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Office of Utilities Regulation

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# **Dominant Public Voice Carriers No. 3**

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## **Consultative Document**

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**OFFICE OF UTILITIES REGULATION**

APRIL 2003

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## **ABSTRACT**

The Office of Utilities Regulation (OUR) has a duty to determine which public voice carriers are to be classified as dominant public voice carriers for the purposes of the Telecommunications Act (2000) (the Act), as stated in Part V section 28. This duty is consistent with the Office's functions of promoting competition and protecting the interest of consumers as outlined in Part VII of the Act.

The OUR believes that the existence of effectively competitive telecommunications markets should lead to higher quality of service and prices that are more reflective of costs. The continued existence of dominant carriers in the Jamaican telecommunications markets suggests that the existing quality of service is likely to be lower than in effectively competitive markets and/or higher prices than in effective competitive markets.

To protect the interest of the customers, the OUR believes that regulations should be imposed where it is prescribed by the Act and it is demonstrated that this is justified, and that such regulation should reflect the level of competition in the relevant markets. In promoting the consumers' interest, the OUR must have due regard for the interest of carriers and service providers. In this regard, excessive regulation can reduce the incentive to invest and to innovate. The OUR has to ensure that these functions are balanced, since a failure to do so could have detrimental welfare effects. In a market where competition is not effective, as in the case where there is a dominant player, the OUR is obligated to make appropriate regulatory interventions.

Parliament made provisions in the Act for price cap regulation to be applied to the prices of services supplied by Cable and Wireless Jamaica (C&WJ). In March 2000, when the Act was passed, C&WJ was the sole provider of all telecommunications services in Jamaica except for Internet services. This means that the regulatory barrier to entry in the market was sufficient for C&WJ to be judged dominant in those markets in which entry was barred for 18 - 36 months. Two new carriers were licensed to provide retail mobile voice service. In recognition of C&WJ position of being a dominant public voice carrier and service provider of telecommunications services in various markets, provisions were made in the Act for price cap regulations and mandatory obligation of filing a reference interconnection offer. Although the Act did not expressly declare Cable and Wireless Jamaica as a Dominant Public Voice Carrier in relation to any telecommunications market in Jamaica, it expressly provided for the continuance of C&WJ's Dominant position in various markets for telecommunications facilities and services.

In relation to Digicel's comment on what it referred to as a "judicial review on mobile termination", the OUR maintains that the Office has the powers under the Telecommunications Act 2000 to make a determination with regard to the question of dominance and in particular which public voice carriers are to be classified as dominant public voice carriers. The process for arriving at such a determination is prescribed by the Act and in this regard the Office will abide by and comply with this process.

The OUR now sets out its analysis of some of the main telecommunications markets in an effort to identify the existence of dominance in those markets. The analysis contained in this document seeks to bring further clarity to the OUR's position on dominance in the relevant markets.

## **COMMENTS FROM INTERESTED PARTIES**

Persons who wish to express opinions on this Consultative Document are invited to submit their comments in writing to the OUR. Comments are invited on all aspects of the issues raised, but especially the specific questions identified. These questions appear below the explanatory text to which they relate. To ease the OUR's processing of the responses, respondents are requested as far as possible to follow the order of the OUR's questions. If considered appropriate, respondents may wish to address other aspects of the document for which the OUR has prepared no specific questions. Respondents may of course only wish to answer some of the questions posed. Failure to provide answers to all questions will in no way reduce the consideration given to the response.

Responses to this Consultative Document should be sent by post, fax or e-mail to: -

Patrick K. Williams  
P.O. Box 593, 36 Trafalgar Road, Kingston 10  
Fax: (876) 929-3635  
E-mail: [pwilliams@our.org.jm](mailto:pwilliams@our.org.jm)

Responses are requested by April 22, 2003. Any confidential information should be submitted separately and clearly identified as such. In the interests of promoting transparent debate, respondents are requested to limit as far as possible the use of confidentiality markings. Respondents are encouraged to supply their responses in electronic form, so that they can be posted on the OUR's Website.

### **Comments on responses**

The OUR's intention in issuing this Consultative Document is to stimulate public debate on the important regulatory issues surrounding the dominance of public voice carriers. The responses to this Consultative Document are a vital part of that public debate. Respondents will have an opportunity both to find out the non-confidential evidence and views put forward in other responses, with which they may disagree, and to comment on them. The comments may take the form of either correcting a factual error or putting forward counterarguments.

Comments on responses are requested by May 6, 2003.

### **Arrangements for viewing responses**

To allow responses to be publicly available, the OUR will keep the responses that it receives on files, which can be viewed by and copied for visitors to the OUR's Offices. Individuals who wish to view the responses should make an appointment by contacting Lesia Gregory by one of the following means: -

Telephone: (876) 968 6053 (or 6057)  
Fax: (876) 929 3635  
E-mail: [lgregory@our.org.jm](mailto:lgregory@our.org.jm)

The appointment will be confirmed by a member of the OUR's staff. At the pre-arranged time the individual should visit the OUR's offices at:

3<sup>rd</sup> Floor, PCJ Resource Centre, 36 Trafalgar Road, Kingston 10

The individual will be able to request photocopies of selected responses at a price, which just reflects the cost to the OUR. Also, copies of this document may be downloaded from the OUR's Web site at <http://www.our.org.jm>

**Timetable**

The timetable for the consultation is summarized in the table below. This includes an indicative timing for the Determination Notice.

**Timetable for the consultation:**

<i>Event</i>	<i>Date</i>
Consultative Document No. 3	April 7, 2003
Responses	April 22, 2003
Comments on Responses	May 6, 2003
Determination	By June 30, 2003

## **CHAPTER 1: DOMINANCE AND THE TELECOMMUNICATIONS ACT**

- 1.0 Cable and Wireless Jamaica (C&WJ), in its response to the OUR's Consultative Document "Dominant Public Voice Carriers No. 2" stated that "... the Act provides that prior to the OUR determining which public voice carriers are to be classified as dominant it must invite submissions from the public and consult with the FTC. The burden of proof is squarely placed on the OUR to demonstrate a party's dominance. The OUR, throughout the consultative document seeks to make a blanket determination in undefined markets prior to consultation...."
- 1.1 The OUR agrees that the Act (at Section 28(1)) clearly imposes a responsibility on the Office to make a declaration of public voice carriers that are judged to be dominant. However, after reassessing the OUR's responsibility under this section of the Act, the OUR is of the opinion that the legal barriers to entry in various telecommunications markets as per the Act (particularly those restrictions on licensing of others public voice carriers to own and operate telecommunications facilities for the purpose of providing specified services), were sufficient to treat C&WJ as dominant in the markets for all specified services that are provided by these facilities.
- 1.2 These services include:
- (a) Fixed Access
    - (i) Business access: This includes installation, rental, relocation and reconnection of ordinary business lines and direct inward dialling (DID).
    - (ii) Residential access: This includes installation, rental, relocation and reconnection of ordinary residential lines and direct inward dialling (DID).
  - (b) Domestic Retail Services
    - (i) Intra-parish Calls: These are calls originating from a fixed access line (residential or business telephone) in one parish to a fixed access line in the same parish.
    - (ii) Inter-parish Calls: These are calls originating from a fixed access line (residential or business telephone) in one parish to a fixed access line in another parish.
    - (iii) Public Pay Phones
    - (iv) Other Domestic Retail: These include call waiting, three way dialling, call forwarding, automatic busy redial, priority ring, automatic call back, selective call rejection, selective call forwarding, directory assistance and freephone services.
  - (c) International retail services
    - (i) Outgoing International Calls: These are calls on a fixed access

line and wholesale minutes (including sales to mobile service providers) to points outside of Jamaica.

(ii) Incoming International Calls

(d) Fixed Network Interconnection Services

(i) These carrier interconnection services are sold by C&WJ to other operators and downstream Businesses. They include switching, transmission, termination and other apparatus and system used in supplying telecommunications services.

1.3 It can be established that C&WJ was and continued to be a dominant public voice carrier in relation to the provision of the services listed above based on the repealed Telephone Act 1893, its 1988 licences and the current Telecommunications Act (2000)(the Act).

1.4 According to section 6 of the “All Island Telephone Licence 1988 (one of the previous exclusive licences granted to Telecommunications of Jamaica, now Cable and Wireless Jamaica, referred to as the Company):

“The Company have the exclusive rights to provide a service in terms of the provision of the Telephone Act [1893] within the framework of an all Island Telephone Licence and an all-island Telephone System: Providing that no firm or corporation, the Government of Jamaica, or other entity or person shall be prevented from providing a service within the curtilage of its own premises for its own exclusive use.”

1.5 This meant that Telecommunications of Jamaica Limited (now C&WJ) was the only company in Jamaica that could legally supply public telephone services in Jamaica via wire or wires, conductors or other means (that is via telephone lines or work). Further, based on paragraph seventeen of the External Telecommunications Service Special Licence (1988), the Company also had the exclusive right to provide telephone service between Jamaica and any point outside Jamaica. This was also reinforced by the fact that the Company also had exclusivity in relation to the provision of telephone service between points in Jamaica. Based on this fact, all international calls (originating and terminating in Jamaica) had to be conveyed on the Company’s Domestic Telephone networks.

1.6 Further, according to section 27(1) of the All Island Telephone Licence 1988, the Company was entitled to a permitted rate of return of 17.5% to 20% each year and the rates charges for telephone services were to be adjusted annually as necessary to ensure that the permitted rate of return is achieved.

1.7 Based on this framework, without appropriate regulation, the Company could set the prices for telephone services (domestic and international) without constraint



from competitors or potential competitor. Additionally, any efficiency gains achieved by the Company were to be kept by the Company since prices must be adjusted to guarantee a minimum rate of return of 17.5%. In competitive markets (depending on the level of competitiveness), at least some of these efficiency gains are passed on to the consumers in the form of lower prices. However, the legal barriers to entry in the markets for telephone services prevented other firms from competing with the Company. Therefore, prices for telephone services did not reflect competitive levels, indicating the Company's position of economic strength in the markets for telephones services in Jamaica.

- 1.8 Arguably, since domestic prices were subsidized by international prices, consumers did receive the benefits of lower domestic prices but had to pay prices that were above costs for international telecommunications services. However, if the prices of these services were determined in competitive markets, the overall benefits are expected to be greater relative to the costs.
- 1.9 The Telecommunications Act (2000)(the Act) repealed the Telephone Act (1893) and resulted in the granting of new licences to the C&WJ. Based on the phased liberalization process outlined in section 78 of the Act, when read in conjunction with sections 75(3) and 76, C&WJ remained the exclusive provider of domestic carrier services and domestic telephone (voice) services for a further eighteen months from March 1, 2000. Also, its exclusivity in relation to international carrier services and international voice services were preserved for a further three years from that date. Therefore, based on the C&WJ's licences in one instance and the Act in the other, even if there were substitutes that were economically and technically feasible, these were legally barred from competing in the markets for the services listed in paragraph 1.2.
- 1.10 As at March 1, 2000, in order to constrain C&WJ's continued position as a dominant public voice carrier in the markets for the aforementioned services, the Act required the Office to impose price cap regulations on C&WJ. Sections 46 and 81 of the Act provide for the imposition of a price caps on the existing carrier, C&WJ. Such regulations make provisions for productivity gains to be passed on to the consumers through lower prices. In the absence of such regulation, C&WJ would be able to set price without effective constraints from competitors or potential competitors. In this case, the legislation provided C&WJ with sufficient market power to enable the Company to price its services without effective constrains. Although economic, technical and other barrier to entry as well as other competitive constraints were likely to be sufficient to prevent entry in some of these markets, the legal barrier was sufficient to block any possible competitive entry.
- 1.11 Section 46 falls within Part VII of the Act which deals with consumer protection states:  
"prescribed price caps" means such restrictions on the price of prescribed services as are prescribed in rules made under this section;

“prescribed services” means services to which prescribed price cap apply;  
“price cap” means a restriction whereby the weighted aggregate price, calculated in the prescribed manner, for prescribed services shall not be greater than a specified price.

- 1.12 If the prescribed services were subject to effective competition<sup>1</sup>, consumers would not need the protection of price cap restrictions. As noted before, the fact that provisions were made in the Act for price cap restrictions to be applied to the pricing of the prescribed services supplied by C&WJ, means that C&WJ was considered as having sufficient market power to set prices of prescribed services above cost without been constrained by its competitors or potential competitors. The Act therefore provided for C&WJ to be regulated as a dominant public voice carrier.
- 1.13 Further, in relation to the price cap plan, as provided for at paragraphs 1.2 and 1.5 of the Specific Rules “the Office may exclude a service from Price Cap regulation if it determines that the service faces effective competition or alternatively that effective competition is deemed to be imminent or if the Office deems that there are substantial public benefits to be derived from such exclusion”. It is clear from this requirement that the markets for the services in the price cap baskets were not considered to be effectively competitive.
- 1.14 Section 32 of the Act states:

“(1) Every dominant carrier shall, and any other carrier may, lodge with the Office a proposed reference interconnection offer setting out the terms and conditions upon which other carriers may interconnect with the public voice network of that dominant or other carrier, for the provision of voice services.

(2) Each dominant public voice carrier who is required by this part to provide interconnection in relation to voice services shall submit a reference interconnection offer to the Office-

- (a) within ninety days after the date of the determination of dominance pursuant to section 28; or
- (b) at least ninety days before the date of expiry of an existing reference interconnection offer,

and the existing telecommunications carrier shall submit its initial reference interconnection offer within thirty days after the appointment date. ...”

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<sup>1</sup> Based on the price cap rules, a service is subject to effective competition if: “(a) at least one competitor is actually operating in the relevant market using its own switching and transmission facilities; (b) other competitors, in aggregate, have capacity in place to meet a large portion of the total output in the relevant market; or (c) the Office determines that the market for the service is not characterized by anticompetitive practices, including pricing or collusion among competitors”. However, it should be made clear that these are necessary, but not sufficient conditions for effective competition.

- 1.15 The section speaks to the filling of reference interconnection offers (RIOs). Other carriers, that is, carriers that have not been declared or deemed dominant are not bound by the Act to submit a RIO, but this is mandatory for dominant carriers. C&WJ (referred to in the Act as the existing carrier) is mandated by the Act to submit its RIO within thirty days of the appointment day of the Act. This further reinforces the fact that C&WJ is being regulated as a dominant public voice carrier.
- 1.16 At the time when the Act was passed, with the exception of the retail services offered by the new mobile carriers over one year after the passing of the Act and retail access to Internet services, C&WJ was the only carrier legally permitted to provide the telecommunications service as defined by the Act. Therefore, even without further analysis, C&WJ was a dominant public voice carrier at the time the Act was passed and the Act itself confirms and prolongs this dominance based on the phased liberalization process outlined in section 78 of the Act. Since that time, the legal barriers to entry have been substantially reduced.
- 1.17 Based on Section 28(3) of the Act:  
“A dominant public voice carrier may at any time apply to the Office to be classified as non-dominant and the Office shall not make a determination in respect of that application unless it has invited submissions from the public on the matter and has taken account of any such submissions”.
- 1.18 Therefore, if a carrier has been declared to be or is currently regulated as a dominant public voice carrier but with the passage of time and changes in market conditions, that carrier may apply for a declaration of non-dominance in a market. The carrier must demonstrate in its application, the basis on which a declaration of non-dominance is to be made. Since the C&WJ enjoyed a position of dominance in various markets to which entry was restricted until the expiry of the 18-36 month period, it is logical to argue that the question that arises relates more to the issue of the extent to which such dominance persists. Therefore, the Office is inclined to take the position that, what is required is an examination of the various telecommunications markets instances in which C&WJ is non-dominant.
- 1.19 Notwithstanding the above, the OUR, as in its previous Consultative documents, sets out its analysis of some of the main telecommunications markets in an effort to identify the existence of dominance in those markets. The analysis that follows in Chapter 3 of this document seeks to bring further clarity to the OUR’s position of the incumbent’s (C&WJ’s) continued dominance in some of the major telecommunications markets in Jamaica. The analysis is based on the Guidelines for assessing dominance as outlined in the second Consultative Document on Dominant Public Voice Carriers.

**CHAPTER 2: JUDICIAL REVIEW, THE ROLE OF THE FTC, MOBILE TERMINATION AND REGULATORY IMPLICATION OF A DECLARATION OF DOMINANCE**

- 2.0 In paragraph 1.3 of its response to the OUR's second consultative document on dominant public voice carriers, Digicel stated that, "...the OUR has decided to issue this Consultative Document at this time in view of the judicial review actions relating to mobile termination charge regulation and without the participation of the Fair Trading Commission ("FTC") means, in Digicel's respectful view, that the Consultative Document is premature and that the insight that the FTC could bring to a discussion of the interaction between competition law and sector specific regulatory issues has not been maximized. Furthermore, the purpose and regulatory implications of the findings in the Consultative Document have not been made clear."
- 2.1 In Digicel's response to the aforementioned consultative document, Digicel stated that "...the OUR is aware that the issue of mobile termination rates is currently undergoing a separate judicial review, one of the key aspects of which is an examination of the cost methodologies that might if circumstances so required be used to set mobile termination rates for new entrant operators. Digicel respectfully submits that the appropriateness of the cost methodology used by the OUR for "establishing" mobile termination rates remains uncertain and that a separate consultation on this matter would be appropriate irrespective of the outcome of the legal proceedings in relation to mobile termination."

***Judicial Review***

- 2.2 In relation to the judicial review on mobile termination, the OUR commented on this issue in a letter to Digicel dated December 23, 2002. The position taken by the Office is as follows:

".... The Office has the powers under the Telecommunications Act 2000 to make a determination with regard to the question of dominance and in particular which public voice carriers are to be classified as dominant public voice carriers. The process for arriving at such a determination is prescribed by the Act and in this regard the Office will abide by and comply with this process.

After the decision on determination of dominance is taken, the Office expects that all consequential actions required by the Act will be activated and complied with.

With regard to the matter before the court ..., the Office will follow the advice of its attorneys ... and will not take any action which is inconsistent with the court."

- 2.3 The Office still stands by this position but will endeavour to activate only those regulatory requirements that are necessary, in order to promote the consumers' interest. In any event, it is not clear how the matter that is currently subject to judicial review has a bearing on the issue of determination of dominance.

***Role of FTC***

- 2.4 In paragraph 3.2 of Digicel's response to the Consultative Document, "... on the face of the document, it appears that the FTC has had no input into the preparation of the consultation and Digicel submits that a consultation on ex ante regulation of enterprises having market power using the competition law concept of dominance rather than some other purely regulatory trigger should, in the interests of legal certainty, properly involve the input of the body responsible for ex post enforcement of competition law in relation to the exercise or abuse of market power. Involvement of the FTC after the event is no substitute for the insight and rigour it could bring to the definition of the markets involved. The only evidence of FTC involvement is the OUR's reference to a submission received from the FTC to an earlier OUR Consultative Document. This demonstrates that the FTC is being treated like any other interested party rather than a statutory agency with specific responsibility for enforcing competition policy."

- 2.5 Section 28 stated that:

- (1) Subject to subsection (2), the Office shall determine which public voice carriers are to be classified as dominant public voice carriers for the purpose of the Act.
- (2) Before making a determination under subsection (1), the Office shall -
  - (a) invite submissions from members of the public on the matter; and
  - (b) consult with the Fair Trading Commission and take account of any recommendations made by the Commission. ...

- 2.6 The OUR wishes to remind parties to this process, that the statements in this document and the Consultative Documents in general, do not represent decisions. In relation to the particular matter at hand, the Act clearly state that the OUR must consult with the FTC before a decision is taken. The OUR has not taken any decisions in relation to the issue of dominance in any telecommunications market in Jamaica. Further, the OUR is in consultation with the FTC on this matter and has received and published its response to the previous consultative document. The FTC's response was posted on the OUR's website and is also available from the OUR's library.

***Purpose and Regulatory Implications***

- 2.7 At paragraph 1.3 of Digicel's response, Digicel stated, "...the purpose and regulatory implications of the findings in the Consultative Document have not been made clear." Further, in paragraphs 4.1 to 4.1.9 of its response, Digicel

quoted various sections of the Act that relates to dominant public voice carriers.

- 2.8 In a market where there is a dominant carrier, the OUR must seek to promote the interest of the consumer while having due regard for the interest of the carriers and service providers. In this regard, excessive regulation can reduce the incentive to invest and to innovate. The OUR wishes to reassure carriers and service providers that it endeavours to carry out its functions in a balanced manner, since a failure to do so could have detrimental welfare effects. To this end, the OUR will make regulatory interventions and requirements only where necessary.

***Periodic Re-examination of Markets for Effective Competition***

- 2.9 The OUR agrees with Digicel’s view that there needs to be a periodic review of the telecommunications markets to determine if these markets are effectively competitive. Outlined below is the OUR’s proposal for the first major review of the telecommunications markets.

*Telecommunications Market Review Process*

- |                             |  |
|-----------------------------|--|
| June 2003                   | : Determination on dominance: mobile termination, fixed carrier service and service provider markets, and international carrier services and service provider markets.     |
| July 2003                   | : Data collection position paper. This paper will set out the OUR’s data requirements for the effective monitoring and regulation of Jamaica’s telecommunications markets. |
| July/August 2003            | : Initial request for market and industry information  |
| October 2003 - October 2004 | : Comprehensive Telecommunications Markets Review  |
| March/April 2005            | : Determination on the Degree of Effective Competition   |

**MOBILE TERMINATION**

***Barriers to Entry***

- 2.10 Call termination is often viewed as a technical barrier to entry. “Using existing technologies, a call to a CPE owned by a subscriber can only be terminated through the path which connects that CPE to the network. If a subscriber has only one line, there is no immediate scope for substitution in the absence of a technical means through which terminating access can be provided by a third party). ... There is a substantial probability that technological exclusion of this

kind will create a barrier to entry which justifies ex ante regulation”.<sup>2</sup>

- 2.11 Although the use of multiple SIM card is technically possible (as noted by Digicel), the fact that all three existing service providers use different technology prevents the use of alternative SIM cards. It is the OUR’s understanding that only Digicel (the operator of Jamaica’s only GSM network), use mobile phones that accommodate SIM cards. Further, in relation to the termination of calls, the OUR is not aware of the existence of a technology that allows a caller from a fixed line (for example) to select the network on which he/she wishes to terminate a call to a mobile phone, even if the call is to a mobile phone with multiple SIM cards.

**Q2.1: Is there any technology that allows a caller from a fixed line (for example) to select the mobile carrier’s network on which he/she wishes to terminate a call? If yes, provide details?**

***Competitive Forces to be considered in assessing the Market for Mobile Termination***

- 2.12 According to Digicel, “...By defining a relevant market in such a way that every supplier is dominant, it fails to take account of relative competitive power of market participants and the ongoing evolution of competition in the market. For example, in the corporate market a company will chose which mobile service to buy on the basis of both outgoing and incoming call rates. This is because a company’s total telecommunications expenditure includes an amount of fixed to mobile traffic (i.e. employee’s mobile phones are called from a fixed line in a company office). *Mobile operators must compete on the basis of the combined cost of outgoing and incoming call rates and therefore do face competitive forces in relation to their call termination rates.* This is not taken into account by the OUR. For the OUR to define a relevant market in such a way that key competitive forces such as the *links between wholesale interconnection and its influence on retail termination charges* cannot be considered is therefore seriously flawed.”<sup>3</sup>

- 2.13 Digicel seems to be suggesting that the buyer power of corporate customers could constrain the pricing of its mobile termination services. That is, the volume of such purchases prevents Digicel from setting the price for its mobile termination services above the “competitive price”? The question is, in a market for termination services, including fixed and mobile termination as described by Digicel, what is the “competitive price”. In effectively competitive markets, the price of substitutes to a product or service constrains the pricing for the product or service in question. The OUR is of the opinion that its analysis in this regard demonstrates that there are separate markets for termination services. Since the price of termination (fixed or other mobile) cannot constrain the price of termination on any given mobile network.

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<sup>2</sup> See Squire, Saunders and Dempsey, May 2002, Market Definition fro Regulatory Obligations in Communications Markets (A Study for the European Commission.

<sup>3</sup> See page 16 of Digicel’s response to “Dominant Public Voice Carriers No.2”.

**Q2.2: Is the buyer power of corporate customers sufficient to constrain the termination prices of a given mobile service provider? Explain by providing evidence.**

- 2.14 Digicel also indicated that the OUR's definition of the relevant market ignores the link between wholesale interconnection and its influence on retail termination charges and that "...termination charges play an important role in ensuring the maintenance of subsidized handsets or low call origination charges..."<sup>4</sup> This later statement seems to be an admission that termination charges are in fact above costs. In relation to the link between wholesale interconnection charges and retail termination charges, the OUR may have ignored this link as it is not familiar with the service to which retail termination charges are applied.
- 2.15 The OUR is not convinced that there is a single market (fixed and mobile) for call termination. If the OUR failed to take account of factors that are important in determining the competitive constraints on suppliers of mobile termination, interested parties making this claim should supply information demonstrating this claim.

***Likely Impact of Excessive Mobile Termination Charges***

- 2.16 Based on the OUR's estimates, Mobile termination charges are significantly above costs. For example, fixed to mobile charges are estimated to be at least \$3.43 per minute above cost<sup>5</sup>. Based on this excess, the following welfare detriments are likely to occur:
- i) the retail charges paid by fixed and mobile customers for FTM and mobile calls across networks (mobile to other mobile network) are likely to exceed their cost since operators pass through the mobile termination charges to their customers;
  - ii) the excessive price of FTM call discourages these calls and could contribute to the discontinuation of fixed line contracts in some instances;
  - iii) customers making a disproportionate amount of FTM and across network calls subsidize those mobile customers who mainly make calls to other customers on the same mobile network;
  - iv) since handset prices are significantly below cost (in some cases they are free), this result in an under-valuation of the handsets by customers. This results in excessive churn.
  - v) Finally, the high price of FTM calls relative to on network calls on a given mobile network result in an excessive use of the higher cost mobile network relative to the lower cost fixed network. As the subsidy is likely to cause a reduction in use of, and subscription to the fixed network, it is possible that this action may be interpreted as an abuse of dominance based on section 20 -(1)(d) of the Fair Competition Act.

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<sup>4</sup> See paragraph 5.2.2

<sup>5</sup> Calculated as: maximum FTM retail charge – retention usage charge – OUR's cost estimate of FTM termination charge as at May 2002. That is, \$12.00 – 1.732 - \$6.838 = \$3.43.



## CHAPTER 3: FIXED LINE AND INTERNATIONAL TELECOMMUNICATIONS FACILITIES MARKETS

### LOCAL LOOP

#### *MARKET DEFINITION*

##### *Product Market*

- 3.0 The local loop infrastructure (telecommunications access lines) connects the end-users (residential and business) to the local telephone exchange or end office. The lines extending from the central offices, to the telephone handsets represent the local loop. This allows for the delivery of traditional voice telephone services and other retail services.
- 3.1 The market for access lines is integral to that for voice telephony since the demand for access lines is to a significant degree, determined by the demand for voice telephony services (a service that enables real-time speech via communications networks<sup>6</sup>). This service may be accessed via local loops from fixed telecommunications networks or wireless telecommunications networks. That is, voice telephony services can be accessed by fixed wireless or cellular network that provides a wireless local loop service that bypasses the traditional copper wire local loop service. However, the extent to which these wireless access services are substituted for copper wire local loop service depends on availability, quality of service and price.

##### *Demand Substitution*

- 3.2 Fixed Wireless and Fixed Line Competition: As indicated in the previous consultative documents, the concept of the hypothetical monopolist is used to identify close demand side and supply side substitutes. The analysis is undertaken by starting with the smallest definition of the relevant market. If the relevant product market is described as the market for fixed telephony access lines between the customer's premises and the local PSTN exchange or end office, usually comprising of two copper wires (generally referred to as the local loop or the last mile). The analysis proceeds by considering a small but significant non-transitory increase in price to ascertain if sufficient consumers would switch to other products or if suppliers of other products would begin to supply substitute products, making the increase by the hypothetical monopolist unprofitable<sup>7</sup>. If either or both situations occur, the market definition must be expanded to include these other products in the definition of the relevant market.
- 3.3 One possible substitute is the use of wireless local loop. In November 2002, Index Communications (GOTEL) started offering fixed wireless telephone services to the public. The tariffs for GoTel's basic telephone service are compared to those of C&WJ's plain old telephone service (POTS) in Table 1.

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<sup>6</sup> See <http://www.teleinquiry.govt.nz/reports/issues/issues-04.html>.

<sup>7</sup> The test suggests that the level of price increase to be used is between 5% and 10%. However, throughout the analysis a 10% increase was used.

**Table 1.**

Fixed & Fixed Wireless Retail Tariffs	C&WJ			Assume 10%	GOTEL
	2000/01	2001/02	2002/03	Increase in CWJ Tariffs	2002/03
<b>TELEPHONE TARIFFS</b>					
Installation					
Business	\$840.00	\$940.00	\$940.00	\$1034	\$1500.00
Residential					
Standard	\$600.00	\$660.00	\$660.00	\$726	\$1500.00
Monthly Fees - Line Rental					
Business	\$660.00	\$740.00	\$880.00	\$968	\$900.00
Residential					
Standard	\$280.00	\$310.00	\$380.00	\$418	\$1000.00
Per Minute Charge					
Intra-Parish	\$0.23	\$0.24	\$0.40	\$0.44	\$0.50*
Inter-Parish	\$0.91	\$0.96	\$1.05	\$1.16	\$1.30*
International Calls			\$18.00		\$18.00*

**\* These rates reflect the interconnection charges of C&WJ. GoTel to GoTel calls are currently free of charge.**

Source: Cable & Wireless and GoTel Communications

- 3.4 In relation to fixed telephony access or local loop access tariffs (installation and line rental), with a 10% increase in prices, only the pricing of business line rental seems to be constrained by GoTel's presence in the market. A ten percent increase in C&WJ's business line rental would result in a price that is \$68 above GoTel's price for the same service. Assuming there are no quality or other concerns relating to switching provider, this could provide an incentive to switch to GoTel. However, since the demand for telephone access service is derived from the demand for retail voices services (example inter and intra parish calls), the prices of these services are likely to influence the demand for access lines. Based on call volume, the difference in user charges could outweigh any difference in line rental charges.
- 3.5 According to the Survey of Living Conditions (2001), average telephone expenditure by quintile amounted \$1,778 (5.7% of household expenditure). Assuming that all of this expenditure is on inter-parish fixed calls to C&WJ's fixed network at the peak tariff; approximately 829 minutes<sup>8</sup> would be received using GoTel's fixed wireless access service<sup>9</sup>. This compares to approximately 1,331

<sup>8</sup> Call minutes = (expenditure – residential line rental)/per minute charge = (\$1778 - \$700)/\$1.30.

<sup>9</sup> If GoTel were included in the telecommunications access market, GoTel would have less than one percent of the total market. See paragraph 3.18. It follows that most of the calls from GoTel access lines to other fixed access lines are likely to be made to C&WJ's customers.

minutes<sup>10</sup> that would be received by a C&WJ fixed line customer. A 10% increase in C&WJ's peak fixed line inter-parish call charge and access charge means that approximately 1,177 minutes<sup>11</sup> would be received.

- 3.6 The extent to which GoTel's entry is an effective constraint on C&WJ's pricing depends partly on the perceived level of the quality of service obtained from GoTel's service, subscribers' willingness to switch and GoTel's ability to service residential and business customers that are currently not served by C&WJ. However, assuming that the quality of service is the same, based on the price analysis above, a 10% increase in price by the "hypothetical monopolist" (C&WJ) would not result in C&WJ's subscribers switching to GoTel fixed wireless access service and domestic calling services. Therefore, one would conclude that GoTel's fixed wireless access service should not be included in the definition of the relevant market.
- 3.7 Substitution between Mobile and Fixed Telephone Access: The issue being considered here is whether the presence of mobile telephony access constrains the pricing of fixed line access. Mobile telephone calls (at least those that are made between points in Jamaica), like fixed calls, occur in real time. Therefore, assuming a comparable quality of service, it is possible to substitute a mobile access line for a fixed access line. However, since the demand for telephony access lines is derived from the demand for telephone calls, the price of these calls will affect the consumers' decision to make this substitution. Therefore, since the price of call origination (mobile and fixed) is likely to influence the consumers' decision to substitute mobile access for fixed access, these prices must be taken into account.
- 3.8 In relation to prepaid mobile access, it is estimated that over 90% of total mobile access lines are prepaid<sup>12</sup> and there is no charge for access by any of the three mobile service providers. Post-paid mobile access cost \$700 from C&WJ and \$750 from Digicel. C&WJ's monthly fixed access charges are \$380 for residential (standard) customers and \$880 for business customers.
- 3.9 If substitution between voice calls (for example, a mobile to fixed (MTF) call and mobile to mobile (MTM) call for a fixed to fixed (FTF) call) was strong then the FTF retail price would constrain the retail price of the FTM and the MTM retail price. (See Table 2 for mobile retail tariffs).

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<sup>10</sup> Call minutes = (expenditure – residential line rental)/per minute charge = (\$1778 - \$380)/\$1.05.

<sup>11</sup> Call minutes = (expenditure – residential line rental)/per minute charge = (\$1778 - \$418)/\$1.155.

<sup>12</sup> See page 13, paragraph 4.5 of the OUR's Consultative Document "Toward Universal Service/Access Obligation for Telecommunications Services in Jamaica".

**Table 2.**

**MOBILE RETAIL TARIFFS**

		<b>Peak</b>	<b>Off-Peak</b>	<b>Weekend</b>
<b>Fixed to Mobile</b>				
To CWJ Mobile	J\$/min	7.00	7.00	7.00
To Centennial Mobile	J\$/min	9.00	9.00	9.00
To Digicel Mobile		12.00	10.00	10.00
<b>Mobile to Fixed</b>				
Centennial prepaid	J\$/min	7.00	7.00	7.00
Digicel Post-paid	J\$/min	7.00	6.00	6.00
Digicel Prepaid	J\$/min	12.00	10.00	10.00
CWJ Prepaid	J\$/min	10.00	10.00	7.00
<b>CWJ Post-paid Packages</b>				
Performer Plus	J\$/min	6.00	6.00	6.00
SmartPak	J\$/min	7.00	7.00	6.00
<b>Mobile to Mobile</b>				
CWJ Post-paid to Digicel Post-paid	J\$/min	15.00	14.00	14.00
CWJ Prepaid to Digicel Prepaid	J\$/min	17.70	15.80	15.80
CWJ Prepaid to Centennial Prepaid	J\$/min	17.70	15.80	15.80
CWJ Post-paid to Digicel Prepaid	J\$/min	17.70	15.80	15.80
CWJ Post-paid Performer to CWJ Pre & Post	J\$/min	4.00	4.00	4.00
CWJ Post-paid SmartPak to CWJ Pre & Post	J\$/min	5.00	5.00	4.00
CWJ Prepaid to CWJ Prepaid & Post-paid	J\$/min	10.00	10.00	7.00
Centennial Prepaid to Other Mobile Operators	J\$/min	15.00	15.00	15.00
Centennial Prepaid to Centennial Prepaid	J\$/min	7.00	7.00	7.00
Digicel Post-paid to Other Mobile Operators	J\$/min	15.00	14.00	14.00
Digicel Prepaid to Other Mobile Operators	J\$/min	17.70	15.80	15.80
Digicel Post-paid to Digicel Post-paid & Prepaid	J\$/min	5.00	4.00	4.00
Digicel Prepaid to Digicel Post-paid & Prepaid	J\$/min	10.00	8.00	8.00

3.10 Based on the Survey of Living Conditions (2001), average telephone expenditure by quintile amounted \$1,778 (5.7% of household expenditure). Assume that all of this expenditure is on inter-parish FTF calls at the peak tariff; approximately 1,331 minutes<sup>13</sup> would be received. A 10% increase in C&WJ's peak fixed line inter-parish call charge and access charge means that approximately 1,177 minutes<sup>14</sup> would be received. However, if the same amount is spent on prepaid mobile-to-mobile calls, the most that could be achieved is 222.25 minutes<sup>15</sup>.

<sup>13</sup> Call minutes = (expenditure – residential line rental)/per minute charge = (\$1778 - \$380)/\$1.05.

<sup>14</sup> Call minutes = (expenditure – residential line rental)/per minute charge = (\$1778 - \$418)/\$1.155.

<sup>15</sup> Call minutes = expenditure/per minute charge = \$1778/\$8.00. The lowest peak price prepaid mobile-to-mobile (same network) call cost \$4.00 per minute on Centennial (January 2003), while C&WJ and DIGICEL charge \$10 per minute. Based on a simple average, mobile calls cost the consumer \$8.00 per minute.

- 3.11 Based on the price analysis above, a 10% increase in price by the “hypothetical monopolist” (C&WJ fixed service provider) is not likely to result in C&WJ’s fixed line subscribers switching to a mobile access service. Therefore, one could conclude that mobile access service and associated call origination services should not be considered as substitutes for fixed telephony access and associated domestic call origination services.

### ***Supply Substitution***<sup>16</sup>

- 3.12 Subscriber television (STV): STV networks are often seen as a possible substitute for the local loop. The local cable networks are designed for one-way transmission of audio-visual signals over regular coaxial cables. These networks would require significant capital expenditures in order to properly configure them for the provision of two-way voice telecommunication services. More importantly, except for a single wireless STV licence, cable operators are confined to a specific geographic segment of the country. Therefore, most cable operators cannot compete with C&WJ on a national basis in relation to the provision of a substitute for the local loop. Consequently, they will not be able to compete on a national basis in the provision of retail telecommunications services.
- 3.13 Wireless local loops (WLL): WLL can also be used as a substitute for the existing copper loops. WLL is “... a local wireless communications network that bypasses the local exchange carrier and provides high-speed, fixed data transmission.”<sup>17</sup> N5 Systems Limited (N5), the holder of the only all-island wireless STV licence issued to date, uses fixed wireless technology to deliver broadband services (video and high speed internet access) to most of Kingston and St. Andrew, and some areas of the adjoining rural parishes. N5 also has DC and DVSP licences. However, voice services are not currently offered. It is possible that this system could offer a competitive substitute for the existing domestic telecommunications network and the local loop but this is not likely to occur in the near term given that the backbone of the network has not been completed.
- 3.14 The other fixed wireless operator, GoTel, indicated that it has constructed a fixed wireless network covering 97% of the island and commenced offering service as at November 2002. However, the network is only 20% operational, offering service to four<sup>18</sup> of fourteen parishes. Based on figures from the Statistical Institute of Jamaica (STATIN) for 2001, 52% of the population is located in these parishes. Therefore, assuming that all the households in these parishes have access to GoTel’s service<sup>19</sup>, at least 48% of the population would not have access to this service.

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<sup>16</sup> This section reflects what was said in the previous document but is edited to take account of GoTel’s entry into the telecommunications industry as a fixed wireless carrier and service provider.

<sup>17</sup> <http://www.aethersystems.com/wireless/glossary.asp>

<sup>18</sup> The population in these parishes were: St. Andrew 604,716, Kingston 115,184, St. Catherine 414,700 and Clarendon 229,400 as at 2001.

<sup>19</sup> Based on the OUR’s available information, GoTel’s network does not extend to all households in these parishes.

- 3.15 The price cap rule identified the necessary conditions for effective competition: At least one competitor is actually operating in the relevant market using its own switching and transmission facilities; in aggregate, other competitors have capacity in place to meet a large portion of the total output of the relevant market, or the Office determines that the market for the service is not characterized by anticompetitive practices.
- 3.16 In relation to the first condition, GoTel has its own switching and transmission facilities and its service is potentially available to an estimated 52% of the population. Based on the existing number of subscribers served by the incumbent and the waiting list for service, the OUR estimates that the size of the market is approximately 682,000. Of this amount, C&WJ supplies an estimated 484,175 subscriber<sup>20</sup>. According to GoTel, it currently has network capacity to accommodate 258,000 users. This is equivalent to 53% of the total market output.
- 3.17 Although GoTel's entry into the access market has satisfied the necessary conditions for effective competition, this is not sufficient to ensure the realization of an effectively competitive market. As discussed in the section on entry barriers and competitive constraints, there may be other barriers to market entry and competitive constraints that affect the competitive environment in the fixed telephone access market.
- 3.18 Additionally, based on a FTC publication, it ... "will generally consider an enterprise to be dominant if it has a 50 percent market share."<sup>21</sup> Up to the entry of GoTel in November 2002, C&WJ's share of the fixed access market was 100%. Based on the definition of the relevant market, C&WJ still controls 100% of the market. As at December 2002, Gotel had 634 fixed access telephone customers while C&WJ has an estimated 484,175 subscriber. This translates to a market share for C&WJ of 99.9% if Gotel's access lines were to be considered as part of the relevant market.
- 3.19 As is evident from Table 1, C&WJ's line rental tariffs (business and residential) and intra-parish tariff went up by greater than 10% while inter-parish tariff increased by just over 9%. These increases took effect in November 2002, although it was clear that GoTel was about to commence offering services based on negotiations for an interconnect agreement during the course of 2002 and a subsequent agreement in the later half of that year. Therefore, even though GoTel was a potential competitor in the markets for fixed network services, C&WJ's pricing for fixed telephony access lines and inter and intra parish calls for business and residential customers was not constrained by GoTel as a potential entrant into those markets.
- 3.20 Profitability of Business Segments Relative to Cost of Capital: If segments of the C&WJ's business earn excess profit relative to the company's cost of capital,

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<sup>20</sup> Working main lines as at June 30, 2002.

<sup>21</sup> See the FTC's publication: A Guide to Anti-Competitive Practices.

this suggest that those segments or services are not subject to effective competition. In other words, there is no demand or supply substitute constraining C&WJ's pricing or supply behaviour. To determine if excess profits are being made relative to the cost of capital, detailed cost of service information is required. This information could be obtained from accounting data, assuming that they are prepared with an appropriate level of accounting separation.

### ***GEOGRAPHIC MARKET***

3.21 Based on demand side substitution, fixed access in one geographic area is not a substitute for access in another geographic area. For example, without number portability, a fixed access line in one geographic area might not be seen as a substitute for a fixed access line in another area. However, given that access line rental and usage charges are geographically uniform, the consumer is not restricted by price difference if he/she has to move from one geographic area to another. On the supply side, except for the Subscriber television service providers, all fixed access licensees are licensed to provide service throughout Jamaica. On this basis, the OUR believes that the geographic market for fixed line telephony access is Jamaica.

### ***ENTRY BARRIERS AND COMPETITIVE CONSTRAINTS***

3.22 As indicated by the FTC, "An enterprise with a persistently high market share may not necessarily hold market power if entry to the market is easy".<sup>22</sup> Thus, entry barriers are important in assessing market power and dominance in the relevant market.

3.23 Rate rebalancing: C&WJ's costing data indicate that fixed line access tariffs do not cover the cost of providing access. Access, as well as other domestic services is subsidized by economic profits from international services. Residential fixed access line tariffs are currently more than 60 percent below reported costs. In liberalized markets, the deficit on access should appropriately be financed through an access deficit charge, if the access prices are constrained by regulation. At the existing levels of access charges, even efficient carriers are likely to find it difficult to enter the market for access services.

3.24 As demonstrated above, GoTel's pricing strategy for fixed line telephone service does not constrain C&WJ's pricing for its comparable service. This may reflect the need for rate rebalancing.

3.25 In the context of rate rebalancing and the liberalization of the international carrier service and service provider markets, the incumbent local exchange carrier C&WJ may be entitled to an access deficit as per section 33(1)(f) of the Act if it is classified as a dominant carrier and access prices are still constrained by regulation.

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<sup>22</sup> See the FTC's publication: A Guide to Anti-Competitive Practices.

- 3.26 Incumbent Advantage: (1) Network redundancy is needed to ensure effective competition. Competitive public voice carriers (CPVCs) in the market for fixed telephony access are required to have adequate redundancy in their network in order to compete effectively with the incumbent fixed access provider. Redundancy is required in both the switching and trunk design. It will require a significant capital outlay to achieve a comparative level of redundancy to that which exists in C&WJ's PSTN. Business customers in particular, may be reluctant to switch to a new public voice carrier if the level of redundancy is deemed inadequate to continue service provision in times of network component failure or downtime.
- (2) The established customer base and customer inertia could give the incumbent market power, which could minimize entry or the effect of entry. According to the UK Institute for Public Policy Research "Significant barriers to entry, such as customer inertia and high advertising spend, are unabated by competition. As a consequence, continuous regulatory intervention was necessary to manage the transition from monopoly to competitive market in the UK. In particular, price regulation had to be progressively tightened to ensure affordability of the basic services."<sup>23</sup>
- 3.27 Vertical Integration and Corporate Relationship: The extent of vertical integration evidenced in the corporate relationships, could be used to impose competitive constraints in various markets for telecommunications services. A licensee like C&WJ that is fully integrated (owning and operating all aspects of the fixed network and a mobile network) is more likely to be unconstrained by its competitors. That is, a vertically integrated carrier is more likely to be in a position to operate independently of its competitors.
- 3.28 Vertical relationship is especially important if it is coupled with dominance in a given market, since this can be used in an anti-competitive manner. Dominance in an upstream market can be extended to downstream markets through vertical relations. In the absence of proper regulatory accounts, dominance in the market for local loop access can be used to leverage control in the retail service markets. For example, in order to provide Internet access, all service providers (except GoTel), must rely on access (direct or indirect) to C&WJ's end offices so that C&WJ's fixed line customers can access their services.
- 3.29 Based on the corporate relationship, it is possible for C&WJ to exchange sensitive information supplied to its carrier service division by interconnection seekers to the retail divisions of its (C&WJ's) business. This could be used to create a competitive advantage over new entrants. Hence, in the absence of a structural break-up of C&WJ, it is important that an effective firewall be maintained.
- 3.30 Effective Duplication of Local loop Access: The local loop is generally viewed as the last area of dominance in the world's telecommunications industry. In the UK, after 16 years of deregulation, British Telecom retains over 80% of the

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<sup>23</sup> <http://europa.eu.int/ISPO/convergencegp/ippr.html#Market%20forces%20in%20telecommunications>



fixed-access market (business and residential) and the rate of erosion of their market share continues to decline.<sup>24</sup> In most regulatory jurisdictions, the telecommunications legislation enforced by the national regulatory authority (NRA) provides for local loop unbundling (LLU). This provision is in recognition of the fact that it is not economically feasible to duplicate the local loop on any significant scale. In addition to the cost of duplicating the local loop, an entrant would also have to invest additional amounts to encourage subscribers to switch to their service. Ensuring appropriate levels of quality (inclusive of redundancy) would be a major determining factor of substitutability.

- 3.31 It is yet to be seen if GoTel or any other public voice carrier can climb these hurdles. In the case of the UK, if OFTEL had allowed BT's prices to be removed from price cap regulation based on the liberalization of the fixed access market, the entry of a competitor in 1984 and the further opening of the market since the review of the BT-Mercury duopoly in 1991, BT's continued dominance would be further prolonged and OFTEL would have failed to protect consumers.
- 3.32 Since the unsuccessful attempt at introducing WLL by C&WJ in some rural areas over five years ago, the technology has seen significant improvements. According to recent reports, a major US telecommunications provider was conducting test of a non-line of sight fixed wireless technology in 2002<sup>25</sup>.
- 3.33 Geographic Restrictions on Coax Cable TV operators: Currently, the island is divided into 241 zones and the policy of the Broadcasting Commission is to license two operators per zone. Each operator can only supply service within a designated zone. Therefore, a single operator could not compete effectively with C&WJ in supplying a substitute for the local loop.
- 3.34 Number Portability: Number portability is the ability of customers to change public voice service providers without changing their telephone number. Customers (especially business customers) are likely to be unwilling to switch voice service providers since this will mean a change in their telephone numbers. This will entail additional advertising expenditure for business customers. Therefore, the lack of portability increases the switching cost<sup>26</sup> for customers.

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<sup>24</sup> <http://program.intel.com/solutions/shared/en/resource/insight/indtrends/stateoftheuk.htm>

<sup>25</sup> <http://www.80211-planet.com/columns/article.php/975921>

<sup>26</sup> This is the cost to the consumer of changing from an existing service provider to an alternate service provider. The higher the degree to which the customer is locked-in to the service of its existing service provider, the higher the switching cost. These costs include costs of physical replacements of the telephone instrument as well as costs incurred in the transition (including learning) to the new service provider.

## ***DOMINANCE***

- 3.35 It is not within reason to expect competitive public voice carriers (CPVCs) to duplicate access lines on a scale that will allow for the development of a competitive market for local loops. Therefore, the local loop is a bottleneck facility<sup>27</sup>. Interconnection to C&WJ's switches (tandem and/or end office) could facilitate the sharing of the local loops (between carriers); eliminate the necessity for access line duplication and creating the basis for effective competition in associated retail markets.
- 3.36 GoTel, the new entrant in the market for fixed telephone access or other fixed access licensees could provide a substitute for the existing fixed local loop access. But based on the SSNIP analysis, GoTel should not be considered apart of the relevant market. However, if GoTel were considered apart of the relevant market, the existing market share of C&WJ would still approximate 100%. Coupled with the barriers to entry and competitive constraints, it is the OUR's opinion that C&WJ is still dominant in the market for fixed telephony access lines and associated market for domestic call services.
- 3.37 Nevertheless, in the OUR's planned market review or an application from C&WJ for a declaration of non-dominance in relation fixed telephony access, if it is demonstrated beyond doubt that C&WJ faces substantial rivalry by new domestic facilities based carriers, the Office will make a declaration of non-dominance as required.

## **INTERNATIONAL FACILITIES (Transit and Switching Services)**

### ***MARKET DEFINITION***

#### ***Product Market***

- 3.38 The international voice services provided by C&WJ (direct dialed, operator assisted and toll free calls) depends on but does not include the local fixed line access service that allows the customer to connect to C&WJ's international gateway from a fixed telephone access line in Jamaica. Subscribers have to pay for access lines whether they make domestic or international calls. Further, domestic and international calls use different segments or elements of C&WJ's networks. For example, a domestic call does not need to be switched at the international gateway, while an international call must use switching and transit services of both the domestic and international networks. Hence, the costs associated with making a local call via C&WJ's domestic network is expected to be less than the costs associated with making an international call. It follows that the network elements used in providing international voice services are different from those used to supply domestic services. This is reflected in the difference in the usage charge for making domestic and international calls.
- 3.39 Arguably, international calls to and from mobile telephones may be considered to

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<sup>27</sup> This is a facility that a competitor must have access to in order to compete with the operator of the facility.

be substitutes for international calls to and from fixed line telephones. International transit and switching services involving connectivity at and beyond the C&WJ international gateway remained in the exclusive preserve of C&WJ until the issuing of international carrier and service provider licences recently. Until February 2003, it remained illegal under the *Act* to bypass<sup>28</sup> C&WJ's international gateway and circuits. Thus, although there may have been supply substitutes in the economic and technical sense (for example VOIP<sup>29</sup> using VSATS), there were no legal substitutes. Hence, the incumbent public voice carrier (C&WJ) remained the dominant international public voice carrier in relation to the provision of international transit and switching services until February 28, 2003. However, since the markets for international services are now being liberalized, it is important to review market conditions in order to determine if C&WJ can be classified as non-dominant in these markets.

### ***Supply Substitution***

#### Substitution between Satellite and Submarine Cable Systems

- 3.40 The licensing of new carriers and service providers could bring increased competition to C&WJ's fixed line international telecommunications services. Currently, there seems to be no plan to maintain any legal or licensing barrier to entry. It is not anticipated that there will be any restrictions on the ownership and operation of any international facilities. Therefore, theoretically, entrants may install their own submarine transport cables and landing facilities. Additionally, subject to licensing, entrants will be able to establish their own V-SATs and/or earth stations.
- 3.41 The question of the extent to which voice transmissions via satellites are substitutes for voice transmissions via submarine transport cables arises. That is, assuming that there are barriers to the establishment of submarine transport cables and landing facilities.
- 3.42 C&WJ stated that it "... has bolstered its Internet network, having commissioned a full-blown Internet node, linked by high speed, high-capacity Maya 1 submarine cable system to the Cable & Wireless Global IP network. This acts as an additional international gateway for voice, and data and IP traffic, also providing added resilience to the international network. For the Jamaican business, this will provide high capacity and high-speed access for e-Business and e-Commerce ventures, amongst numerous other capabilities. .... The company has further boosted its capacity to handle approximately 330,000 voice calls simultaneously, by the introduction of its South Coast Fibre System (SCFS), bringing about a 50%

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<sup>28</sup> Bypass operations means operations that circumvent the international network of a licensed international voice carrier in the provision of international voice services (as per the definition at Section 2(1) of the *Act*).

<sup>29</sup> The voice over Internet Protocol (VOIP) is the technology used to transmit voice conversations over a data network using the Internet Protocol. However, the voice service provided over VOIP is not viewed as a close substitute for calls over a public switched telephone network (PSTN).

increase in transmission along the island's south coast. This completes a fibre optic ring around the island, giving major towns on the south coast access to the new international gateway facilitated by the Maya 1 cable system".<sup>30</sup>

- 3.43 Jamaica's international telecommunications traffic is carried by two submarine fiber optic cable systems and an earth station with access to an INTELSAT Atlantic Ocean satellite.<sup>31</sup> But, are these two facilities substitutes?
- 3.44 To some extent these two modes of telecommunications transport share some similar characteristic. This suggests that they are at times substituted for each other. For example, both satellites and submarine cables have been carrying an increasing amount of Internet and data traffic. However, satellites are often used to serve areas not served by cable or for emergency restoration.
- 3.45 Although both mode of transport have some similar characteristics, a contrasting view is that satellites cannot substitute for cable because of capacity and quality differences. According to the FCC, "Although satellite capacity is used for international transport, this capacity currently does not appear to be an adequate substitute for submarine cable capacity. ...[T]he delay and echo inherent in satellite transmissions appear to make satellite capacity a less attractive medium for international transport on the U.S.-U.K. route".<sup>32</sup>
- 3.46 According to an article written by the executive director of the Caribbean Coastal Area Management (CCAM) Foundation, "Some years ago, Cable and Wireless laid a fiber-optic cable from the Cayman Islands to Montego Bay to carry international phone calls. There was a time when it seemed that submarine cables would have been eclipsed by satellites, but immediately after Hurricane Gilbert, the only international telephone traffic in or out of Jamaica was through the trans-Atlantic cable, as the satellite dish had been put out of alignment. And so a new cable was laid right through the Montego Bay Marine Park. ..."<sup>33</sup>
- 3.47 Although not perfect supply substitutes, demand substitution via new international public voice carriers using v-sats as their international telecommunications transport medium could act to constrain the pricing behaviour of the incumbent. Thus, a comprehensive assessment, including supply and demand substitution is required.

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<sup>30</sup> [http://www.horizon.cwjamaica.com/horizon2002/exhibitors2002/EXHIBITOR\\_cable\\_and\\_wireless.asp](http://www.horizon.cwjamaica.com/horizon2002/exhibitors2002/EXHIBITOR_cable_and_wireless.asp)

<sup>31</sup> See [http://home.cwjamaica.com/content/about\\_us/network.asp?ID=14](http://home.cwjamaica.com/content/about_us/network.asp?ID=14)

<sup>32</sup> In the matter of MCI Communications Corporation and British Telecommunications plc memorandum opinion and order, FCC 97-302, September 1997.

<sup>33</sup> See <http://www.unesco.org/csi/act/jamaica/cable.htm>

**Table 4: International Voice Services: C&WJ's Market Shares and Price Changes\***

Service Description	Revenue (2000/01)	Volumes (2000/01)	Revenue (2001/02)	Volumes (2001/02)	% Change in Prices (2001/02)/ (2000/01)
Direct Dialed Intl. Outgoing Calls - Zone 1 peak	100%	100%	100%	100%	-25%
Direct Dialed Intl. Outgoing Calls - Zone 1 off peak	100%	100%	100%	100%	-9%
Direct Dialed Intl. Outgoing Calls - Zone 1 week end	100%	100%	100%	100%	-31%
Direct Dialed Intl. Outgoing Calls - Zone 2 peak	100%	100%	100%	100%	-25%
Direct Dialed Intl. Outgoing Calls - Zone 2 off peak	100%	100%	100%	100%	-9%
Direct Dialed Intl. Outgoing Calls - Zone 2 week end	100%	100%	100%	100%	-31%
Direct Dialed Intl. Outgoing Calls - Zone 3 peak	100%	100%	100%	100%	-25%
Direct Dialed Intl. Outgoing Calls - Zone 3 off peak	100%	100%	100%	100%	-9%
Direct Dialed Intl. Outgoing Calls - Zone 3 week end	100%	100%	100%	100%	-51%
Direct Dialed Intl. Outgoing Calls - Zone 4 peak	100%	100%	100%	100%	-47%
Direct Dialed Intl. Outgoing Calls - Zone 4 off peak	100%	100%	100%	100%	-40%
Direct Dialed Intl. Outgoing Calls - Zone 4 week end	100%	100%	100%	100%	-5%
Direct Dialed Intl. Outgoing Calls - Zone 5 peak	100%	100%	100%	100%	0%
Direct Dialed Intl. Outgoing Calls - Zone 5 off peak	100%	100%	100%	100%	6%
Direct Dialed Intl. Outgoing Calls - Zone 5 week end	100%	100%	100%	100%	-31%
Direct Dialed Intl. Outgoing Calls - Zone 6 peak	100%	100%	100%	100%	-25%
Direct Dialed Intl. Outgoing Calls - Zone 6 off peak	100%	100%	100%	100%	-9%
Direct Dialed Intl. Outgoing Calls - Zone 6 week end	100%	100%	100%	100%	-56%
Direct Dialed Intl. Outgoing Calls - Zone 7 peak	100%	100%	100%	100%	-52%
Direct Dialed Intl. Outgoing Calls - Zone 7 off peak	100%	100%	100%	100%	-47%
Direct Dialed Intl. Outgoing Calls - Zone 7 week end	100%	100%	100%	100%	-64%
Direct Dialed Intl. Outgoing Calls - Zone 8 peak	100%	100%	100%	100%	-60%
Direct Dialed Intl. Outgoing Calls - Zone 8 off peak	100%	100%	100%	100%	-55%
Direct Dialed Intl. Outgoing Calls - Zone 8 week end	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 1 – surcharge	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 1 -3 mins	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 1 -Add. Mins	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 2 – surcharge	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 2 -3 mins	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 2 -Add. Mins	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 3 – surcharge	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 3 -3 mins	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 3 -Add. Mins	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 4 – surcharge	100%	100%	100%	100%	-51%
Operator Ass. Intl. Outgoing Calls - Zone 4 -3 mins	100%	100%	100%	100%	-51%
Operator Ass. Intl. Outgoing Calls - Zone 4 -Add. Mins	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 5 – surcharge	100%	100%	100%	100%	-5%

Operator Ass. Intl. Outgoing Calls - Zone 5 -3 mins	100%	100%	100%	100%	-5%
Operator Ass. Intl. Outgoing Calls - Zone 5 -Add. Mins	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 6 – surcharge	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 6 -3 mins	100%	100%	100%	100%	-31%
Operator Ass. Intl. Outgoing Calls - Zone 6 -Add. Mins	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 7 – surcharge	100%	100%	100%	100%	-56%
Operator Ass. Intl. Outgoing Calls - Zone 7 -3 mins	100%	100%	100%	100%	-56%
Operator Ass. Intl. Outgoing Calls - Zone 7 -Add. Mins	100%	100%	100%	100%	0%
Operator Ass. Intl. Outgoing Calls - Zone 8 – surcharge	100%	100%	100%	100%	-64%
Operator Ass. Intl. Outgoing Calls - Zone 8 -3 mins	100%	100%	100%	100%	-64%
Operator Ass. Intl. Outgoing Calls - Zone 8 -Add. Mins	100%	100%	100%	100%	-31%
Toll Free Intl. Outgoing Calls - Zone 1 peak	100%	100%	100%	100%	-25%
Toll Free Intl. Outgoing Calls - Zone 1 off peak	100%	100%	100%	100%	-10%
Toll Free Intl. Outgoing Calls - Zone 1 week end	100%	100%	100%	100%	-31%
Toll Free Intl. Outgoing Calls - Zone 2 peak	100%	100%	100%	100%	-25%
Toll Free Intl. Outgoing Calls - Zone 2 off peak	100%	100%	100%	100%	-10%
Toll Free Intl. Outgoing Calls - Zone 2 week end	100%	100%	100%	100%	-31%
Toll Free Intl. Outgoing Calls - Zone 3 peak	100%	100%	100%	100%	-25%
Toll Free Intl. Outgoing Calls - Zone 3 off peak	100%	100%	100%	100%	-10%
Toll Free Intl. Outgoing Calls - Zone 3 week end	100%	100%	100%	100%	-5%
Toll Free Intl. Outgoing Calls - Zone 5 peak	100%	100%	100%	100%	0%
Toll Free Intl. Outgoing Calls - Zone 5 off peak	100%	100%	100%	100%	6%
Toll Free Intl. Outgoing Calls - Zone 5 week end	100%	100%	100%	100%	-64%
Toll Free Intl. Outgoing Calls - Zone 6 peak	100%	100%	100%	100%	-60%
Toll Free Intl. Outgoing Calls - Zone 6 off peak	100%	100%	100%	100%	-55%
Toll Free Intl. Outgoing Calls - Zone 6 week end	100%	100%	100%	100%	-22%
Toll Free Intl. Outgoing Calls - Zone 8 peak	100%	100%	100%	100%	-18%
Toll Free Intl. Outgoing Calls - Zone 8 off peak	100%	100%	100%	100%	-14%
Toll Free Intl. Outgoing Calls - Zone 8 week end	100%	100%	100%	100%	-18%

**Total International Outgoing Calls**

100% 100% 100% 100%

Source: Cable and Wireless Jamaica

\* See Appendix I for a description of zones.

**Q3.1: Are voice transmissions via satellites on any given international route substitutable for transmissions via submarine transport cables? Explain.**

### ***Demand Substitution***

#### Mobile Substitution

- 3.48 Based on data for the second quarter of 2001 to the first quarter of 2002, the proportion of international calls originating and terminating on mobile phone has been increasing (See Table 3). This is more pronounced for outgoing calls. However, additional data are required to confirm the existence of a trend since this data may be reflecting seasonal variation.
- 3.49 Several factors may have contributed to this growth in market share. These include an increase in mobile access line to more than twice the amount of fixed lines, an overall reduction in international tariffs and an improved dialing procedure (dialing without an access code).

**Table 3: Mobile % Market Share Data: International Voice Call Minutes**

	INCOMING INT'L CALLS	OUTGOING INT'L CALLS
Q2-2001	17.9	12.8
Q3-2001	29.3	18.9
Q4-2001	18.9	24.7
Q1-2002	44.3	31.1

**Source: Cable and Wireless Jamaica**

#### Internet Telephony

- 3.50 It is sometimes suggested that Internet telephony (VOIP) is a substitute for calls from public switched telephone network (PSTN) calls. However, although the price of these Internet calls are usually low relative to calls from a PSTN, the connection time and the quality of the transmission are relatively poor.

### ***BARRIERS TO ENTRY AND COMPETITIVE CONSTRAINTS***

#### ***Legal barrier***

- 3.51 Based on the directive of the Minister, there will be no limitations on the number of licences to be issued to facilitate entry into the international voice telecommunications markets (facilities and call services). This was confirmed by a Public Notice issued by the OUR.

The notes to the Notice are as follows:

- (a) An applicant for a Licence must already comply with any applicable requirements of the Spectrum Management Authority, Broadcasting Commission and National Environment & Planning Agency.
- (b) The application with supporting documentation and any further information provided at the request of the Office will form the

basis for evaluating suitability for licensing.

- (c) There is no limit on the percentage of foreign ownership of the equity of any applicant.
- (d) Applicants should be corporate entities incorporated under the Laws of Jamaica.
- (e) Applicants should supply certified copies of Memorandum of Association, Articles of Association and Certificate of Incorporation as supporting evidence of above.

3.52 Aside from the legal requirement stated in note (d) of the Notice, there seems to be no other legal impediment to entry. Further, this is not considered to be a barrier to entry.

### ***Credibility and Corresponding Operating Agreements***

3.53 To the extent that new licensees already own and operate international carrier facilities in other jurisdictions, there should be no problems in negotiating operating agreements.

3.54 The ability to negotiate corresponding agreements to the incumbent carrier depends on a carrier's credibility and the extent to which there are competitive carriers in the countries to which service is offered. If equivalent agreements cannot be negotiated (where the terms and conditions are similar), the new or potential entrant would be at a competitive disadvantage.

### **Establishing International Submarine Cables Infrastructure**

3.55 From a regulatory perspective, the relevant physical infrastructure includes submarine cable, landing stations or "head-ends", and back haul facilities.

#### **Submarine cable**

3.56 There are three aspects of this process that are important from a regulatory perspective: the construction, provisioning and maintenance of cable facilities. In relation to the construction of Submarine cable facilities, based on the lead-time for contracting and installing these cables, it is sometimes argued that this is a barrier to entry. In a 1997 Determination, Oftel noted, "...there may be difficulties in laying new cables and constructing cable landing stations. Cable installation takes up to two years and may be uneconomic for small operators or on thin routes." Often, the planning process is complicated by the fact that it is dependent on regulations relating to the protection of the environment, maritime activities, land use, fishing areas and other considerations. The process involves comprehensive surveys of routing options to determine the nature of the seabed, deep-sea current, possible disruption of fishing and other activities.

3.57 In relation to the provisioning of cable transmission facilities by the incumbent to



competitors, in an effort to limit competition in retail markets for international services, the incumbent has an incentive not to supply this capacity in a timely or sufficient manner. Additionally, the incumbent could charge prices that are above costs or price in a discriminatory manner. However, since the Act obligates C&WJ (as the dominant public voice carrier) to make a RIO (which must be approved by the Office) in relation to interconnection to its international transit and switching facilities, this should satisfy these concerns.

- 3.58 From a competition standpoint, maintenance of the cable and related facilities may be critical. It is possible that maintenance, repair or restoration may be delayed in cases where the incumbents network is not affected.

#### Landing stations or "head-ends"

- 3.59 Submarine cable landing stations are usually viewed as bottleneck facilities. This may in fact be the case in Jamaica given its relatively small land area. It is the OUR's understanding that the majority of cable capacity and existing landing stations are owned and operated by C&WJ. Therefore, access to these facilities may be critical to the development of competition in the markets for international call services.

#### Back haul infrastructure

- 3.60 "Backhaul is a high capacity inland circuit which is required by operators to link the cable landing station to an operator's existing domestic infrastructure."<sup>34</sup> This could be a major impediment to competition in Jamaican markets since the only public voice carrier likely to be able to provide the required capacity and service reliability, is C&WJ. Ideally, this service should be included in C&WJ's RIO.

### **Q3.2: Should back haul circuits be offered as part of C&WJ's RIO?**

#### ***GEOGRAPHIC MARKET***

- 3.61 C&WJ's exclusive license excluded entry into the market for the supply of international transit and switching facilities and the associate markets for international voice minutes until the licensing of new international voice carriers and service providers in Phase III of the liberalization process. Traditionally, these markets are assessed on a route-by-route basis. Based on demand substitution, a call to one destination is not a substitute for a call to another destination. This suggests that each route should represent a market. On the supply side, in liberalized markets for the supply international carrier services and international voice service, service providers should be able to enter all markets through:

- (1) direct operating agreements on a route-by-route basis;
- (2) indirect transit arrangements, or "hubbing" (the routing of traffic via an intermediate third country).

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<sup>34</sup> See OfTel's 1997 Mercury Determination.

- 3.62 However, a contending view expressed in other jurisdictions is that “hubbing” is a higher cost solution than direct country to country call routing and may also be associated with relatively poor service quality. Further, “hubbing” would not prevent licensees with market power on a particular route from implementing a small but significant non-transitory increase in price above the competitive level. Hence, on one hand, “hubbing” may not be an effective substitute for direct call routing on a country-to-country basis. It follows that it might be appropriate in some cases, to assess markets for international transit and switching services and the associate markets for international voice minutes on a route-by-route basis. On the other hand, in cases where “hubbing” represents an effective substitute, it may be more appropriate to treat a group of countries as a single geographical market at one end of the route, rather than an assessment based on a route-by-route basis.<sup>35</sup>
- 3.63 Consequent on the liberalization of the international voices markets on March 1, 2003 and subject to the availability of information on a route-by-route basis, the OUR should be in a position to determine if it is necessary to define the geographic market on a route-by-route basis. However, for the purpose of this analysis, the geographic market is viewed as an aggregate of all routes.

#### ***DOMINANCE***

- 3.64 The OUR does not anticipate that C&WJ’s dominance in the markets for international transit and switching facilities and the associate markets for international voice minutes will last for any considerable time beyond March 2003. However, until February 28, 2003, C&WJ was the exclusive licensee allowed to own and operate a public voice network. Therefore, C&WJ’s share of the international call service market was 100%. That is, international call minutes sold in Jamaica (retail and wholesale) were either retailed directly by C&WJ or resold based on wholesale purchases from C&WJ.
- 3.65 In the OUR’s planned review of or an application from C&WJ for a declaration of non-dominance in the aforementioned markets, if it is demonstrated beyond doubt that C&WJ does not control bottleneck facilities (including operating agreements), and faces effective competition from new facilities based competitors and service providers in the relevant markets, the Office will make a declaration of non-dominance in these markets as required. Once C&WJ’s competitors have the facilities, operating agreements, and market credibility required to effectively compete (barring any other competitive constraint or barriers to entry), regulatory intervention may actually harm rather than encourage competition.

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<sup>35</sup> This is similar to the position taken by Of tel in its 1997 Mercury Determination. See [http://www.of tel.gov.uk/publications/1995\\_98/licensing/merweo.htm](http://www.of tel.gov.uk/publications/1995_98/licensing/merweo.htm).

## **LIST OF QUESTIONS**

- Q2.1: Is there any technology that allows a caller from a fixed line (for example) to select the mobile carrier's network on which he/she wishes to terminate a call? If yes, provide details?**
- Q2.2: Is the buyer power of corporate customers sufficient to constrain the termination prices of a given mobile service provider? Explain by providing evidence.**
- Q3.1: Are voice transmissions via satellites on any given international route substitutable for transmissions via submarine transport cables? Explain.**
- Q3.2: Should back haul circuits be offered as part of C&WJ's RIO?**

## **APPENDIX I**

Zone 1:	USA
Zone 2:	Canada
Zone 3:	UK
Zone 4:	Western Eastern
Zone 5:	Commonwealth Caribbean
Zone 6:	Other Caribbean
Zone 7:	South & Central America
Zone 8:	Rest of the World

Note: Except for zones one and two, all zones consist of several routes.

## **GLOSSARY**

BT	-	British Telecom
CPE	-	Customer Premise Equipment
C&WJ	-	Cable and Wireless Jamaica
CPVC	-	Competitive Public Voice Carrier
DC	-	Domestic Carrier
DID	-	Direct Inward Dialling
DVSP	-	Domestic Voice Service Provider
FTC	-	Fair Trading Commission
FTF	-	Fixed-to-Fixed
FTM	-	Fixed-to-Mobile
GSM	-	Global System for Mobile Communications
LLU	-	Local Loop Unbundling
MTM	-	Mobile-to-Mobile
NRA	-	National Regulatory Authority
OFTEL	-	Office of Telecommunications (Great Britain)
OUR	-	Office of Utilities Regulation
POTS	-	Plain Old Telephone Service
PSTN	-	Public Switched Telephone Network
RIO	-	Reference Interconnection Offer
SIM	-	Subscriber Identification Module
SSNIP	-	Small but Significant Non-transitory Increase in Price
STATIN	-	Statistical Institute of Jamaica
STV	-	Subscriber Television
WLL	-	Wireless Local Loop
VOIP	-	Voice Over Internet Protocol
V-SAT	-	Very Small Aperture Terminal