Price Regulation Framework for Telecommunications Services in Trinidad and Tobago
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<tr>
<th>Date</th>
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<tr>
<td>December 6, 2006</td>
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1 Introduction

1.1 Requirements for a Price Regulation Framework

The Telecommunications Act Chap 47:31 ("the Act") is the enabling legislation of the Telecommunications Authority of Trinidad and Tobago which identifies specific objectives for establishing 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.

(Telecommunications Act Chap 47:31, Section 3)

In achieving such objectives, the Authority pursues efforts aimed at facilitating a liberalized telecommunications market environment that promotes fair and open competition. In such a liberalized market, prices within a market are determined by market demand and supply, however there may be instances in which market distortions can occur such that markets may not function as ideally resulting in inefficient pricing, and loss in consumer welfare.

In such situations, involvement of the Regulator may be necessary in the form of interventions which are aimed at assisting in the promotion of conditions for fair and effective competition and facilitating an environment where prices in the market will maximize economic welfare.

Consequently, the Telecommunications Act makes provision for, and grants the Authority the statutory power to intervene on matters of market pricing. More specifically, Section 29 (2) of the Act mandates that 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."
The purpose of this Price Regulation Framework is to specify the principles and price regulation regimes to be adopted by the Authority and to outline to the Minister such for the promulgation of the necessary Pricing Regulations.

The approach followed in this document is based on the requirements of Section 29 of the Act, for the Authority to:

1. define relevant telecommunications services markets,
2. assess whether there is dominance or exclusivity of supply and/or anti-competitive pricing within those markets and,
3. impose price regulation as determined.

1.2 Review Cycle

As telecommunications markets evolve and the sector develops, changing pricing and market dynamics may necessitate the revision and update of the principles and forms of price regulation regimes adopted by the Authority. When such a time is deemed necessary, the price regulation framework will be modified in consultation with all stakeholders. The maintenance history of this Report will be modified and maintained accordingly.

1.3 Consultation Process

The first consultation process on the Price Regulation Framework occurred over the period December 6th 2006 to March 4th 2009 and a brief summary of the process is given below.

On December 6th 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 29th 2007. The Authority received several comments from the following parties:

1. Telecommunications Services of Trinidad and Tobago (TSTT)
2. Digicel (Trinidad and Tobago) Limited
3. The Ministry of Public Administration and Information
4. Windward Telecom
5. Columbus Communications (Trinidad) Limited

On June 27th 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 in Annex 2 of that document, which provided 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)

A DOR Matrix which provided all comments and recommendations received in the second consultation round and the Authority’s decisions in respect of those were included in the publication of the revised framework document.
2 Summary of the Main Amendments

Pursuant to the last consultation exercise, the Authority has, in its continual process of policy review, recommended further amendments to the Framework. The amendments made herein are to provide greater clarity in the Authority’s approach to price regulation, such that microeconomic risks for investors, including existing concessionaires, are not increased. The amendments also coincide with established economics and international jurisprudence, such that the regulatory approach is targeted and relevant.

The thematic revisions to this document are listed below, along with respective source locations to allow for ease of reference by all stakeholders.

1. Market Definitions - The processes and tools used for defining telecommunications markets were updated to include more relevant economic principles (See Section 4).

2. Market Classification - Market classifications were revised to be better aligned to current market theories and market dynamics (See Section 5).

3. Assessing Market Power - The processes and tools used for monitoring telecommunications markets when assessing for dominance and forms of anti-competitive pricing were improved and further delineated (See Section 6).

4. Forms of Price Control - The forms of price controls which may be applied in cases of anti-competitive pricing in relevant markets were further clarified, which includes cost-based pricing, and an authorisation requirement. (See Section 7)

5. A definition of the term “tariff” is included so that the scope of price regulation regimes can be appropriately delineated to include all terms and conditions of a service. (See Section 7.2)

The Authority has once more issued the Framework for public consultation in May 2013, pursuant to Section 1.2 above and in accordance with the Authority’s Procedures for Consultation in the Telecommunications Sector in Trinidad and Tobago.
3 Overview of the Framework

The Price Regulation process usually commences with the identification of markets, which is the arena in which competition occurs. When markets are defined, it is necessary to assess them for the degree of competition by assessing the parameters/phenomena known as market power and dominance. In fact, in an economic sense, for a firm to be found dominant or possessing significant market power, it must be in a position to influence market price. Defining a market is therefore a significant part of the test for dominance – it is in fact, a pre-requisite.

In addition, pursuant to the mandates of Section 29 of the Act, markets must be monitored for cross-subsidising and other forms of anti-competitive pricing in a relevant service. A "relevant service" includes the service or services for which the Authority may propose to introduce a price control regime.

Based on such assessments, appropriate price controls may then be applied. An illustration of this process is shown in Figure 1 below.

Figure 1 – The Elements of the Price Regulation Framework

- Define Markets
  - A priori - authorisations, geographic extent
  - Economic Analyses - SSNIP, CLA

- Assess Markets for Market Power/Dominance, cross-subsidies, anti-competitive pricing
  - Direct Assessments - price-cost ratio, demand and price analysis, firm profitability, structure of demand
  - Indirect Assessments - HHI, concentration ratios, entry analysis

- Classify Markets
  - Types A, B and C

- Adopt Price Control if necessary
  - Price Caps and/or Floors Retail-Minus Pricing, Rate of Return
  - Authorisation
  - Cost-based pricing
4 Market Definition Process

4.1 Identification of Markets

There are two (2) main types of markets in the telecommunications sector; which include:

1. Retail Markets, defined as markets for services provided to the end-users; and

2. Wholesale Markets, defined as markets for the inputs which are necessary for operators to provide services and products to end-users.

However, within these two (2) broadly defined markets, further classification may be needed to separate markets.

4.2 Determining the Relevant Market through a priori Determinations

Markets are usually defined by taking into account demand-side and supply-side substitutability with consideration given to the parameters of the relevant products or services; and the geographic extent of the market.

The Authority proposes that retail and wholesale markets should be firstly defined by taking into consideration the types of concessions and other authorisations 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, and consistent with the types of wholesale services that are eventually provided to service-based concessionaires by network-based concessionaires.

In Trinidad and Tobago, authorisations for the provision of public telecommunications and broadcasting services are awarded in accordance with the Authority’s Authorisation 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 summary, 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, at this time, are summarized in Table 1.

The Authority’s approach in utilizing this sub-classification as the first step in market identification is not uncommon in the international sphere as several other jurisdictions have adopted a similar approach. For example, the European Union in 2003 identified eighteen (18) separate markets that may be susceptible to pricing regulations.

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1 In 2007 the European Union revised its list of regulated markets from eighteen markets to seven. The reasons offered for the revision were with respect to matters unique to the EU which may not be applicable to Trinidad and Tobago at this juncture. The Authority's listing of these markets at this time does not preclude the Authority from prudently conducting similar revisions as the market further develops, as provided for in Section 4.3.
Table 1 – List of Concession types per service and per network

<table>
<thead>
<tr>
<th>Network-based concessions</th>
<th>Service-based concessions</th>
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<tbody>
<tr>
<td>Type 1</td>
<td>Type 2</td>
</tr>
<tr>
<td>International Network</td>
<td>International Network and any telecommunications service (e.g.) voice, Internet</td>
</tr>
<tr>
<td>Domestic Mobile Network</td>
<td>Domestic Mobile Network and any telecommunications service (e.g.) voice, Internet</td>
</tr>
<tr>
<td>Domestic Fixed Network</td>
<td>Domestic Fixed Network and any telecommunications service (e.g.) voice, Internet</td>
</tr>
</tbody>
</table>

In further defining the markets, the Authority considers the geographical extent of markets. This is measured by the extent of homogeneity and supply and demand conditions. In applying this parameter, the Authority proposes that all markets in Trinidad and Tobago 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:

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.

In concluding this a priori approach, the Authority proposes to distill an array of markets that can be used where it is determined that price regulation may be necessary as follows:

2 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.

3 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.

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

5 Telecommunications Service Concession (service-based): Authorises a concessionaire to provide a specific public telecommunications service without an authorisation to own and/ or operate a telecommunications network.

6 Broadcasting Service Concession (service-based): Authorises a concessionaire to provide a broadcasting service without an authorisation to operate a telecommunications network.
Statement on the Definition of Telecommunications Markets for Trinidad and Tobago:

Where price regulation may be necessary, the Authority shall at this time adopt the following market definitions for Trinidad and Tobago. The Authority may review these definitions as the market environment changes.

<table>
<thead>
<tr>
<th>Market Definition</th>
<th>Retail</th>
<th>Wholesale</th>
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<tbody>
<tr>
<td>Domestic Fixed</td>
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</tr>
<tr>
<td>Narrowband (voice) access 7</td>
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<td>Unbundled Access 8</td>
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<tr>
<td>Broadband access 9</td>
<td></td>
<td>Broadband Access 10</td>
</tr>
<tr>
<td>Voice Services - Origination 11</td>
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<td>Voice Services - Origination</td>
</tr>
<tr>
<td>Voice Services - Termination</td>
<td></td>
<td>Voice Services - Termination</td>
</tr>
<tr>
<td>Narrowband Internet 12</td>
<td></td>
<td>Internet Services 13</td>
</tr>
<tr>
<td>Broadband Internet 14</td>
<td></td>
<td>Interconnection services - Origination 15</td>
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<tr>
<td></td>
<td></td>
<td>Interconnection services – Transit 16</td>
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<tr>
<td></td>
<td></td>
<td>Interconnection services - Termination 17</td>
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<tr>
<td></td>
<td></td>
<td>Domestic Leased Circuits 18</td>
</tr>
<tr>
<td>International</td>
<td></td>
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<tr>
<td>International voice calls 19</td>
<td></td>
<td>International Leased Circuits 20</td>
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<td></td>
<td>International Fixed Termination 21</td>
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<td>International Mobile Origination 24</td>
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<td>Domestic Mobile</td>
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<tr>
<td>&quot; Voice Services- Origination 25</td>
<td></td>
<td>Interconnection services - Origination 26</td>
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<tr>
<td>Voice Services - Termination</td>
<td></td>
<td>Interconnection services - Termination</td>
</tr>
<tr>
<td>Messaging Services 27</td>
<td></td>
<td>Voice Services - Origination 28</td>
</tr>
<tr>
<td>Narrowband Internet 29</td>
<td></td>
<td>Voice Services - Termination</td>
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<tr>
<td>Broadband Internet 30</td>
<td></td>
<td>Internet Services 31</td>
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<tr>
<td>Roaming 31</td>
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</table>

7 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.
8 Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location.
9 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.
10 Wholesale non-physical or virtual access including bit-stream’ access at a fixed location.
11 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.
12 Publicly available narrowband Internet services provided at a fixed location.
13 Wholesale Internet services offered to concessionaires for the purposes of providing Internet services at the retail level.
14 Publicly available broadband Internet provided on a public fixed telecommunications network.
15 Traffic origination services provided on a public fixed telecommunications network.
16 Transit services provided over a public fixed telecommunications network.
17 Traffic termination services provided over a public fixed telecommunications network.
18 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.
19 Publicly available international public telephone services provided on any network.
20 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.
21 The termination of international traffic on a domestic public fixed telecommunications network.
22 The termination of international traffic on a public domestic mobile telecommunications network.
23 The termination of international traffic on a domestic public fixed telecommunications network.
24 The origination of international traffic on a domestic public mobile telecommunications network.
25 Publicly available domestic public telephone services provided on a mobile network.
26 Traffic origination services over a public mobile telecommunications network.
27 Publicly available messaging services provided on a public mobile network.
28 Traffic termination services over a public mobile telecommunications network.
29 Publicly available narrowband Internet services provided on a public mobile network.
30 Publicly available broadband Internet services provided on a public mobile network.
31 Publicly available roaming services provided on a public mobile network.
4.3 Determining the Relevant Market through *a posteriori* Economic Analysis

Market definitions change over time as the characteristics of products and services evolve and the possibility frontiers and permutations for demand and supply substitution change. To accommodate the evolving nature of markets, Regulatory Authorities typically determine relevant markets through market research analysis and economic tests in order to identify groups of products and services that can be used interchangeably or as substitutes and hence to define separate markets.

The Authority proposes the adoption of a similar approach, when appropriate, to assess the continued applicability of the market definitions outlined in Section 4.2 above. In so doing the Authority may undertake such a review via the use of a variety of tools and principles, *inter alia*:

1. **SSNIP Tests:** The Small but Significant Non-transitory Increase in Price (SSNIP) makes use of the basic competitive constraints of markets which include demand and supply side substitutability. The SSNIP test starts with a small hypothetical market and measures the constraints by assessing the demand side impact when consumers switch to alternative goods when a price increase is imposed and on the supply side, measures the market dynamics as competing firms start to produce a substitute, thereby impacting the price-setting behavior of the firm. The EU Commission (1997) adopted the SSNIP formulation in its 'Notice on Market Definition'. The Guidelines identify a market as a “region or set of commodities within which demand is highly elastic, but outside of which demand is inelastic.” (Kamerschen and Kohler, 1993, p. 908).

Some have argued that applying the SSNIP test overlooks the possibility that a firm may already have market power. Similarly, it is argued that another difficulty with the SSNIP test is that it may be difficult to estimate the price elasticity of demand in the hypothetical monopolist test.

Notwithstanding these criticisms the Authority concurs with wider literature and practice which support the view that SSNIP tests remain a relevant tool for market definitions.

2. **Critical Loss Analysis:** Harris and Simons (1989) developed an alternative method for determining whether a “small but significant” price increase would be profitable, in situations where demand elasticities cannot be estimated. Their method involves estimating the critical loss for a given percentage margin and price increase, i.e. the 5 % used in the SSNIP test. The critical loss is defined as the maximum sales loss that could be sustained as a result of the price increase without making the price increase unprofitable. If the evidence in a specific case indicates that the likely loss of sales to the hypothetical monopolist is less than the Critical Loss, then a 5 % price increase would be profitable and the market would be defined.

When the Authority determines that a review of market definitions is warranted, the Authority will do so in consultation with the industry.
5 Classification of Markets

5.1 Dominance and Market Classifications

One of the major triggers for price regulation in a relevant market is the existence of market dominance. According to the Telecommunications Act Section 29 (2) (a):

"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."

Dominance is defined in typical legal sense as, “a position of economic strength affording a firm the power to behave to an appreciable extent independently of competitors, and customers”. In an economic sense, for a firm to be found dominant, it must be in a position to influence market price.

Market power is described as power to influence prices and hence, for the purposes of price regulation in Trinidad and Tobago, significant market power and dominance are defined as the same.

5.2 List of Market Classifications

Markets, once defined can be classified based on the existence or non-existence of dominance and the number of operators which exist. Such market classifications act as signals which will advance the rationale for price regulation or absence thereof.

The Authority proposes to classify markets as Types A, B and C, described as follows:

1) **Type A** - markets in which there is only one concessionaire providing services. (This classification generally infers that some form of price control is necessary to counteract the tendency of a monopolist towards high prices and inefficiency).

2) **Type B** - markets in which there are two or more concessionaires, but where one or more concessionaires may be dominant or jointly dominant. (This classification infers that 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 these markets there may be less need for price controls).

3) **Type C** - 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. This classification infers that 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 pricing.
**Statement on Classification of Markets:**

The Authority shall classify markets based on the existence/non-existence of dominance and the number of market players as follows:

**Type A** - markets in which there is only one concessionaire providing services.

**Type B** - markets in which there are two or more concessionaires, but where one or more concessionaires may be dominant or jointly dominant.

**Type C** - markets in which there is more than one concessionaire and none of the concessionaires are perceived to be dominant.
6 Assessing Relevant Markets for Dominance, Anti-competitive Pricing and Cross-Subsidies

Given the mandates of Section 29 (2) (a) and (c), markets must be monitored and assessed for determinations on the existence of dominance and acts of anti-competitive pricing, including cross-subsidies.

It is thus necessary for the Authority to further delineate these terms and its principles accordingly. This Section addresses key items for market assessment and is structured as follows:

1. Assessing Dominance
2. Assessing Joint and Co-Dominance
3. Identifying Cross-Subsidies
4. Identifying Other forms of anticompetitive acts and pricing
5. Analysing Bundles

6.1 Assessing Dominance

The definition of dominance given in Section 29(8) of the Act can be described as a classic legal definition of dominance usually used in Competition Law.

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 first determinant of dominance. The European market is a good example of such determinations since it is considered that 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. The Telecommunications Act Section 29(8) also prescribes other factors that can be considered in making a final determination.

The Authority, like many other regulators proposes to use a combination of economic analytical indicators, rather than sole reliance on market share, to determine the presence or absence of market power. These are detailed in Figure 2 below and briefly discussed thereafter.
A. Direct Approach

1. Price-Cost Margin Analysis

The price-cost ratio is also known as the Lerner-Index and is a measure which targets the measurement of “a firm’s ability to profitably raise and maintain prices above the competitive level”. This is a simple and practical instrument to measure market power in an economic sense. However, sole reliance on this method can overlook qualitative evidence of firms actually earning higher margins by offering superior products and by not abusing their dominance.

2. Demand-Price Analysis:

The Demand - Price analysis is a measure of estimating the cross-price elasticities which would thereby indicate the degree to which prices are allowed to successfully rise above the competitive level whilst still maintaining demand. A Logit approach will factually assume that elasticities are proportional to market shares, but the almost ideal demand systems would involve a model in which similar services are grouped together so that the cross-price elasticities within the group will be determined. As an adaptation, Baker and Bresnahan (1988) and Motta (2004), propose that market power of a firm can be determined by estimating the elasticity of the residual demand function facing a single firm. (The residual demand function is the demand function a single firm faces once the supply responses of all other firms are taken into account).

Of course though, it is generally a difficult task to estimate the supply responses of all other firms.
3. **Firm Profitability Analysis**

The indicators which are generally used to conduct the firm profitability analysis include an assessment of supra-competitive profits and profit margin analysis, over time and across markets. Hay (1991), Baumol and Swanson (2003) demonstrate that the firm’s profit record is a useful indicator of the ability to obtain monopoly earnings or supranormal economic profits, if profitably maintaining prices above the competitive level over a period of time. The difficulty of this approach lies in the probability that companies can hide economic profits in their accounts and of course there is the difficulty in differentiating between economic profits and accounting profits (Fisher and McGowan 1983).

4. **Other Market Analyses**

This would involve utilizing one of the potential indicators of market power such as prices and drawing comparisons between markets that are being reviewed or across markets which are considered to be competitive. Whilst these analyses may be useful, it is not a stand-alone approach as finding an appropriate benchmark market may be challenging given the market nuances arising out of the varying degrees of market development across telecommunications markets.

**B. Indirect Approach –**

The two (2) key steps in the indirect assessment approach include concentration analysis and entry analysis.

1. **Concentration Analysis:**

This approach has been widely confirmed by theoretical and empirical evidence which links concentration levels and market power. The three (3) most commonly used ratios include:

1.1. **Market Shares** – The percentage of sales or capacity that a firm controls in a relevant market. This demonstrates the relative sizes of competitors in the relevant market. The Authority proposes three common denominators for assigning market shares which include:
   - Output-based shares (such as volume)
   - Revenue-based shares
   - Capacity-based shares

It is common practice in practical antitrust analysis to calculate market shares using various denominators in order to identify and interpret differences.

Other determinants of market power which would complement market share analysis include:
   - demand-side substitution and
   - supply-side substitution.
Other Country perspectives: In the US, market shares of “something over 50%” are required to constitute a monopoly. The EU Horizontal Merger Guidelines (Section III) considers 50% or more as an upper threshold of a dominant market position, and 25% as low enough to not impede competition.

1.2. **Concentration Ratios** – This analysis involves the aggregation of market shares of the largest firms in the market. The most common concentration ratios are the CR4 and CR8, which demonstrates the extent of market control of the four and eight largest market participants respectively. Given that this assessment is reliant on having more than 4 or 8 larger players in the market, and given the limited number of players in the local telecommunications sector, this analysis will more often be replaced by the Hirschman-Herfindhal Index.

1.3. **Hirschman-Herfindhal Index** – This is a measure of concentration and is defined as the squares of the market shares of all firms in an industry or a relevant market: The HHI index is based on the total number and size distribution of firms in an industry.

Many jurisdictions and competition authorities use the HHI to evaluate the potential effects of a merger on market concentration. The US Horizontal Merger Guidelines for example, 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.

Based on a further understanding of the relationship between the state of competition and market concentration, the Authority notes the shortcomings of using HHI in measuring competition, and the terms ‘contested market’ (and by extension ‘uncontested market’) for the local telecommunications market. The Authority’s view on the weaknesses of these approaches is outlined in Annex 2.

2. **Entry Analysis**

This is a complement measure to an analysis of the HHI concentration measure. The proposal here is that even if concentration ratios are high, market players may be unable to exercise their power (by earning monopoly profits) if potential entrants could enter the market too quickly and easily become a competitor with substitute products. Two elements are relevant which include:

- The likelihood of entry
- The profitability of entry

In addition, the assessment of entry analysis can be concluded via a review of entry barriers in a relevant market. According to Nera (2004) entry barriers can include the following indicators:

- Advertising ratio to sales
- R&D expenditure ratio to sales
Statements on Assessment of Dominance:

The Authority has determined that an Integrated Approach to assessing dominance will be utilized which may consist of a combination of at least three (3) of the above measures, and which when measured, give a similar resultant inference of the level of market power or 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 and customers. The factors for consideration of dominance shall include a combination of the above direct and indirect measures, including, but not limited to:

1. Market share measured in terms of subscriber numbers, traffic volume and/or capacity;
2. The extent to which the market is concentrated;
3. The trends in market share in the relevant market;
4. The overall size of the concessionaire’s undertaking;
5. Access to financial resources;
6. Vertical integration;
7. Diversification of products or services;
8. Absence of, or low, countervailing buying power;
9. There exist high barriers to entry;
10. The power of the concessionaires operating in the market to set prices;
11. Excess pricing and profitability;
12. Lack of active competition on non-price factors;
13. Barriers to switching;
14. Customers’ ability to access and use information;
15. Technology trends relevant to the market;
16. 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 and customers. 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 in Annex 1.

6.2 Assessing Joint and Co-dominance

Dominance may not only apply to one (1) market player but in fact situations can arise whereby two (2) or more firms may be deemed to hold a position of joint-dominance or collective dominance.

Joint-dominance may be evident because of structural linkages between firms, which allow them to indirectly synchronize prices in the market—a practice sometimes referred to as tacit collusion.

On the other hand, firms can be co-dominant by engaging in coordinated effects and parallel in conduct, such that the actions of one market player combined with the actions of other market players result in “a degree of market power sufficient to permit them to behave independently of competitors.” Research (Doyle 2002) has suggested that telecoms mobile markets are common candidates for collective dominance assessments.

**Statement on Joint-Dominance:**

The Authority will declare two (2) or more concessionaires jointly or co-dominant, respectively if those concessionaires jointly demonstrate a position of economic strength affording them the power to behave to an appreciable extent independently of competitors and customers.

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

1. The extent to which the characteristics of the relevant market enable tacit co-ordination and the extent to which such form of co-ordination is sustainable;

2. 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;
3. 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 and co-dominant concessionaires who abuse their powers in the same manner as it would for dominant concessionaires.
6.3 Identifying Other forms of Anti-competitive Pricing

Anti-competitive Pricing - The Authority defines anti-competitive pricing as any act of pricing services which has the effect of substantially reducing or distorting competition, which may include sustaining the pricing of services below that value which represents the marginal cost of the provision of that service.

Acts of Unfair Competition - The Authority considers any act by a market player or any affiliate of a market player, which has the likely or intended effect of preventing, substantially restricting, or distorting competition in any market or markets, or interfering with the operation of networks or the provision of services by any competitor of that market player, to be unfair and anti-competitive by that market player.

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

1. Cross-Subsidies: Section 29(2) (b) articulates that price regulation is necessary in the situations where; “a concessionaire operating a public telecommunications network or providing a public telecommunications service cross-subsidises another telecommunications service provided by such concessionaire.”

Cross-subsidising refers to the act of market players utilizing the revenues from a public telecommunications network or public telecommunications service in order to price another public telecommunications network or public telecommunications service below cost.

In assessing cross-subsidies, it is necessary for the Authority to have knowledge of market players’ cost, cost structures and profitability of services. The Authority will obtain such data via its various regulatory instruments and in most circumstances the Authority may require concessionaires to utilize the cost model developed for the industry and/or separated accounts to help identify the costs of individual services.

The various other Regulatory Instruments which necessitate the provision of cost-based data by concessionaires include, but are not limited to Telecommunications (Interconnection Regulations), 2006, Telecommunications (Access to Facilities) Regulations 2006, and the proposed Data Submission Regulations.

2. Non-cost based and/or discriminatory pricing of Essential Facilities - 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. Essential facilities (also known as bottleneck facilities) are typically regarded as having the following characteristics:

   1. They are exclusively or predominantly provided by a single or a limited number of suppliers
2. They are required by competitors in order to compete in the relevant markets

3. 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 of the facility to 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 not develop. Hence, essential facilities are regulated in most countries, whereby the regulator has a role in setting the prices for access to essential facilities.

The Authority considers that supplying to competing concessionaires essential network elements at prices above or significantly below the prices offered by the supplying concessionaire for providing the retail services utilizing such essential network elements as anti-competitive. Thus and pursuant to the Telecommunication (Interconnection Regulations), 2006 and Telecommunications (Access to Facilities) Regulations 2006 the Authority shall impose cost-based pricing for essential facilities.

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**Statement on Pricing of Essential Facilities:**

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

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

A concessionaire who controls an essential facility shall be subject to a pricing regime which proposes that the pricing of access to or use of essential facilities be cost-based.

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3. **Below Cost Pricing:** Supplying telecommunications services at prices below concessionaires' marginal costs, and/or long run average incremental costs or such other cost standard as is identified by the Authority;

4. **Tied-selling:** 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 and/or 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);
5. **Wholesale Price Increases and/or Price-Squeeze**: 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.

6. **Anti-Competitive pricing agreements**: 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) **retail price and quantity maintenance**: pursuant to which a concessionaire that supplies a competing service provider with products or services attempts to impose restrictions on the prices and quantity available for sale 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;

7. ** Preferential Treatment**: 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.

8. **Price gouging** - where a market player prices services unfairly or unreasonably above market price due to its significant market power/dominance.

An understanding of a concessionaire's costs is a key requirement for the Authority to recognise and respond to cross-subsidy and anti-competitive pricing.

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**Statement on Anti-Competitive Pricing**:

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

1. Tied selling through the 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; and/or 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.

2. 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;

3. supplying communications services at prices below concessionaires’ marginal costs, and/or long run average incremental costs or such other cost standard as is identified by the Authority;

4. using revenues or the allocation of costs from one public telecommunications service to cross-subsidise another public telecommunications service, except where such cross-subsidy is specifically approved by the Authority;

5. 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;

6. 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;

7. 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.

8. offering Non-cost based and/or discriminatory pricing of Essential Facilities

9. price gouging - where a market player prices services unfairly or unreasonably above market price due to its significant market power/dominance.
6.4 Assessing Bundles

The Authority defines Bundling as the provision of more than one relevant service to a customer as a package, where the price covers all services within the package.

The Authority notes that whilst bundling can bring price and quality benefits to customers in a competitive and converged market environment, some bundling practices may at times have the effect of substantially reducing or distorting competition. 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 Authority proposes to consider, inter alia, the following criteria, individually and collectively in assessing whether the conduct of bundling is anti-competitive:

1. Dominant: 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;

2. Competition: 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);

3. Future take-up: The likely future take-up of the bundled services;

4. Non-price terms and conditions of the bundle, such as the length of any contract;

5. One-bill effects: Whether competitors face large one-bill effects\(^\text{32}\) 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;

   a. The relationships between the goods or 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 products, which can magnify any anti-competitive effect;

   b. Characteristics of Market: 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;

   c. Pricing: 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, which are not uncommon in the international regulatory sphere, provides a firm basis for assessing whether any bundled service offering could be determined to have the likely or intended effect of preventing, substantially restricting, or distorting competition in any market or markets. The Authority therefore has determined that all concessionaires should not bundle any two or

\(^{32}\) This occurs where consumers value the convenience of acquiring all services from one service provider
more Public Telecommunications Services into a single tariff without also offering each of the constituent services under separate tariffs.

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

The Authority has determined that all concessionaires operating in a market classified as Type A or Type B shall not, without the prior approval of the Authority in writing, bundle any two or more Public Telecommunications Services into a single tariff without also offering each of the constituent services under separate tariffs.

Where the concessionaire provides customer equipment integral to the provision of a service to its customers, the tariff shall clearly state the price of the equipment separately from the charges for the service.

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:

1. 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;
2. 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);
3. The likely future take-up of the bundled services;
4. Non-price terms and conditions of the bundle, such as the length of any contract;
5. Whether competitors to the concessionaire in question face large one-bill effects 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;
6. 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;
7. 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
8. Whether the price(s) for the bundled services involves any elements of predatory pricing or a vertical price-squeeze in the relevant market(s)

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33 This occurs where consumers value the convenience of acquiring all services from one service provider
7 Forms of Price Regulation

The Authority’s mandates relevant to this Price Regulation Framework are provided in the Telecommunications Act and relate to matters of anti-competitive pricing and acts of unfair competition. This Section provides details of the various price control regimes proposed for telecommunications markets in Trinidad and Tobago and is structured as follows:

1. Price Control Regimes easily identified pursuant to market classifications
2. Overview of the Authorisation Requirement
   - Tariff Revision Notification
   - New Service Notification
3. Price Caps
4. Retail-Minus Pricing
5. Price Floors
6. Rate of Return Regulation
7. Price Review Procedure

7.1 Price Control Regimes pursuant to market classifications

When markets have been assessed and market-dominance or acts of anti-competitive pricing are extant, the Authority will apply specific price control regimes to address the anti-competitive pricing.

In summary, the Authority may in any case where there is only one concessionaire operating a public telecommunications network or providing a public telecommunications service in a particular market, or where a concessionaire has a dominant position in a market, or where a concessionaire cross-subsidises one telecommunications service provided by it with revenues from another telecommunications service provided by such concessionaire, or where it detects anti-competitive pricing or acts of unfair competition, implement such of the following price control regimes as it considers appropriate upon concessionaires in the relevant market:

1. Price caps;
2. Retail-Minus Pricing;
3. Price Floors;
4. Rate of Return Regulation;
5. Cost-based pricing; and
6. Tariff authorisation
Table 2 below identifies the applicable regimes in the various market classifications.

### Table 2 – The reclassification of markets into Type A, B and C and appropriate price control regimes

<table>
<thead>
<tr>
<th>Market</th>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>Rate of Return</td>
<td>Price Caps and/or Floors</td>
<td>N/A</td>
</tr>
<tr>
<td>Wholesale(^34)</td>
<td>Retail-Minus Pricing Or Rate of Return</td>
<td>Retail-Minus Pricing</td>
<td>N/A</td>
</tr>
<tr>
<td>Interconnection and Essential Facilities</td>
<td>Cost Based Pricing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The types of regimes are further elaborated in this Section.

#### 7.2 Authorisation Requirement

The Telecommunications Act Chap 47:31 29 (2) (c) provides for the implementation of a price regulation regime as a remedial structure for anti-competitive pricing where, “the Authority detects anti-competitive pricing or acts of unfair competition.” However, some acts of unfair competition cannot be resolved through a particular price regulation regime. Such acts are more aligned to other regulation regimes which include the provision of notification and an authorisation requirement.

A general overview of the applicability of pricing regimes and the authorisation requirement to acts of unfair competition is given in Table 3 below.

### Table 3 – The Application of Regulatory Regimes pursuant to acts of Unfair Competition

<table>
<thead>
<tr>
<th>Act</th>
<th>Pricing Regulation for Wholesale Markets</th>
<th>Pricing Regulation for Retail Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tied selling</td>
<td>Authorisation requirement</td>
<td>Authorisation requirement</td>
</tr>
<tr>
<td>Price Discrimination</td>
<td>Authorisation requirement</td>
<td>Authorisation requirement</td>
</tr>
<tr>
<td>Price below Cost</td>
<td>Floors</td>
<td>Floors</td>
</tr>
<tr>
<td>Cross-subsidisation</td>
<td>Floors and/or Caps</td>
<td>Floors and/or Caps</td>
</tr>
<tr>
<td>Price Squeeze</td>
<td>Floors and/or Caps</td>
<td>Floors and/or Caps</td>
</tr>
<tr>
<td>Price Fixing</td>
<td>Caps and Retail-Minus</td>
<td>Caps</td>
</tr>
<tr>
<td>Non-cost based and/or discriminatory pricing of Essential Facilities</td>
<td>Cost-based pricing</td>
<td>N/A</td>
</tr>
<tr>
<td>Bid rigging</td>
<td>Floors and/or Caps</td>
<td>Floors and/or Caps</td>
</tr>
<tr>
<td>Vertical fixing</td>
<td>Floors and/or Caps</td>
<td>Floors and/or Caps</td>
</tr>
<tr>
<td>Exclusive Dealing</td>
<td>Floors and/or Caps</td>
<td>Floors and/or Caps</td>
</tr>
</tbody>
</table>

\(^34\) not including interconnection or essential facilities
The Authorisation Requirement Regime is further supported by the legislative basis set out in the Act at Section 29(6), Sections 24(1), and bolstered by Section 22(1) (b). Similarly, such provisions are implemented by concession conditions A21, A28 and C6. The authorisation requirement regime will allow the Authority to proactively ensure that anti-competitive pricing and acts of unfair competition are not foisted unto the market.

7.2.1 Notification of Tariff Changes and the Authorisation requirement

It is the Authority’s experience thus far, that several acts of anti-competitive pricing and/or unfair competition occur outside of the price of a relevant service and are at times a result of anti-competitive terms and conditions related to a tariff of the relevant service. Hence the Authority determines that the authorisation requirement must be appropriately defined for tariffs.

Tariffs refer to the price and all terms and conditions of a service. The Authority’s delineation of terms and conditions of a relevant service include, but are not limited to:

1. tariffs,
2. bundles/packages,
3. special conditions, contractual or qualification criteria applicable thereto,
4. terms associated with possible early termination of a contract during the introductory period or for the new service/service bundle, such as penalties,
5. any 'bonus' or additional benefit associated with a bundled service/telecommunications service.

Prior to a change and/or revision in the tariffs of telecommunications services, all concessionaires are required to give details of the proposed revision in writing to the Authority in accordance with concession obligations. The required period of notice to the Authority shall be thirty (30) days prior to notification being given to customers. For services offered to other concessionaires (wholesale services), notification of proposed tariff revision/changes must be provided to the relevant concessionaires ninety (90) days in advance of the proposed change taking effect. 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:

1. The service for which the tariff change is proposed;
2. The proposed tariff (price and terms and conditions) for the service;
3. The date at which the tariff change is proposed to become effective;
4. The projected timeline for which the tariff will be in the market.

Proposed tariff changes may be implemented thirty (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).
Where, within the thirty (30) days prior notification to the Authority, the Authority notifies the concessionaire that it has reason to believe that the proposed tariff is either anti-competitive or discriminatory, the Authority may initiate its procedures through which tariff authorisation may be granted in accordance with this section. Such a process should not exceed an additional thirty (30) days from the time of notification, and the concessionaire will be compelled to provide such information as required to complete the assessment in that timeframe. Where the concessionaire does not provide the requested information, the tariff may not be authorised. Where the Authority notified the concessionaire after the end of the thirty (30) day prior notification period, the Authority shall inform the concessionaire that it has determined that a Price Review Procedure is required.

**Statement on Tariff Notification:**

1. For services offered to the public, notification of proposed tariff revision/change 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 tariff changes must be provided to the relevant concessionaires ninety (90) days in advance of the proposed change taking effect.

2. All concessionaires shall be required to submit a notification in writing to the Authority for proposed tariff changes at least thirty (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 fully competitive market.

3. Where, within the thirty (30) days prior notification to the Authority, the Authority notifies the concessionaire that it has reason to believe that the proposed tariff is either anti-competitive or discriminatory, the Authority may initiate its procedures through which tariff authorisation may be granted in accordance with this section. Such a process should not exceed an additional thirty (30) days from the time of notification, and the concessionaire will be compelled to provide such information as required to complete the assessment in that timeframe.

   (i) Where the concessionaire does not provide the requested information, the tariff may not be authorised.

   (ii) Where the Authority notified the concessionaire after the end of the thirty (30) day prior notification period, the Authority shall inform the concessionaire that it has determined that a Price Review Procedure is required.
7.2.2 Notification of New Service Offerings and the Authorisation Requirement

The introduction of new services in a relevant market can create opportunities for the introduction of a tariff that has the likely or intended effect of preventing, substantially restricting, or distorting competition in any market or markets.

Authorisation would only be triggered where the Authority makes a case that the new service tariff or bundle is anti-competitive or discriminatory. However, where the notification provides the Authority with reasonable information that the new service tariff or bundle is fair, competitive and non-discriminatory, the Authority will not require authorisation and may waive the remainder of the notification period.

Statement on New Service Offerings:

1. All concessionaires shall be required to submit a notification in writing to the Authority for proposed new service offerings at least thirty (30) days prior to notifying the public. The Authority may waive this thirty (30) day period as it deems appropriate in particular circumstances. All notifications shall include the proposed tariff and related terms and conditions for the new service offerings.

2. Authorisation would only be triggered where the Authority makes a case that the new service tariff or bundle is anti-competitive or discriminatory. However, where the notification provides the Authority with reasonable information that the new service tariff or bundle is fair, competitive and non-discriminatory, the Authority will not require authorisation and may waive the remainder of the notification period.
7.3 Price Caps

The Authority may impose price caps on any dominant concessionaire in a market classified as Type B, or where it detects the anti-competitive actions outlined in Section 6.4 above, such as cross-subsidisation, price squeeze and tariff fixing. Price caps may be imposed in respect of retail and wholesale prices.

The price cap sets a limit on overall price changes over a twelve (12) month period. This approach leaves the regulated market player 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.

| Statement on Applicability of Price Cap: |
| The Authority shall apply price caps to retail and wholesale markets where it considers it 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:

1. Definition of service baskets and notification to affected concessionaires;

2. 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 of the price cap regime;

3. 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.
7.3.1 **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 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:*

1. *The degree of flexibility to be accommodated by the concessionaire in setting prices*
2. *The need to define sub-baskets where appropriate*
3. *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*
4. *The level of competition that exists in the provision of the services to be regulated under the price cap*
5. *Design simplicity and practicability*

7.3.2 **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.

7.3.3 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 recognises 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 Index (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 Trinidad and Tobago, given the price pressures imposed by rising food prices on the 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:

\[
P CI^k_t = PCI^k_{t-1} \times [1 + PI_t \times X^k_t \pm Z^k_t \pm Q^k_t]
\]

Where:  
\( PCI^k_t \) is the price cap index in year \( t \) for basket \( k \)  
\( PCI^k_{t-1} \) is the price cap index in year \( t-1 \)  
\( PI_t \) is the price index for year \( t \)  
\( X^k_t \) is the efficiency factor for basket \( k \)  
\( Z^k_t \) is the exogenous factor for basket \( k \) for year \( t \)  
\( Q^k_t \) 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 \( PI_t \), \( X^k_t \), \( Z^k_t \), and \( Q^k_t \).

### 7.3.4 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.

7.3.5 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:

\[ \text{API}_t^k = \text{API}_{t-1}^k \times \left[ 1 + \sum_{i=1}^{n} \frac{r_{i(t-1)}}{P_{i(t-1)}} \times \frac{r_{i(t-1)}}{R_{i(t-1)}} \right] \]

where: \( \text{API}_t^k \) is the actual price index following proposed price changes.
### Price Regulation Framework for Telecommunications Services in Trinidad & Tobago

### 7.3.6 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.

### 7.3.7 Duration of Price Cap Controls

Price cap controls are usually in force for periods of between three (3) and five (5) 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 (3) 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.

7.3.8 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:

1. Notification of price changes for services under the price cap
2. Compliance filings
3. Data submission requirements for concessionaires
4. 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 develop 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:

1. Notification of price changes for services under the price cap
2. Compliance filings
3. 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.

7.4 Retail-Minus Pricing

Retail-Minus Pricing refers to a price control regime whereby the price for a wholesale service is set by reference to a retail price that uses the wholesale service as an input.

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:

1. 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;
2. 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;
3. it prevents “margin squeeze” by ensuring that the margin between retail and wholesale services is large enough; and
4. the cost analysis required may be less complex than a “cost plus” approach.

The Authority may impose retail-minus price control on any wholesale price of:

(i) any concessionaire operating in a market classified as Type A, or
(ii) any dominant concessionaire in a market classified as Type B.

or where it detects the anti-competitive acts outlined in Section 6.4 above.

**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 impose retail-minus price control on any wholesale price of:

(i) any concessionaire operating in a market classified as Type A, or
(ii) any dominant concessionaire in a market classified as Type B.

or where it detects the anti-competitive acts outlined in Section 6.4 above.

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:

1. Determination of the retail price to be used in the retail-minus formula (\( P_r \));
2. Determination of the minus value to be used in the retail-minus formula (\( c \));
3. Determination of the review period of the retail-minus.
7.4.1 **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:

1. 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’);
2. The extent to which temporary offers, discounts or any other special service offering should be taken into consideration;
3. The extent to which a wholesale and retail service are directly related;
4. 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:

1. the extent to which the costs of services in a bundle are similar;
2. 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
3. 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 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.

7.4.2 **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:

1. Any retail costs saved by a concessionaire in providing its competitors with a wholesale service instead of providing retail customers with the retail service;
2. Any additional costs incurred by the concessionaire in providing the wholesale service instead of the retail service;

3. 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;

4. 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 costs 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.

**7.4.3 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.
7.5 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\(^{35}\) 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 engaged in anti-competitive pricing.

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

1. The retail price must be no less than the wholesale price plus the direct incremental cost of the concessionaire’s pure retailing functions.

2. 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.

3. 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.

4. 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.

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\(^{35}\) 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.
Statement on Price Floors:

The Authority may impose a price floor on any price in a market be that market classified Type A or Type B or where it detects the anti-competitive actions outlined in Section 6.4 above.

The Authority may impose a price floor on the price for a service which is subject to a price cap regime.

The Authority shall, in the imposition of price floors, take into account the Price Floor Principles set out below:

1. The retail price must be no less than the wholesale price plus the direct incremental cost of the concessionaire’s pure retailing functions;

2. 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;

3. 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;

4. 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:

5. 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;

6. 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.

7.6 Rate of Return Regulation

Section 29 (5) of the Act allows the Authority to impose rate of return regulation on concessionaires in a relevant market. This means a price control regime whereby a price is set so as to enable the concessionaire to achieve a particular rate of return.

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.

The Authority therefore proposes to impose rate of return regulation on any concessionaire operating in a market classified as Type A.
**Statement on Rate of Return Regulation:**

**The Authority may impose rate of return regulation on any concessionaire operating in a market classified as Type A.**

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 concessionaire's 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.
7.7 Price Review Procedure

The Authority may initiate a price review procedure, or at any time require the implementation of a price control pending a full price review procedure, if:

1. It is concerned that such a price result has the likely or intended effect of preventing, substantially restricting, or distorting competition in any market or markets, which may include cross-subsidising and/or other forms of anti-competitive pricing (Section 29(2)(b) and (c) of the Act).

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.

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, 2013.

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 result has the likely or intended effect of preventing, substantially restricting, or distorting competition in any market or markets, which may include cross-subsidising and/or other forms of anti-competitive pricing (Section 29(2)(b) and (c) of the Act).

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 appropriate.

7.8 Affording Opportunity for Representations

The Authority will ensure that it affords affected stakeholders the opportunity to make representations on decisions made in the design and implementation of any price control mechanism.

Statement on Stakeholder Representations

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.
### ANNEX 1: Criteria for Assessment of Dominance

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>1. Market Share and Trends in Market Share</td>
<td>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. The Authority will measure subscriber numbers based on the total number of subscriptions to all services in the relevant market. “Persistent” means for a period of six (6) months or more.</td>
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<tr>
<td>2. Size of concessionaire’s undertaking</td>
<td>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. Such advantages may exist as a result of economies of scale or scope, production capacities, distribution or other activities outside the market under consideration.</td>
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<tr>
<td>3. Access to financial resources</td>
<td>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.</td>
</tr>
<tr>
<td>4. Vertical Integration</td>
<td>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.</td>
</tr>
<tr>
<td>5. Diversification of Products or Services</td>
<td>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.</td>
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<tr>
<td>6. Countervailing buying power</td>
<td>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.</td>
</tr>
<tr>
<td>7. Barriers to entry</td>
<td>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:</td>
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<tr>
<td></td>
<td>i. Legislative or regulatory requirements</td>
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<td></td>
<td>ii. Government policy</td>
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<td></td>
<td>iii. Anti-competitive pricing behaviour</td>
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<td></td>
<td>iv. Non-price behaviour</td>
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<td></td>
<td>v. The concessionaire owning or having access to resources or assets not similarly accessible by its</td>
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<table>
<thead>
<tr>
<th><strong>Criterion</strong></th>
<th><strong>Details</strong></th>
</tr>
</thead>
</table>
| competitors | vi. Sunk costs  
    vii. The concessionaire having agreements (e.g. distribution, rights, etc.) that its competitors are not privy to |
| 8. 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. |
| 9. 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. |
| 10. 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. |
| 11. 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. |
| 12. 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. |
| 13. 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. |
| 14. Degree of differentiation among services in the market | 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.  
    Such differentiation may exist in terms of quality, performance, innovatory or novelty features, packaging, or by advertising subjective qualities of the service. |
ANNEX 2: The Applicability of HHI

Background:

The Price Regulation Framework 2009 (“The Framework”) adopted a system of ‘Market Classifications’ which were based on HHI calculations for each of the defined markets. These classifications were not used in the process of dominance assessment (which is guided by the list of factors for dominance assessment), but serve two (2) purposes listed in (i) and (ii) below:

i. Table 1 Determining the type of policy approach to be used in a given market:

<table>
<thead>
<tr>
<th>Market Classification</th>
<th>HHI</th>
<th>Policy Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Market</td>
<td>&lt;1,800</td>
<td>Price control is not necessary</td>
</tr>
<tr>
<td>Contested Market</td>
<td>&gt;1,800</td>
<td>Price control may be necessary</td>
</tr>
<tr>
<td>Uncontested Market</td>
<td>=10,000</td>
<td>Price control is necessary</td>
</tr>
</tbody>
</table>

ii. Tracking the progress in the market to determine the need for conducting market dominance exercises.

The Framework stated the following: “The Authority will only consider imposing ex ante price regulatory mechanisms in those markets which have been classified as contested and uncontested. 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.”

Issues:

The Authority identifies the inconsistencies listed in Issues 1 and 2 below:

Issue 1: Inconsistency with the use of HHI in the case of Presumed Dominance

The Price Regulation Framework 2009 stated that “Any operator with a market share over 40% will be assumed to be dominant”.

Based on the framework's thresholds, indicated in Table 1 above, price regulation is not necessary in markets where the HHI is less than 1,800. This can be construed to imply that where there is an HHI of 1,800 or less, ‘there is the presumption of the absence of dominance in that
In the first instance, this is economically inconsistent, as the two criteria for assumptions are based on different metrics. The presumption of dominance is based on market share (a characteristic of the individual operator), while the presumption of the absence of dominance is based on HHI (a characteristic of the entire market).

Furthermore, the following table examines HHI in the case of the traditional ‘Dominant Firm Model’ whereby there is a dominant price leader and several other competitive fringe firms. In order to look at the most ideal of situations, it is assumed that the dominant firm has the minimum possible market share for the presumption of dominance (40%), while the other fringe firms are perfectly competitive (having an even distribution of the remaining 60% market share).

This allows the Authority to analyze the position of a ‘dominant firm’ in the presence of the most ideal competitive conditions (besides its own presumed dominance), hence giving the lowest HHI figures possible.

<table>
<thead>
<tr>
<th>Number of non-dominant firms</th>
<th>Individual Market Share of non-dominant firms</th>
<th>HHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>30.00 %</td>
<td>3,400</td>
</tr>
<tr>
<td>3</td>
<td>20.00 %</td>
<td>2,800</td>
</tr>
<tr>
<td>4</td>
<td>15.00 %</td>
<td>2,500</td>
</tr>
<tr>
<td>5</td>
<td>12.00 %</td>
<td>2,320</td>
</tr>
<tr>
<td>6</td>
<td>10.00 %</td>
<td>2,200</td>
</tr>
<tr>
<td>7</td>
<td>8.57 %</td>
<td>2,114</td>
</tr>
<tr>
<td>8</td>
<td>7.50 %</td>
<td>2,050</td>
</tr>
<tr>
<td>9</td>
<td>6.67 %</td>
<td>2,000</td>
</tr>
<tr>
<td>10</td>
<td>6.00 %</td>
<td>1,960</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>18</td>
<td>3.33 %</td>
<td>1,800</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>∞</td>
<td>0.00 %</td>
<td>1,600</td>
</tr>
</tbody>
</table>

The above results show that if the 1,800 HHI threshold is used to classify markets as ‘competitive’, it is only actually possible to have presumed dominance within a competitive market if there are nineteen (19) or more operators (eighteen (18) small firms with one (1) dominant firm).
While this represents a theoretical and hypothetical state of the market (in addition to a number of players unlikely to be found in a telecommunications market in a jurisdiction the size of Trinidad and Tobago), it does demonstrate that there is an inconsistency with the thresholds adopted for presumed dominance and market classification. If a policy decision is made to adopt 40% as the assumed dominance threshold, the HHI threshold for a ‘competitive market’ classification cannot be greater than 1,600 ($40^2$). Conversely, if the 1,800 HHI threshold is to be kept, the assumed dominance threshold cannot be less than 42.43% ($\sqrt{1800}$).

**Issue 2  Inconsistency with the use of HHI classification in Competitive Markets**

The Authority has also reviewed the applicability of the HHI in a modeling scenario whereby each player has equal market share to determine the optimal number of firms which will make the market competitive. By adopting a classification system which states that “a market is competitive if the HHI is less than or equal to 1800”, the Authority's findings suggest a market can only be competitive with at least six (6) operators.

In addition, based on the thresholds specified for classifications of HHI, the terms ‘contested market’ and ‘competitive market’ are mutually exclusive terms because it implies that no market which is contested can simultaneously be competitive. This is inconsistent with economic market principles, as it may be construed that certain markets will never reach a state of being competitive as they are in a perpetual state of being contested (as is the case for any market in which more than six operators is not viable). This highlights a fundamental inconsistency with the use of "contested" as synonymous to "competitive."

**Conclusion:**

While the ‘level of concentration’ and the ‘level of competition’ in a market are interrelated, their relationship is conditioned by other structural factors, such as maximum size of the potential market. Generally, as market concentration goes up, economic efficiency and competition decrease, while the possibility of collusive and/or anti-competitive behavior increases. It is hereby suggested that if there is to be a classification system, it should use language that reflects the true purpose of HHI – i.e. to measure market concentration, not make qualitative assertions about the state or structure of competition. Furthermore, it is important to understand that the market classifications are for the purpose of prioritizing dominance assessment exercises, and should not be construed as targets for the level of competition in the industry.
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