving this requirement through the use of long run average incremental costs in its *Costing Methodology for the Telecommunications Sector*.

The Authority recognizes that the application of the costing methodology by different concessionaires may produce results that do not reflect the cost of an efficient operator. In such cases, the Authority proposes to set the interconnection rates based on the concessionaire having the same interconnection costs as those of an efficient operator in the relevant market. If the concessionaire wishes the Authority to adopt any other position, it must justify such approach on the basis of cost analysis and/or international cost-based benchmarks acceptable to the Authority.

#### ***Statement on Cost-based Interconnection Pricing:***

*The pricing of interconnection services shall be cost-based. The Authority will set interconnection rates based on the concessionaire having the same interconnection costs as those of an efficient operator in the relevant market, unless the concessionaire provides evidence acceptable to the Authority that different rates are appropriate.*

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<sup>33</sup> This occurs where consumers value the convenience of acquiring all services from one service provider  
March 4<sup>th</sup> 2009

### 3.4 Price Caps

In uncontested markets, or for dominant concessionaires in contested markets, it may be presumed that, in the absence of price regulation, prices may be set above economically efficient levels. For this reason *ex-ante* price regulation is the norm in these markets.

The Authority considers that a price cap regime is superior to the alternative methods of rate of return regulation or controls on individual prices. In most countries the price cap is used as a method of setting a limit on overall price changes over a twelve month period, and the Authority proposes that it should be used in this way in Trinidad and Tobago. This would leave the regulated concessionaires free to change prices when commercially necessary, but would require them to keep within the annual price cap. Compliance would be audited by the Authority periodically.

In some countries two different methods are used – price caps for retail prices, and cost based calculations for wholesale prices. However the Authority foresees a number of disadvantages to this approach:

- (i) a price squeeze may result if the price cap is forcing retail prices down faster than wholesale prices, thus reducing profits for new entrants
- (ii) the use of annual cost calculations for wholesale prices gives no rewards to operators who improve their network efficiency
- (iii) the annual process of calculating costs for wholesale services is itself a costly exercise. By setting a price cap the Authority is able to reduce the regulatory burden on the industry
- (iv) price caps allow for flexibility and innovation in pricing within groups of broadly similar services, whereas cost-based pricing constrains such market dynamics.

***Statement on Applicability of Price Cap:***

*The Authority shall apply price cap to retail as well as wholesale prices where it considers it appropriate. In addition the Authority proposes to develop price cap regimes, in those markets where this form of regulation may be appropriate.*

The Authority's process for application of price cap regulation will involve the following, as well as any additional features considered appropriate by the Authority:

- Definition of service baskets and notification to affected concessionaires;
- Determination and notification to affected concessionaires of the main elements of the price cap, which may include any or all of the following:
  - Initial prices for each service within the price cap;
  - The formula for a Price Cap Index (PCI) to be used to measure the maximum allowable average price for each service basket;
  - The formula for an Actual Price Index (API) to be used to measure actual average price changes for each service basket;
  - Compliance criteria;
  - X -factor(s) that would apply to each service basket;
  - Z-Factors, Q-Factors or any other adjustment factor to be included in the price cap formulae where appropriate;
  - Carry-over headroom features where appropriate;
  - Duration the price cap regime;
- Determination and notification to affected concessionaires of the rules and procedures for administration and review of the price cap regime.

The following sections summarise the principles to be adopted by the Authority in respect of the key elements of any price cap design.

### **3.4.1 Construction of Service Baskets**

One of the key elements of a price cap regime is the definition of service baskets. These are the bundles of services that are grouped together for price control purposes. Services placed in baskets by the Authority will be limited to public telecommunications services as defined by the Act, and provided by the dominant or exclusive provider in the relevant contested or uncontested market.

The main advantage of service baskets is that it gives the operator greater freedom to adjust prices of services within the basket, provided that the overall control is satisfied. However, the Authority recognises that there exists the potential for anti-competitive cross-subsidies to take place if less competitive services are placed in the same basket as more competitive services. In order to minimize the potential for such occurrences, the Authority may set sub-caps or price floors for particular services within a basket.

***Statement on Service Baskets:***

*The Authority shall take into consideration the following factors in defining service baskets for price cap regulation:*

- *The degree of flexibility to be accommodated by the concessionaire in setting prices*
- *The need to define sub-baskets where appropriate*
- *The need to prevent anti-competitive pricing behaviour within the price cap by setting sub-caps or floors for certain services within a basket or any other type of restriction where appropriate*
- *The level of competition that exists in the provision of the services to be regulated under the price cap*
- *Design simplicity and practicability*

**3.4.2 Determination of Initial Prices**

Once service baskets have been defined, the Authority will determine the extent to which the concessionaire to be regulated is currently earning a reasonable rate of return. This determination will require the concessionaire to submit information on its costs and revenues for the relevant services in the markets to be regulated.

The Authority considers that a reasonable rate of return is equal to the concessionaire's weighted average cost of capital (WACC). Prior to determining the Efficiency Factor (X), the Authority will determine whether the concessionaire is earning a rate of return equal to its WACC from its existing prices or whether existing prices have to be adjusted in order for the concessionaire to do so. In the event of the latter being the case, and



depending on the extent to which existing prices should be adjusted, the Authority may determine the extent to which the existing prices should be increased or decreased immediately and/or the extent to which adjustments should be made in setting the X-factor to enable the concessionaire to adjust its prices within the price cap.

***Statement on Initial Prices:***

*In establishing any price cap regime, the Authority shall determine the initial prices or 'going in' prices of the services under the price cap. Such determination will be based on the extent to which the concessionaire is earning a reasonable rate of return (no less than concessionaire's WACC) in the relevant service basket based on revenues generated from services in the basket. If the concessionaire's revenues are not sufficient or the concessionaire is earning super normal profits, the Authority shall determine the extent to which existing prices should be adjusted immediately and/or the extent to which adjustments should be made to the price cap formula to enable the concessionaire to adjust prices within the term of the price cap such that it achieves a reasonable return.*

**3.4.3 The Principle of Price Caps and the Price Cap Index**

The general principle of most price caps is that the percentage change in prices charged by the concessionaire for a particular basket of service for period t, should be less than or equal to the difference between the retail price index and the X factor.

$$\% \Delta p^k \leq I_t - X^k$$

Where:  $I_t$  is inflation in year t

$X^k$  is the X factor or adjustment efficiency factor for basket k

$\% \Delta p^k$  is the allowed average change in prices for basket k in year t

While the Authority recognizes that the most readily available measure of inflation in Trinidad and Tobago is the Consumer Price Index (CPI), it is also cognizant that other countries that have adopted price caps use other equivalent indices in their price cap

formulae. One such indicator is that of the producer price (PPI) or wholesale price index (WPI) which measures average changes in prices received by domestic producers for their output. This index which measures inflation at the wholesale level, serves as an indicator of price pressures faced by businesses and for price pressures that may soon be faced by consumers. It can be argued that this index may be best suited to T&T, given the price pressures imposed by rising food prices on CPI. The Authority therefore shall determine, as it considers appropriate, a Price Index (PI) to be incorporated in the Price Cap Formula.

Some regulators also include additional adjustment factors in the price cap formula to allow for exogenous costs (Z factor), or to ensure that service quality is not degraded under the price cap (Q factor).

The Authority considers that it should have the flexibility to include additional adjustment factors in the price cap formula such as the Z and Q factors based on the purpose of the price cap to be put in place in any given instance.

The Authority would afford affected concessionaires with the opportunity to make representations on any additional adjustment factors which it wishes to include in any price cap to be put in place.

***Statement on Price Cap Index:***

*Wherever the Authority determines that a price cap control is appropriate, the Authority shall establish price caps for each defined service basket that will allow annual average price changes in that basket that is less than or equal to the difference between the price index for that year and the X Factor to be determined by the Authority.*

*The Authority shall apply a Price Index (PI) that it considers appropriate to be included in the Price Cap Formula, such price index may be the Consumer Price Index (CPI) or any other price index that the Authority considers to be appropriate.*

*The Authority shall include additional adjustment factors (e.g. Z and Q) in any price cap formula where it considers it appropriate. In those instances, the Authority will determine whether such factors would be appropriate, and the actual values of those factors. Any service quality factor (Q) will be determined such that it is aligned with quality of service standards in the concession or relevant regulations. Any exogenous factor (Z) will be determined such that it allows for changes in costs, specific to the services in the Price Cap, beyond the control of concessionaires.*

*The Authority shall also adopt a Price Cap Index (PCI) to measure the maximum allowable average price for a basket of services, which will be calculated as follows:*

$$PCI_t^k = PCI_{t-1}^k * [1 + PI_t - X^k \pm Z_t^k \pm Q^k]$$

*Where:  $PCI_t^k$  is the price cap index in year t for basket k*

*$PCI_{t-1}$  is the price cap index in year t-1*

*$PI_t$  is the price index for year t*

*$X^k$  is the efficiency factor for basket k*

*$Z_t^k$  is the exogenous factor for basket k for year t*

*$Q^k$  is the service quality factor for basket k.*

*The Authority shall initially set the Price Cap Index (PCI) to 100 in the base period. The PCI will increase in every subsequent period depending on the values of  $PI_t$ ,  $X^k$ ,  $Z_t^k$  and  $Q^k$ .*

### **3.4.4 Setting Efficiency Factors (X-Factors)**

Regulators around the world use different methods to establish the value of X (the maximum rate at which real prices are allowed to change during the control period). The X-factor in the price cap formula is an efficiency target chosen to ensure that prices change over time to reflect productivity gains. The X factor should be set such that the

concessionaire is rewarded for reductions in cost and penalized for inefficiencies over the duration of the price cap.

The main methods used to determine the X-Factor are:

- (i) financial models, which calculate the price changes needed to give the operator an acceptable rate of return over the control period
- (ii) productivity models, which calculate the efficiency improvements made over recent years, and this figure is used for future price controls
- (iii) international benchmarks, where X factors in comparable countries are used to give a guide

Many regulators use a combination of these methods. The Authority will use any of the above three (3) methods to determine X-Factors in any given circumstance. While the Authority may prefer to use the financial model or productivity model approaches, the Authority recognises that in some instances there may not be sufficient data available to make these approaches practical. In such instances, the Authority proposes to use benchmarks of X factors in comparable countries.

Regardless of the method used to determine any X-Factor, the Authority proposes to afford affected concessionaires with the opportunity to make representations on the most appropriate X Factor(s) for any price cap to be established.

***Statement on Setting X Factors:***

*The Authority shall use financial models, productivity models or benchmarks in setting X-Factors based on particular circumstances. The Authority will afford affected concessionaires with the opportunity to make representations on the most appropriate X Factor(s) for any price cap to be established.*

### 3.4.5 Price Cap Compliance Criteria

Once a price cap has been determined for a basket of services, the Authority will be responsible for determining whether the dominant concessionaire is compliant with the price control. The Authority considers that the methodology needs to be transparent so as to minimise disputes and enable concessionaires to carry out their own calculations in ensuring compliance while setting prices.

#### ***Statement on Actual Price Index and Compliance Criteria***

*The Authority shall adopt an Actual Price Index (API) which will be used to measure the actual average prices to be charged, or charged by the concessionaire. This index will be used to assess whether the concessionaire is compliant with the price cap.*

*The Authority will calculate the annual actual price index in each basket of services according to the formula:*

$$API_t^k = API_{t-1}^k * \left[ 1 + \sum_{i=1}^n \left[ \frac{P_{(i,t)}}{P_{(i,t-1)}} \times \frac{r_{(i,t-1)}}{R_{(t-1)}} \right] \right]$$

*where:  $API_t^k$  is the actual price index following proposed price changes*

*$API_{t-1}^k$  is the actual price index based on existing prices*

*$P_{(i,t)}$  is the proposed price of service  $i$*

*$P_{(i,t-1)}$  is the existing price of service  $i$*

*$r_{(i,t-1)}$  is the revenues generated from service  $i$  based on existing prices*

*$R_{(t-1)}$  is the total revenue from all services in the basket based on existing prices*

*$n$  is the number of services within the basket*

*The Authority shall initially set the Actual Price Index (API) to 100 in the base period. The API will change depending on the ratio of the proposed price charge to its existing charge for the identified service weighted by that service's relative portion of the total revenue for the related basket of services.*

*The Authority will consider that a concessionaire is not in compliance with the price cap when at any time its API is greater than the PCI for the associated period. In other words, the following criteria must always be satisfied:*

$$API_t^k \leq PCI_t^k$$

#### **3.4.6 Carryover Headroom**

Some regulators also allow carry-over headroom in the price-cap to allow the regulated service provider to implement a price change that exceeds RPI – X for a given year, if the company opted not to implement a price change in previous years. The carry-over headroom feature of the price cap would provide greater flexibility to a concessionaire to time price changes over the term of the price cap. However, the Authority recognises that caution should be exercised in allowing such a feature since the concessionaire may use this feature to its advantage and to the detriment of competitors or consumers.

#### ***Statement on Carryover Headroom:***

*The Authority will include the carryover headroom feature, only where it considers it appropriate.*

#### **3.4.7 Duration of Price Cap Controls**

Price cap controls are usually in force for periods of between three and five years. The Authority considers that this period should be long enough to give some stability to the market, but short enough to allow reviews in the light of changing market conditions. In Trinidad and Tobago a major change in the market occurred with the ending of the incumbent's exclusivity for many services. This major change makes a relatively shorter period for price controls desirable. The Authority is of the view that the most suitable minimum duration for a price cap regime is three years.

***Statement on Duration of Price Caps:***

*The Authority will determine the duration of price caps to ensure stability in the market and to allow reviews in light of changing market conditions. However, the minimum price cap duration to be adopted will be three (3) years.*

**3.4.8 Price Cap Rules and Procedures**

The Authority recognises that certain rules and procedures need to be established for any price cap to be implemented in a fair, efficient, transparent and non-discriminatory manner. Such rules and procedures will dictate the manner in which the Authority will treat with a number of issues inter alia:

- Notification of price changes for services under the price cap
- Compliance filings
- Promotional offers
- Data submission requirements for concessionaires
- Review process

The Authority considers that it would be premature at this stage to develop rules and procedures that would be applicable to every price cap regime established by the Authority. As such the Authority will rules and procedures for any price cap regime as part of the process of establishing the price cap regime.

***Statement on Price Cap Rules and Procedures:***

*In establishing any price cap regime, the Authority shall establish rules and procedures that would ensure the fair, efficient, transparent and non-discriminatory administration of the regime, such rules and procedures will conclude obligations upon the concessionaire in respect of, inter alia:*

- *Notification of price changes for services under the price cap*
- *Compliance filings*
- *Promotional offers*

➤ *Data submission requirements for concessionaires*

*The rules and procedures will address other issues such as the process for review of the Price Cap once implemented.*

### **3.5 Retail-Minus Pricing**

The prices of wholesale services may be regulated on a “cost plus” basis or a “retail minus” basis. A “cost plus” approach is the standard service costing approach of costing the underlying network elements used in the provision of the access services. A “retail minus” approach involves setting the price of a wholesale access service with respect to the retail price of a service in a downstream market. The price is reduced to take account of the costs incurred in provision of retail services that are not incurred in the provision of the wholesale access services.

In terms of the cost accounting requirements a “cost plus” approach requires information on the cost of the underlying infrastructure while a “retail minus” approach requires the allocation of retail costs to relevant services. While cost plus approaches are generally preferred, a “retail minus” approach has advantages in certain situations as:

- it provides the incumbent operator greater flexibility in pricing innovative services such as broadband, where the dynamic nature of the market makes it difficult to determine the long run costs of providing the service;
- it allows operators to compete in the retail market even if retail prices are out of line with costs, for example if line rental prices are not yet rebalanced;
- it prevents “margin squeeze” by ensuring that the margin between retail and wholesale services is large enough; and
- the cost analysis required may be less complex than a “cost plus” approach.

Generally, the goal of any retail minus regime should be to allow competitors who add value or reduce costs to survive, while precluding those who do neither. In consideration of the advantages of a “retail-minus” approach for the regulation of wholesale access



services, the Authority may use this approach as an option for the pricing of wholesale access services, where it considers that ex ante price regulation is required in the relevant markets. The Authority also may also use this approach as an ex post mechanism to test for the likelihood of anti-competitive pricing practices such as price squeezing.

***General Statement on Retail-Minus Pricing:***

*The Authority may apply retail minus pricing regimes to wholesale prices, where it considers it appropriate. The Authority shall adopt the following general formula for any Retail-Minus regime:*

$$P_w = P_r - c$$

*Where,*

*$P_w$  = Retail minus derived wholesale price*

*$P_r$  = Retail price*

*$c$  = value of minus and generally represents the incremental cost of providing the retail service ( $IC_r$ ) minus the incremental cost of providing the wholesale service ( $IC_w$ ).*

*The Authority may also use retail-minus as a test to determine whether the existing prices in a particular wholesale market and the relevant retail markets results in price squeezing or any other form of anti-competitive pricing.*

*The Authority will only use retail-minus regulation for wholesale access services and not for interconnection services.*

The Authority's process for application of any retail-minus pricing regime will involve the following, as well as any additional features considered appropriate by the Authority:

- Determination of the retail price to be used in the retail minus formula ( $P_r$ );
- Determination of the minus value to be used in the retail minus formula ( $c$ );
- Determination of the review period of the retail minus.

### 3.5.1 Determining the Retail Price

In determining which retail price should be used in the retail-minus formula, a number of issues have to be considered that would depend on the particular circumstances in the markets under review. Some of these issues may include, but may not be limited to:

- Whether the retail minus should apply to a single wholesale with respect to a single retail service or a combination of wholesale and retail services ('portfolio approach');
- The extent to which temporary promotions, discounts or any other special service offering should be taken into consideration;
- The extent to which a wholesale and retail service are directly related;
- The extent to which exorbitant profits are included in the retail price.

#### ***Statement on Determination of Retail Price:***

*The Authority will apply the retail minus to a single set of services or a combination of services depending on:*

- *the extent to which the costs of services in a bundle are similar;*
- *the extent to which (if a portfolio approach were adopted) the concessionaire could price squeeze or behave anti-competitively while complying with the retail minus; or*
- *the extent to which there is competition in the relevant retail service market (s) between the concessionaire and his competitors to whom he is providing the wholesale service(s) under review.*

*The Authority will also use promotional, special or discounted retail prices in the retail minus formula, if those prices exist within the market for more than half of the period under review. Otherwise, the Authority shall use the average price of the retail service over the period under review.*

*Additionally, the Authority may use a retail price in the retail minus formula even if it is not for a pure resale product of the wholesale service and to subtract any exorbitant profits from the retail price before it is used in the formula. Any retail price used would ensure that the concessionaire receives a rate of return no less than its weighted average cost of capital.*

### 3.5.2 Determining the Minus

In determining the minus value that should be used in any retail minus formula, the issues that should be considered would depend on the particular market circumstance, and may include but may not be limited to:

- Any retail costs saved by a concessionaire in providing its competitors with a wholesale service instead of providing retail customers with the retail service;
- Any additional costs incurred by the concessionaire in providing the wholesale service instead of the retail service;
- Whether the retail costs of the wholesale service provider or those of his wholesale customer (the concessionaire competing with him in the retail market) should be used in the formula;
- Whether the minus value should be expressed as a fixed monetary value, a fixed percentage of the retail price or a hybrid of the two.

#### ***Statement on Determining the Minus:***

*The incremental retail costs ( $IC_r$ ) that should be excluded in determining the wholesale price may include, but may not be limited to, those associated with:*

- *Retail product management and product development;*
- *Sales, marketing and advertising;*
- *Customer care costs;*
- *Number services;*
- *General support or any other overheads that could be attributed to retail services;*
- *Billing and collection costs (including bad debt).*

*The Authority will also include the incremental costs associated with providing the*

*wholesale service ( $IC_w$ ) in determining the final wholesale price. Such costs may include those associated with wholesale billing or any other administrative cost and investment costs incurred in providing the wholesale service. Additionally, the Authority shall determine the extent to which these costs should be recovered from the concessionaire's wholesale customers and its own retail customers depending on the extent to which retail customers would benefit from competition in the relevant retail market(s).*

*The Authority considers that it should have flexibility in determining the manner in which the minus is expressed (fixed monetary value, percentage of retail price or hybrid) depending on the underlying cost structures of the services under consideration such that there is minimum potential for anti-competitive behaviour while complying with the retail minus.*

*In determining whose or which retail costs should be included in the retail minus formula, the Authority shall use costs that are most reflective of efficient costs in accordance with the Authority's Costing Methodology.*

### **3.5.3 Duration of the Retail-Minus**

Where a retail-minus regime has been established by the Authority, the Authority considers that the review period should be long enough to give some stability to the market, but short enough to allow reviews in the light of changing market conditions.

#### ***Statement on Duration of Retail-Minus Regime:***

*The Authority will determine the duration of any retail-minus regime to ensure stability in the market and to allow reviews in light of changing market conditions. In setting the duration or review period of the regime, the Authority will give consideration to the particular circumstances of the markets under consideration and the desired regulatory objectives based on those circumstances.*

### 3.6 Price Floors

Whereas price caps are designed to provide an upper limit to the service prices of dominant concessionaires, price floors are designed to ensure that predatory pricing does not occur in the market. Price floors are typically set on the basis of costs: any dominant or vertically integrated<sup>34</sup> concessionaire pricing its retail services under cost, in a manner that has an anti-competitive effect or distorts competition, would generally be deemed to be practicing anti-competitive pricing.

The Authority shall adopt the following principles when setting price floors for retail prices:

- The retail price *must be no less than* the wholesale price plus the direct incremental cost of the concessionaire's pure retailing functions.
- The retail price *must be no less than* the concessionaire's wholesale price, plus the direct incremental cost of the concessionaire's pure retailing functions, plus the difference between the concessionaire's direct incremental cost to provide the wholesale facility to itself and its direct incremental cost to provide that same facility to its competitors.
- The retail price *must be no less than* the concessionaire's direct incremental cost to supply the product, plus the profit margin it could earn from selling the essential input to its competitors.
- The profit margin on the concessionaire's price for the retail product *must be no less than* the profit margin it earns from selling the essential input to its competitors.

Predatory pricing has also been a concern in some jurisdictions in respect of international termination (settlement) rates. This may occur where domestic operators who also own and operate international facilities negotiate termination rates that are lower than the cost of terminating a call on their domestic networks. This sort of conduct could have the effect of driving other international operators, who do not operate domestic networks, out

of business, and therefore can be harmful to competition in the international market. The Authority may therefore use price floors to regulate international termination rates, where it considers it to be necessary.

***Statement on Price Floors:***

*In general, the Authority shall only use price floors as an ex-post regulatory tool, except in very special circumstances, in order to manage price changes which are needed to address price distortions which deter effective competition. Price floors may be imposed whenever the Authority detects anti-competitive pricing or acts of unfair competition in any market.*

*The Authority shall adopt the following principles when setting price floors for retail prices:*

- *The retail price must be no less than the wholesale price plus the direct incremental cost of the concessionaire's pure retailing functions.*
- *The retail price must be no less than the concessionaire's wholesale price, plus the direct incremental cost of the concessionaire's pure retailing functions, plus the difference between the concessionaire's direct incremental cost to provide the wholesale facility to itself and its direct incremental cost to provide that same facility to its competitors.*
- *The retail price must be no less than the concessionaire's direct incremental cost to supply the product, plus the profit margin it could earn from selling the essential input to its competitors.*
- *The profit margin on the concessionaire's price for the retail product must be no less than the profit margin it earns from selling the essential input to its competitors.*

*The Authority shall adopt, inter-alia, the following principles when setting price floors for international termination rates:*

- *The international termination rate must be no less than the cost of terminating the international call on a public domestic network plus any other relevant cost incurred in terminating international traffic;*

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<sup>34</sup> A concessionaire is considered to be vertically integrated when it controls an essential facility or provides a wholesale service that is an essential input to a retail service, and when the concessionaire competes with other concessionaires (typically new entrants) in providing that retail service.

- *In determining the relevant costs associated with terminating international traffic, the Authority shall be guided by Recommendation ITU-T D.140 of the International Telecommunications Union.*

### **3.7 Rate of Return Regulation**

Section 29 (5) of the Act allows the Authority to impose rate of return regulation on concessionaires in uncontested markets. Rate of return regulation restricts the amount of profits that the concessionaire is allowed to generate, but it has been criticized as a regulatory tool because it does not offer any incentives for improved efficiency. For this reason, most regulators prefer to use price caps to control prices in uncontested markets.

#### ***Statement on Rate of Return Regulation:***

*The Authority will not use rate of return regulation unless the Authority considers it is necessary to do so in an uncontested market. Whenever the Authority determines that the application of rate of return (ROR) regulation is necessary, it shall apply the following general formula:*

$$R = B \times r + E + d + T$$

*Where,*

*R = Revenue Requirement*

*B = Rate Base or the amount of capital or assets the concessionaire uses or needs to use to provide the service(s) under consideration.*

*r = Allowed rate of return or the cost the concessionaire incurs to finance its rate base (includes both debt and equity) and will be no less than the concessionaires weighted average cost of capital (WACC).*

*E = Operating Expenses. This includes the costs of items such as supplies, labour (not used for plant under construction), and items for resale that are consumed by the concessionaire's business in a short period of time.*

*d = Annual depreciation expense which is the annual accounting charge for wear, tear, and obsolescence of plant.*

*T = Taxes. All taxes not counted as operating expenses and not directly charged to customers. These may or may not include income taxes depending on accounting rules for income taxes.*

*In calculating the rate base, the Authority shall:*

- *use current cost accounting in determining the cost of plant in service;*
- *determine a test period or year that is representative of the periods over which prices will actually change while being long enough to represent normal operations;*
- *Determine whether the plant in service over the test period should be valued based on an average monthly balance, the end of period balance or the average of beginning-of-year and end-of-year balances.*

*The Authority shall calculate the concessionaire's operating expenditure, depreciation and WACC in accordance with the principles of the Authority's costing methodology.*

### **3.8 Price Review Procedure**

The Authority may initiate a price review procedure, or at any time require that a price be altered or removed from the market, pending a full price review procedure, if:

- It is concerned that such a price results or will result in unfair cross-subsidy or anti-competitive pricing (Section 29(2)(b) and (c) of the Act);
- A price is introduced in an uncontested market; or
- It is concerned that a proposed price change will have a significant impact upon the public of Trinidad and Tobago.

The Authority may issue such a requirement following the submission of a proposed price change, the receipt of a complaint from another concessionaire, or simply as a result of its own analysis. In reality, although the Act gives the Authority this power for all services of all concessionaires, it is unlikely to have to use it in competitive markets.



Where the Authority initiates a Price Review Procedure, the Authority may introduce such procedures or consultation as it considers appropriate in the circumstances. Detailed procedures for the Price Review Procedure shall be included in the Telecommunications (Pricing) Regulations, 2009.

***Statement on Price Review Procedure:***

*The Authority may commence a price review in respect of any price or proposed price for which price controls have not already been imposed, where:*

- *It is concerned that such a price results or will result in unfair cross-subsidy or anti-competitive pricing (Section 29(2)(b) and (c) of the Act);*
- *A price is introduced in an uncontested market; or*
- *It is concerned that a proposed price change will have a significant impact upon the public of Trinidad and Tobago.*

*The Authority may require that any price be altered or removed from the market pending a full price review procedure if any of the above circumstances apply.*

*Where the Authority initiates a Price Review Procedure, the Authority may introduce such procedures or consultation as it considers it appropriate.*

### **3.9 Affording Opportunity for Representations**

The Authority recognises that any decision made by it in the design and implementation of any price control mechanism, will have some impact on stakeholders (including the public) in the relevant market. As a result, the Authority will ensure that it affords affected stakeholders the opportunity to make representations on any decisions made in the design and implementation of any price control mechanism.

*In the design and implementation of price control mechanisms, the Authority proposes to afford affected stakeholders with the opportunity to make representations on decisions made by the Authority.*

### **3.10 Accounting Separation**

Section 24(1)(h) of the Act requires that concessionaires "account for costs and keep such books of accounts and where the Authority prescribes by regulation the manner in which such books are to be kept, to keep such books of accounts in accordance with such regulations". In determining when and where it is appropriate to require accounting separation, the Authority may take into account the following:

- a) the range of markets in which the concessionaire operates;
- b) the range of services it provides in these markets;
- c) the extent to which it bundles services between markets
- d) whether it is dominant in one or more of the markets in which it operates
- e) any indication of cross-subsidy or anti-competitive pricing or other acts of unfair competition on its part.

Accounting separation is a process by which a concessionaire can present to the Authority a set of regulatory accounts reporting both its balance sheet and profit and loss account on a service-by-service basis. This will enable the Authority to make informed judgments about appropriate price controls for individual services.

The guidelines for accounting separation are outlined in the document entitled: *Accounting Separation Guidelines for the Telecommunications Sector*.

## **4 Price Controls in Different Types of Market**

The following provides a summary of the different types of price controls that may be applied to markets in the telecommunications sector.

### **4.1 Price Controls in Competitive Markets**

The presumption in competitive markets is that price regulation will not generally be required. As indicated in Section 29(1) of the Act, the Authority will generally leave prices to be set by the market on the basis of supply and demand. However, price changes should be notified to the Authority in advance of becoming effective in the market in accordance with the guidelines provided at Section 3.1 above. The Authority may, however, consider waiving the 30 day notice period for price changes in certain circumstances.

### **4.2 Price Controls in Contested Markets**

In addition to the price controls that exist in competitive markets, the Authority may apply further price controls in contested markets. These controls may include price caps, price floors (Section 29(6) of the Act), and cost-based or retail-minus pricing controls on dominant concessionaires.

### **4.3 Price Controls in Uncontested Markets**

In addition to the price controls that exist in competitive and contested markets, the Authority may apply further price controls to concessionaires in uncontested markets. These controls may include rate of return regulation pursuant to section 29(5) of the Act where it is appropriate, or any other measure for determining the concessionaires profitability, as it deems necessary.

## 5 Treatment of New Service Offerings

The Authority recognises that from time to time, new services will be introduced by various concessionaires in the market, particularly since the Authority has adopted a service-neutral approach to authorisation of certain types of concessionaires. As a result, the Authority acknowledges that some concern may be generated in the market as it pertains to the prices of those new services.

Where new services are introduced, that would appropriately fall within an existing price control mechanism, the Authority would ordinarily refrain from interrupting that mechanism to introduce immediate *ex ante* price regulation of the new service. In such circumstances, the Authority would not apply price control mechanisms to the new service until the next scheduled review of the relevant existing price control mechanism.

***Statement on New Service Offerings:***

*For new services offered to other concessionaires, notification of the proposed new service offering must be provided to the relevant concessionaire ninety (90) days in advance of the implementation of the new service.*

*All concessionaires shall be required to submit a notification in writing to the Authority for proposed new service offerings at least 30 days prior to notifying the public or concessionaires. The Authority may waive this thirty (30)-day period as it deems appropriate in particular circumstances. All notifications shall include the proposed price(s) for the new service offering.*

*Where new services are introduced, that would appropriately fall within an existing price control mechanism, the Authority would ordinarily refrain from interrupting that mechanism to introduce immediate *ex ante* price regulation of the new service. In such circumstances, the Authority would not apply price control mechanisms to the new service until the next scheduled review of the relevant existing price control mechanism. And even in those instances, a price control mechanism will only be imposed where it is necessary.*



## ANNEX I: Criteria for Assessment of Dominance

<i>Criterion</i>	<i>Details</i>
Market Share and Trends in Market Share	<p>The persistent holding by a concessionaire of a substantial portion (25% or more) of the total market share in terms of (i) subscriber numbers, (ii) traffic volumes, (iii) capacity, or (iv) gross revenue, are factors in favour of a finding of dominance by that concessionaire in that market.</p> <p>The Authority will measure subscriber numbers based on the total number of subscriptions to all services in the relevant market.</p> <p>Persistent means for a period of six (6) months or more.</p>
Size of concessionaire's undertaking	<p>An advantage over competitors as a result of a concessionaire's relative size is a factor in favour of a finding of dominance of that concessionaire.</p> <p>Such advantages may exist as a result of economies of scale or scope, production capacities, distribution or other activities outside the market under consideration.</p>
Access to financial resources	<p>Easy or privileged access to financial resources on a scale that places a concessionaire at an advantage over its competitors or leads to barriers to entry by other concessionaires, is a factor in favour of a finding of dominance of that concessionaire.</p>
Vertical Integration	<p>High barriers to entry as a result of a concessionaire controlling upstream and downstream markets, or having the potential to adversely affect competition by leveraging market power in upstream and downstream markets, is a factor in favour of a finding of dominance in respect of that concessionaire.</p>
Diversification of Products or Services	<p>Where a concessionaire bundles the supply of a service in which it is dominant with other services even where the bundled services are supplied separately, and where the bundling has the effect of creating barriers to entry or leveraging the concessionaire's dominance across markets, such conduct may be a factor in favour of a finding of dominance of that concessionaire.</p>
Countervailing buying power	<p>An absence of, or low, countervailing buying power among customers such that that concessionaire has the ability to increase its prices without significant loss of revenue, is a factor in favour of a finding of dominance of that concessionaire.</p>
Barriers to entry	<p>Barriers to entry into the relevant market as a result of, for example, any of the following is a factor in favour of a finding of dominance:</p> <ol style="list-style-type: none"> <li>i. Legislative or regulatory requirements.</li> <li>ii. Government policy.</li> <li>iii. Anti-competitive pricing behaviour.</li> <li>iv. Non-price behaviour such as increased promotions</li> <li>v. The concessionaire owning or having access to resources or assets not similarly accessible by its</li> </ol>

	<p>competitors.</p> <p>vi. Sunk costs.</p> <p>vii. The concessionaire having agreements (e.g. distribution, rights, etc.) that its competitors are not privy to.</p>
Power of concessionaires operating in the market to set prices	The ability of a concessionaire to set prices in the relevant market independently of market conditions, competitors, customers and consumers, is indicative of dominance of that concessionaire in the relevant market.
Excess pricing and profitability	The ability of a concessionaire to set prices in the relevant market in such a manner that its profitability in that market is consistently and significantly higher than the competitive level (where prices are based on efficient costs), is indicative of dominance of that concessionaire in the relevant market.
Lack of active competition on non-price factors	A lack of competition in the relevant market on non-price factors such as quality and variety of services is indicative of dominance.
Barriers to switching	Limits on the ability of customers to switch from the concessionaire's service(s) in the relevant market to another competitor's, is a factor which favours a finding of dominance.
Customers ability to access and use information	Limits on the information available to customers on various aspects of the services (e.g. price, quality, customer service, customer benefits) in the relevant market that empowers customers to act based on differences between providers in the relevant market, is a factor in favour of a finding of dominance.
Technological trends	A significant advantage by a concessionaire over its competitors as a result of its ability to provide services using the latest or more advanced technologies is a factor in favour of a finding of dominance.
Degree of differentiation among services in the market	<p>The ability for a concessionaire to differentiate its services in the relevant market from that of its competitors in a manner that gives it a significant advantage over its competitors, or discourages entry into the market, is a factor in favour of a finding of dominance.</p> <p>Such differentiation may exist in terms of quality, performance, innovatory or novelty features, packaging, or by advertising subjective qualities of the service.</p>

## **ANNEX II: Decisions on Recommendations - 2<sup>nd</sup> Consultation Round**

This Annex has been published separately.



## **ANNEX III: Decisions on Recommendations – 1st Consultation Round**

This Annex has been published separately.