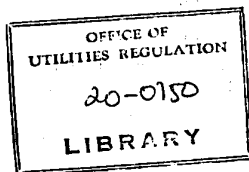


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## **CHAPTER 1: INTRODUCTION**

### **Consultative Documents in General**

- 1.1 This is the first in a series of 'Consultative Documents' to be issued by the Office of Utilities Regulation (OUR) on telecommunications. A Consultative Document is a public discussion paper in which the OUR:
- a) brings to public attention important issues relating to utility regulation to promote public understanding and debate;
  - b) puts forward options and/or proposals as to the approach to adopt in dealing with these issues to seek to resolve them in the best interests of consumers and the society at large; and
  - c) invites comments from the general public and from other interested parties, such as consumers, service providers, businesses, professionals and academics.
- 1.2 The OUR was established as a body corporate by the Office of Utilities Regulation Act 1995. It is the Government's intention that the OUR be the independent regulator of the utility industries, comprising telecommunications, electricity, water and sewerage, and public transportation (by road, rail and ferry). An amendment to the OUR Act is required to remove the responsibility for regulation in these areas from the relevant Minister and place it on the OUR. This amendment is currently being drafted for consideration by Parliament. At present, the OUR has a Director General – Winston Hay – and two Deputy Director Generals, responsible for specific sectors – Delreo Newman for telecommunications and J. Paul Morgan for electricity, water and sewerage. The OUR's mission statement is:-
- "To contribute to national development by creating an environment for the efficient delivery of utility services to the customers whilst assuring that service providers have the opportunity to make a reasonable return on investment."
- 1.3 The OUR takes very seriously the need for public consultation and transparency in its decision making. The views and analysis set out by the OUR in these Consultative Documents are for discussion purposes, and hence are not fixed. Indeed the very purpose of a Consultative Document is to invite comments and evidence to be supplied, which may cause the OUR to revise its views. After the consultation process has been completed, which may comprise more than one Consultative Document, the OUR will issue a Statement or Policy Position paper, explaining the conclusions that it has reached. The OUR will set out in these subsequent documents the basis for its decisions: eg whether and why it has changed its views in the light of the consultation and, where it disagrees with major points made in consultation responses, the reasons for its position.

### **The Purpose of this Consultative Document**

- 1.4 This Consultative Document (No. TEL 001/98) deals with the matter of tariff rebalancing in Jamaica's telecommunications (hereafter 'telecoms') industry. Tariff rebalancing is a change in the structure of telecoms prices, moving the prices of the various services closer to the underlying costs of those services. In the Jamaican context rebalancing would appear to involve

reductions in the prices of international calls and increases in the line rental and perhaps also the prices of intra- and inter-Parish calls.

1.5 A start is being made now by the OUR to address this issue because:-

- Developments have been initiated by international institutions and overseas regulators to reduce the size of the payments made throughout the world to telecoms operators for delivering international calls (so-called 'settlement rates'). It is generally accepted that these are substantially higher than the causally related costs. These changes could have important ramifications for telephone prices in many countries, especially developing countries, including Jamaica, where typically profits on international calls are used to offer to their own citizens prices below cost for domestic telephone services. Preparations need to be made now, so that Jamaica will be in a position to address the issue, if and when settlement rate reductions occur.
- Even in the absence of these international developments, there is a case for telephone prices to be more cost reflective. The current structure of prices works to the disadvantage of some Jamaican consumers, who make or wish to make a relatively large number of international calls. Since many businesses are likely to fall into this category, unbalanced tariffs may also act as a brake on economic development, and increasingly so, given the fast growing importance of telecommunications as a vital business tool.

1.6 The OUR considers it important that a rebalancing strategy be developed for Jamaica. When fully developed, that strategy will include at least the following elements:-

- the period of time that the strategy is to cover (eg five years);
- whether prices are to be rebalanced and if so, which prices;
- if prices are to be rebalanced only when triggered by certain events, what those events would be (eg reductions in settlement rates);
- the amount of rebalancing to be done (if required) within the defined time period, possibly contingent upon the nature of events (eg the scale of settlement rate reductions);
- the pace and timing of rebalancing (if required);
- the mechanisms and types of tariff changes to be used to rebalance (if required), including the ways in which protection will be ensured for those consumers for whom special assistance is deemed appropriate, such as those with affordability difficulties; and
- the respective roles of the incumbent operator and the OUR.

1.7 The OUR's intention in issuing this document is to promote public debate on the important issues relating to the rebalancing of telephone prices. Given the breadth and complexity of the issues involved, the OUR is adopting a two-part consultation process. This document primarily discusses **qualitative** questions and issues of principle. It will be followed next year by a second Consultative Document on rebalancing that will report on the results of the consultation stimulated by this document, and will deal in greater detail with the **quantitative** issues, such as the possible details of the rebalancing strategy.

1.8 The structure of the document and the key points arising can be set out very briefly in the following questions and answers:-

1. Are telephone prices in Jamaica unbalanced?

There is some evidence to suggest that the incumbent's tariffs may be unbalanced – the tentative nature of the conclusion arises from the absence of the most relevant cost data. Details of the analysis are set out in Chapter 4.

2. If prices are unbalanced, should rebalancing occur and if so why?

Rebalancing may be *necessary* because of enforced settlement rate reductions, for the reasons discussed in Chapter 5. Rebalancing may be *desirable* because some consumers would prefer it, whilst others could afford it – see Chapter 6 for the detailed reasoning.

3. If it should occur, how should it be done?

By rebalancing for some consumers, but not for others, ie targeting unbalanced tariffs on those who most need it, because they could not afford a rebalanced tariff - these issues are analysed in Chapter 7.

- 1.9 Chapter 8 pulls together the threads of the discussion and charts the way forward for developing a regulatory framework for rebalancing. Before the detail of the discussion in Chapters 4-8, Chapter 2 explains how the consultation process on rebalancing will operate and Chapter 3 contains an executive summary. A complete list of the questions on which the OUR is specifically seeking views is set out in Chapter 9.

## **CHAPTER 2: THE CONSULTATION PROCESS**

### **Consultative Documents**

- 2.1 This is the first Consultative Document issued by the OUR on regulatory matters relating to the telecommunications industry. It should be of interest to a wide range of individuals and organisations, because tariff rebalancing could affect the prices paid by all current and future users of the public telephone system in Jamaica. This is reflected in the nature and timings of the consultation process set out below.
- 2.2 The wide impact of regulatory policy on this topic, together with the complexity of some of the issues involved, demands that this document be the first in a **series of documents** on the topic of tariff rebalancing. There will be at least two further published papers by the OUR: at least one more Consultative Document and a Statement explaining the conclusions that the OUR has reached and the rebalancing strategy adopted.
- 2.3 This document, the first Consultative Document, will focus on explaining the issues involved and discussing the broad approach that should be taken to address them. A later Consultative Document will analyse and quantify the effects in greater detail and solicit views on the specifics of a Rebalancing Strategy. The OUR's current proposal is that there be two Consultative Documents on tariff rebalancing, but it recognises that, depending upon the progress of the consultation, there could be a need for a third Consultative Document to explain further the issues or latest developments and to seek views on the refinement of the OUR's approach.
- 2.4 At the end of the consultation process the OUR will publish a Statement, following careful consideration of the opinions, analysis and evidence presented during the consultation period. The Statement will set out the Rebalancing Strategy that the OUR has decided to adopt and will explain the reasons for its decision.

### **Responses to this document**

- 2.5 At various points in this document specific questions are set out on which the OUR is seeking views. These questions appear below the explanatory text to which they relate and are also listed together in Chapter 9. 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 they consider it appropriate, respondents may wish to address other aspects of the document for which the OUR has prepared no specific question. They 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.
- 2.6 Responses should be sent by post, fax or e-mail to:-

Franklin Brown  
P.O. Box 593, 36 Trafalgar Road, Kingston 10  
Fax: (876) 929 3635  
E-mail: [fknbrown.our@cwjamaica.com](mailto:fknbrown.our@cwjamaica.com)

- 2.7 Responses are requested by Monday, 25 January 1999, which is almost three months after the publication of this document.

### Comments on responses

- 2.8 The OUR's intention in issuing this Consultative Documents is to stimulate public debate on the important regulatory issues surrounding tariff rebalancing. The responses put to the OUR are a vital part of that public debate, which can only be made properly transparent if the responses made to the OUR's documents are, as far as possible, also publicly available. The OUR considers that respondents should have an opportunity both to find out the evidence and views put forward in other responses, with which they may disagree, and to comment on them. All of the OUR's consultations will allow a specific period for respondents to view other responses and to make comments. The comments may take the form of either correcting a factual error or putting forward counterarguments.
- 2.9 Comments on responses are requested by Monday, 22 February, ie four weeks after the deadline for the receipt of responses.

#### *Arrangements for viewing responses*

- 2.10 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 Granville Newell by one of the following means:-

Telephone: (876) 968 6053 (or 6057)  
Fax: (876) 929 3635  
E-mail: [granewell.our@cwjamaica.com](mailto:granewell.our@cwjamaica.com)

- 2.11 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 to be made of selected responses at a price, which just reflects the cost to the OUR of carrying out the photocopying.

#### *Confidentiality*

- 2.12 Some information that respondents may wish to supply to the OUR to support their position may be regarded by them as confidential. Respondents who wish to supply confidential information are requested to place it, including any supporting discussion that is also confidential, in a separate Annex. To ensure that public debate is promoted, respondents are asked to use a confidentiality marking only where it is truly required. The response should indicate clearly those parts of the response that are considered confidential. Unless otherwise directed, the OUR will make available for viewing all parts of the responses that it receives.

## Timetable

- 2.13 The timetable for the consultation is summarised in Table 2.1, which includes indicative timings for the second Consultative Document and the Statement. These latter timings are not firm and are subject to change. For example, if there are delays in obtaining necessary information to quantify the effects, delays may be introduced. If the qualitative and quantitative issues turn out to be more complex, or if responses to the Consultative Documents indicate that substantial further work is needed or additional issues need to be explored, a third Consultative Document may be required. Or, if there are important developments on which the OUR needs to seek views rapidly, publication of a document may need to be brought forward.

**Table 2.1: Summary of the timetable for the consultation on tariff rebalancing**

<i>Event</i>	<i>Date</i>	<i>Comment</i>
Responses to this document	Monday, 25 January 1999 almost 3 months after publication	
Comments on responses	Monday, 22 February 1999 ie after a further 4 weeks	
Second Consultative Document	May 1999	Indicative only
Responses to second Consultative Document	July 1999	Indicative only
Comments on responses to second Consultative Document	August 1999	Indicative only
Statement	October 1999	Indicative only

## Other Means of Consultation

- 2.14 The written consultation may be supplemented by other ways to gather evidence and explore views, including for example:-
- public meetings, seminars or workshops;
  - individual meetings between interested parties and OUR staff;
  - working groups of representatives of service providers and/or consumers to address specific questions; and
  - discussions with panels of independent expert advisers.
- 2.15 In general, the OUR's proposed approach is to use published documents and written responses as the main means of consultation, but other mechanisms will be used as appropriate. The OUR has not yet reached a decision on which of these mechanisms should be used and when.
- Q2.1 What consultation methods, if any, should the OUR adopt to supplement the written consultation and at what point in the consultation process?**



## **CHAPTER 3: EXECUTIVE SUMMARY**

### **Chapter 4: The current structure of prices**

- A set of prices is unbalanced when it is not cost reflective, ie it involves some prices below cost and others above cost.
- Relevant and robust information on the costs of telephone services in Jamaica is required to establish properly the existence and extent of unbalanced tariffs in Jamaica.
- In the absence of such cost information the OUR has used publicly available information on prices and costs in other countries to compare against the prices charged by the sole incumbent, Cable & Wireless Jamaica (CWJ).
- The OUR tentatively concludes that the telephone line rental may be appreciably below cost, and that it is possible that intra-Parish calls and inter-Parish calls are also provided at prices below cost.
- The charge paid by foreign operators for CWJ to deliver international calls that are incoming to Jamaica (the 'settlement rate') is substantially above cost. (These arrangements are generally referred to as the 'accounting rate system' - the settlement rate is usually one-half of the accounting rate).
- The same settlement rate is paid by CWJ to foreign operators on outgoing calls and this partly explains the high price of outgoing international calls from Jamaica. But retail prices are typically significantly above settlement rates, so such calls appear to be priced above the cost to CWJ.
- Hence, the apparent shortfall of the prices of some domestic services below cost seems to be sustained by the profits earned by CWJ on incoming and international outgoing calls (CWJ's overall profitability is constrained by rate of return regulation).
- But since Jamaica receives far more incoming international calls than makes outgoing calls, consumers in foreign countries (especially the USA) are the major contributors to sustaining the current low prices of some domestic telephone services.

### **Chapter 5: External pressures for settlement rate reductions**

- The telecoms regulator in the USA, the Federal Communications Commission (FCC), has commenced unilateral action to attempt to reduce the settlement rates paid by US operators to all other countries down to specified benchmark levels. If implemented, this would require a reduction in CWJ's settlement rate with the USA of some 70% by the start of 2001.
- Recommendations have been made by international organisations, such as the International Telecommunications Union, that settlement rates worldwide should fall to cost orientated levels.
- A large settlement rate reduction would be likely to reduce CWJ's profit earned from incoming international calls and consequently require some increases in the prices of domestic services, such as the line rental.

### **Chapter 6: Possible benefits of rebalancing**

- Settlement rates that are high relative to cost imply that the prices of international calls are also high, which is to the disadvantage of some consumers (even though many others may benefit from low prices for some domestic services).
- Many businesses may be adversely affected by the high price of international calls and so high settlement rates and unbalanced tariffs may act as a brake on economic development.

- Even given the settlement rate, some consumers, who make or wish to make a significant number of international calls, would prefer to be on a more rebalanced tariff and would opt for such a tariff if they had the opportunity.
- Some consumers could afford to be on a more rebalanced tariff, even if they would prefer not to be. There is an argument that such consumers should face a more cost reflective (rebalanced) tariff, because this would allow the assistance provided by unbalanced tariffs to be better targeted at those with genuine affordability difficulties. This approach could enable the goal of universal service, recently reiterated by the Government in its Telecommunications Policy, to be achieved more effectively and more rapidly.

#### **Chapter 7: Ways to rebalance tariffs**

- There are at least three different ways in which unbalanced tariffs could be targeted on those with affordability difficulties, whilst allowing tariffs for other consumers to be more rebalanced:-
  - Optional tariffs to allow consumers to self-select more or less unbalanced tariffs; or
  - Specifying income related criteria for eligibility for a special unbalanced tariff (eg household income, eligibility for food stamps); or
  - Relating eligibility to the number of calls made, so low users face a more unbalanced tariff than higher volume users.
- Although usually it would be for the incumbent operator to propose tariffs and for the regulator to react by accepting, rejecting or modifying, in this context there are possible reasons for the closer involvement of the regulator:-
  - Consumer safeguards may be necessary; and
  - A divergence between the national interest and the interest of CWJ (eg over universal service and the distributional effects of tariff changes).

#### **Chapter 8: The way forward**

- In developing a regulatory framework for rebalancing, the OUR suggests that a number of principles are relevant:-
  - taking account of the interests of all consumers;
  - carefully considering the trade-offs between different groups of consumers;
  - promoting economic efficiency within a context of social policies specified by the Government;
  - seeking the most efficient ways to attain social objectives; and
  - initiating regulatory action only where required.
- Further information will need to be obtained and quantitative analysis undertaken by the OUR to start to develop the specifics of a rebalancing strategy, such as:-
  - quantifying the existence and extent of unbalanced tariffs, using relevant and robust Jamaican cost information; and
  - quantifying the impact of various possible rebalancing scenarios on different groups of consumers.
- In terms of the regulatory process, the OUR is exploring the question of whether and, if so, how rate rebalancing should be separated from normal rate reviews.
- The OUR is seeking views on the proposal that the methods to implement such rebalancing as is deemed necessary or desirable should be developed in a context of different tariffs being considered appropriate for different groups of consumers.

## CHAPTER 4: THE CURRENT STRUCTURE OF PRICES

### Introduction

- 4.1 A structure of telecom prices is said to be 'unbalanced' when some services are priced above cost whilst others are priced below cost. Throughout the discussion in this document, cost is taken to include a reasonable rate of return on investment as well as operating costs and depreciation. The movement in the structure of prices, so that it better reflects the underlying costs of the respective services, is referred to as tariff rebalancing. Unbalanced tariffs, involving the line rental priced below cost and call prices above cost, especially for long distance and international calls, have been used in many countries. They have generally been the result of an explicit or implicit government policy as the means to promote universal service, the goal of a telephone in every household.
- 4.2 There is a perception that prices in Jamaica are unbalanced: that the prices for domestic service are significantly below cost, and that such losses are recovered from (or sustained by) profits from international calls, including incoming calls, that are priced significantly above cost. The focus of this Chapter is to gather together the available evidence to assess such a proposition. The reasons why some rebalancing of prices may be either necessary or desirable are discussed in Chapters 5 and 6.
- 4.3 The telecom prices that are discussed here and which are the subject of the rebalancing debate are those charged by the incumbent operator in Jamaica, Cable & Wireless Jamaica (CWJ) – formerly known as Telecommunications of Jamaica (ToJ) – for the line rental and line connection charges, intra-Parish calls, inter-Parish calls, and outgoing and incoming international calls. CWJ faces no competition in the provision of these services. CWJ provides many telecom services beyond those mentioned above, such as leased circuits, cellular access and calls, and value added services, but there has been no explicit or implicit policy for such services to be priced below cost for reasons of promoting universal service and so there is no presumption that these prices may be unbalanced.

### Rebalancing and competition

- 4.4 The recent Government Telecommunications Policy calls for the introduction of competition in wireless and value added services. But there is likely to be no material effect of competition on rebalancing. Value added and wireless services are considered in turn.
- 4.5 In most cases value added services do not compete with domestic or international calls. In some cases, such as pre-paid calling cards, there may be a degree of substitutability, but it is unlikely that these services are sufficiently close substitutes for one to provide a competitive constraint on the price of the other. As part of a competition analysis, it is likely that value added services would be considered to be in separate markets from domestic and international calls.<sup>1</sup>

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<sup>1</sup> Market definition depends upon a consideration of demand side and supply side substitution possibilities. The relevant hypothetical question is whether (say) a 5-10% increase in the price of one service would be unprofitable, because it would lead to sufficient substitution by consumers to the other services (demand side substitution), or sufficient and rapid entry into the provision of the service by providers of the other services (supply side substitution). If not, the other services do not provide a competitive constraint on the price of the first service and separate markets would be defined.

- 4.6 A similar reasoning applies to mobile services, whether the mobile technology is cellular, PCS (Personal Communications System), or GMPCS (Global Mobile Personal Communications by Satellite).<sup>2</sup> On some calls for some consumers, using a mobile phone may be a substitute for the fixed telecoms network. But generally the two are not close substitutes (eg large difference in the price of calls from mobile and fixed networks) and there may also be elements of complementarity (ie an increase in the demand for one may stimulate demand for the other). Most telecom regulators around the world consider that at present mobile network prices do not provide a competitive constraint on fixed network prices, and so they are defined to be in separate markets. At some point in the future this may change, as the price of mobile services comes down with advances in technology and with changes in the way that consumers use mobile phones.
- 4.7 There is another type of wireless technology: wireless in the local loop (WLL). WLL provides a wireless service to a fixed location and does not provide the consumer with mobility. Rather than the telephone 'line' to the home or the business premise being provided by wire, it is provided by a wireless link. WLL lines may be less costly to provide than wire in some areas, depending on factors such as the terrain and the population density. New entrants using WLL could provide direct competition to CWJ in the provision of lines and calls. However, the WLL operator would be incurring costs of both lines and calls and so would face a similar issue on tariff rebalancing as CWJ.<sup>3</sup>
- 4.8 In summary, value added and mobile services are not sufficiently close substitutes for fixed network lines and calls to be considered to compete in the same market. WLL operators would be competing in the same market(s), but against all aspects of CWJ's unbalanced tariff, not just those services whose prices are above cost.<sup>4</sup> For these reasons, competitive interactions are not considered in this document.

#### Rate of return regulation

- 4.9 In the discussion of the **structure** of prices, it should be borne in mind that the **level** of prices charged by CWJ is controlled through the terms of one of the licences that it holds (the All Island Telephone licence). CWJ is subject to rate of return regulation: it has a permitted rate of return on ordinary shareholder equity of between 17.5% and 20%. If CWJ considers that its rate of return will fall below 17.5% it may apply to the regulator to consider an increase in tariffs. If its rate of return exceeds 20% the regulator may require tariffs to be reduced. The relevant rate of return is that for CWJ as a whole, which also includes the services that are not central to the rebalancing debate.

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<sup>2</sup> Cellular and PCS services are direct competitors for each other. Services provided by GMPCS, which is discussed further in Annex C, are likely to be in a separate market from the other mobile services.

<sup>3</sup> But the existence and extent of unbalanced tariffs will affect the profitability of entry for a WLL operator. If the prices of services in which the WLL operator would be competing are below cost, sustained by profits on incoming international calls, entry might not be profitable. A WLL operator - even one that was more efficient than the incumbent - might be deterred from entering, if it was unable to obtain the benefit of profits on incoming international calls.

<sup>4</sup> This is a key distinction from 'indirect access' operators (or long distance operators), who provide calls but usually not lines - see Annex E for a further discussion.

- 4.10 In this context, the important feature of the rate of return regulation is that, if the profitability earned by CWJ on certain services, eg incoming international calls, was to fall, and by a sufficiently large amount to reduce CWJ's prospective return on equity below 17.5%, the prices for other services encompassed by the rate of return regulation would have to rise to allow it to earn the permitted rate of return. Such price increases could possibly be offset by decreases in unit costs, arising for example from improved operational efficiency and adoption of cheaper new technology. But even so, the decline in profitability of some services could mean that the prices of the other services were higher than they otherwise would have been.
- 4.11 The importance to CWJ's revenues of the services central to the rebalancing debate is shown in Table 4.1. It suggests that material decreases in revenues from international calls, especially incoming international calls, would have important ramifications for the prices of other services.

**Table 4.1: CWJ's revenue shares by service in 1996/97**

<i>Service</i>	<i>Proportion of total gross revenue</i>	<i>Proportion of net revenue (after subtracting settlement outpayments)</i>
Line rental	5	6
Intra and inter-Parish calls	9	10
Outgoing international calls	20	9
Incoming international calls	52	59
Other	15	17
Total	100	100

Source: OUR from information supplied by CWJ

Note: Figures do not sum to 100% because of rounding errors.

### **The absence of cost information**

- 4.12 The most appropriate way for the current structure of prices to be examined would be in relation to the costs of the various services. Unfortunately little relevant cost information is available to the OUR. CWJ has been requested by the OUR to provide its information on the costs of services, but no robust data have yet been supplied. CWJ has indicated that it does not have such information, though it is developing an accounting system to rectify this. But it takes time for a new accounting system to bed down and its workings to be fully understood.
- 4.13 Robust cost information needs to be provided by CWJ to identify the extent of unbalanced tariffs, before rebalancing can be implemented. The OUR hopes to receive relevant and robust cost information from CWJ by the end of 1998. As outlined in Chapter 2, the OUR envisages a second Consultative Document on rebalancing, which will address the quantitative issues in greater detail. This will not be possible before the OUR has had an opportunity not just to receive the cost data from CWJ but also to understand and be broadly satisfied about the basis of their derivation.
- 4.14 In the absence of this cost information the OUR has made comparisons of prices in Jamaica with prices and publicly available cost information in other countries. This is an imperfect substitute

for robust cost information reflecting Jamaican conditions. But it is used given the lack of better data. The prices for domestic services are discussed in the next section of this chapter. Then the prices for incoming and outgoing calls are discussed, including an explanation of the accounting rate system. The final section contains preliminary conclusions on the existence of unbalanced tariffs.

### Tariffs for Domestic Services

4.15 The purpose of the comparisons set out in this section is to use available data to assess the contention that domestic services – the telephone line, intra- and inter-Parish calls - are currently priced below cost. The first comparison, shown in Table 4.2, is between tariffs in Jamaica, other countries in the region and the developed countries with which Jamaica has the most telecoms traffic.

**Table 4.2: International comparison of domestic telephone tariffs for 1996 in US\$**

Country	Residential connection	Residential monthly subscription	Business monthly subscription	Local call (3 minute call)
<b>Jamaica</b>	<b>16</b>	<b>2.7</b>	<b>5.8</b>	<b>0.06</b>
<i>Other Caribbean</i>				
Antigua and Barbuda	69	11.1	22.2	0.06
Bahamas	360	24.5	24.5	-
Barbados	49	13.9	40.7	n/a
Cuba	100	6.3	9.3	-
Dominica	20	2.7	7.5	n/a
Dominican Republic	98	6.6	19.6	n/a
Grenada	85	14.1	40.7	-
Guyana	1	0.3	0.6	-
St Lucia	46	9.0	10.1	0.30
St Vincent	37	6.3	14.8	0.13
Suriname	37	0.2	0.2	-
Trinidad & Tobago	12	4.8	29.1	0.04
<i>Selected Central and South America</i>				
Argentina	250	8.7	34.6	0.10
Brazil	1112	2.7	9.4	0.04
Chile	258	15.3	21.8	0.09
Colombia	321	2.9	6.5	0.01
Panama	10	10.0	20.0	-
Venezuela	39	2.5	11.9	0.02
<i>Selected developed countries</i>				
Canada	42	13.2	37.7	n/a
UK	181	12.9	20.9	n/a
USA	43	12.2	41.8	0.09

Source: ITU World Telecommunication Development Report 1998

4.16 As Table 4.2 indicates, by international standards the prices for the line rental and domestic calls in Jamaica are low.<sup>5</sup> The only countries with consistently lower prices in the sample shown are Guyana and Suriname. Most of the other countries have prices significantly higher, except for local calls for which there are no usage charges in some countries. Furthermore, it is generally accepted that tariffs in these countries are to varying degrees not fully rebalanced. So, unless it is much cheaper to supply telephone lines and calls in Jamaica, the comparison suggests that tariffs in Jamaica are more unbalanced than in other countries in the region, or developed countries.

4.17 Comparisons of prices in different countries sometimes require careful interpretation, say because countries may differ in the costs of services and in the way they charge for services. For example, as noted, some countries do not charge for local calls, and the balance of fixed charges between connection and line rental (or subscription) differs markedly, with especially high connection charges in South America. In addition, since tariffs in most countries are to some degree unbalanced, a cross-country comparison of prices does not necessarily indicate the true extent of unbalanced tariffs in Jamaica. The OUR has therefore sought to supplement the price comparison with a comparison between Jamaican prices and cost information available in other countries, shown in Table 4.3.

**Table 4.3: Comparison of Jamaican domestic prices with publicly available cost information in other countries (in J\$)**

Country	Residential line per month	Business line per month	Intra-Parish (or local call) per minute	Inter-Parish (or national call) per minute
Jamaican (CWJ) prices	100	215	0.15	0.76 peak 0.38 off-peak
UK costs				
- BT: HCA		730	0.90	1.50
- BT: CCA		780	n/a	n/a
USA costs: Connecticut				
- SNET: Metro		430	n/a	n/a
- SNET: Suburban		610		
USA costs: New Mexico				
- US West		790	n/a	n/a
- GTE		1,160		
USA costs: Washington State				
- US West		660	n/a	n/a
- GTE		770		

Sources: British Telecommunications (BT) - OUR from BT's Financial Statements for the Businesses and Activities 1997, and Current Cost Financial Statements for the Businesses 1997  
Connecticut - OUR from Interim rates in Arbitration between Southern New England Telephone Company (SNET) and MCI, Docket No. 96-09-09  
New Mexico - OUR from New Mexico State Corporation Commission, Findings of Fact, Conclusions of Law and Order - 96-310-TC; 96-334-TC; and 97-35-TC.

<sup>5</sup> Table 4.2 shows 'subscription' charges, which is a term used in some countries to refer to fixed charges, ie charges that do not vary with the number of calls made.

Washington State – OUR from Washington Utilities and Transportation Commission,  
Docket Nos. UT-960369, -960370, -960371

- Notes: Costs include a return on capital employed at the cost of capital specified in the relevant regulatory regime. Line costs are shown to the nearest J\$10.  
BT's costs are fully distributed costs, including retail costs, either using historic cost accounting (HCA), or current cost accounting (CCA) in which assets are valued at their replacement cost.  
USA costs are based on total element long run incremental costs (TELRIC), which exclude retail costs. The figures shown are the sum of the costs of the unbundled two-wire copper loop and the local switch port cost. Figures for New Mexico include a mark-up for common costs; figures for Washington state are before the mark-up. Figures for Connecticut are interim charges pending review and decision on cost models.  
Exchange rates used: 1 pound = J\$ 60; US\$ 1 = J\$ 36.  
A small contribution to recovery of the line costs may also be made by the connection charges.
- 4.18 The first row of Table 4.3 shows the prices charged in Jamaica by CWJ. The other rows show some information on costs in the UK and the USA. This cost information is not necessarily representative of the situation in Jamaica – it shows costs that may be too high or too low. For example, the costs of telephone lines are sensitive to (amongst other things) the density of the population served and the nature of the terrain, as well as differing input prices, such as the price of labour. But, in the absence of Jamaican cost data, it is the best information currently available to the OUR.
- 4.19 Even though some caution is needed in interpreting Table 4.3, it strengthens the impression that the prices charged for the telephone line in Jamaica - the line rental and the connection charges – are comfortably below the costs of providing lines. Cost information on calls is more limited, so it is difficult to draw strong conclusions. But it seems likely that intra-Parish call charges are below cost and possibly also inter-Parish call charges.

#### The Accounting Rate System and Tariffs for International Calls

##### An explanation of accounting and settlement rates

- 4.20 The accounting rate system is the method by which most telecom operators are compensated for terminating international traffic. It developed in circumstances, which are still common, in which the facilities for carrying calls between countries, such as undersea cables, are jointly provided by the operators in each country. An international accounting rate is bilaterally determined between two operators carrying traffic on a particular international route between two countries (under regulations and recommendations specified by the International Telecommunications Union, ITU). The accounting rate system operates as follows.
- 4.21 Consider one operator (say a US carrier) that wishes to send a telephone call from one of its customers to a call recipient in another country (say Jamaica). The originating (US) operator usually hands over the call to the terminating (Jamaican) operator at a notional mid-point in the international facilities (if the facilities are jointly provided). The **accounting rate** bilaterally negotiated between these two operators governs the payment that the originating operator makes to the terminating operator. This is called the **settlement rate**, which is usually one-half of the accounting rate (and is normally specified as a charge per minute of traffic). If there was transit through a third country, which however is not the case for the Jamaica-USA route, a proportion of the accounting rate would be paid to the transit operator.

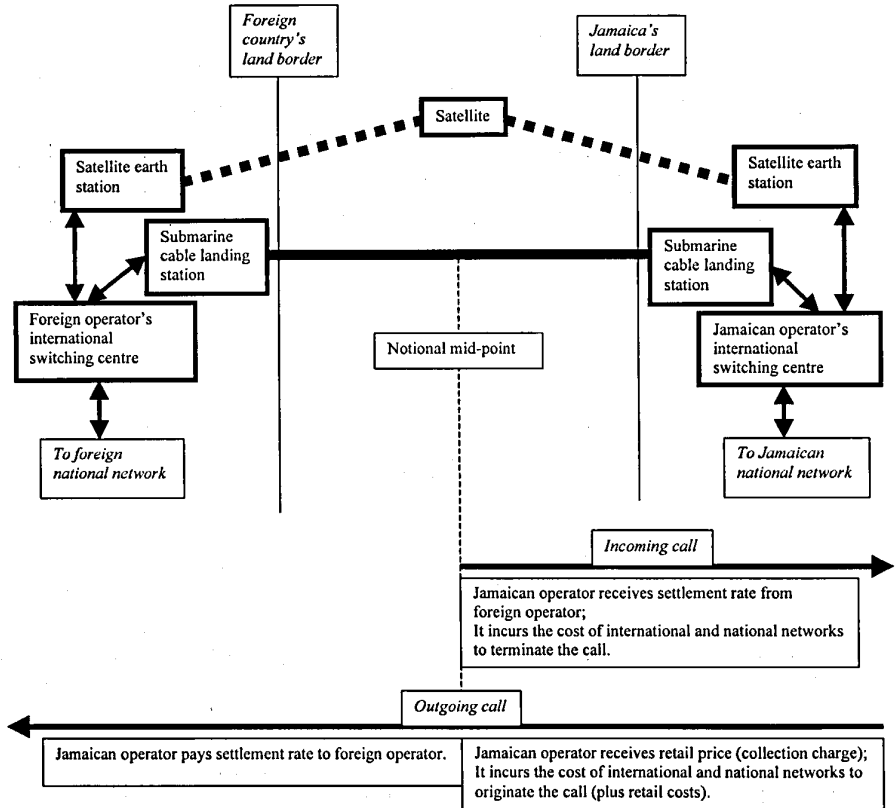


- 4.22 Calls pass in both directions between the countries, so the Jamaican operator will sometimes be the terminating operator and sometimes the originating operator. Where it is the originating operator, it will pay rather than receive the settlement rate. If the Jamaican operator sends the same number of call minutes as it receives from the other operator, and if (as is usual) the settlement rate in each direction is the same, the payments in each direction will be equal. If the Jamaican operator receives more calls than it sends, it will receive more settlement payments than it will pay out to the other operator, ie it will have a **net settlement surplus**.
- 4.23 The description above relates to the underlying principles of the arrangements. Generally, as a matter of administration, the accounting for payments between operators is made on the basis of net outgoing minutes. This means that money would only pass in one direction, from the net sender of traffic to the net recipient (and if the outgoing and incoming traffic was exactly equal, no payments would pass between the operators). However, if an operator was to send an additional minute of traffic, its net payment to (net receipt from) the other operator would be increased (reduced) by the amount of the settlement rate. Hence, the settlement rate is a key element of the marginal cost of an international call minute (the cost of an additional minute). As such, it is an important influence on the price charged by the originating operator to its retail customer for the international call. This retail price is sometimes referred to as the **collection charge**.
- 4.24 The arrangements for international calls are illustrated in Figure 4.1. The upper part of Figure 4.1 shows the equipment used in an international call: the call originates on the national network in one country and terminates on the national network of another country; each operator's international network comprises international switching, and either transmission to a cable landing station for a submarine cable to be used, or to an earth station for uplinking to satellite facilities.<sup>6</sup> The lower part of Figure 4.1 shows the payment arrangements from the perspective of the Jamaican operator. On an incoming call to Jamaica, it incurs the cost of use of its international and national networks, but receives the settlement rate for each call minute. On an outgoing call it incurs similar network costs (plus retail costs such as billing and marketing), and must pay the settlement rate per minute to the foreign operator – the revenue received is the retail price charged to the Jamaican caller.
- 4.25 The accounting rate system originally developed in circumstances when there was just one operator (often state owned) at each end of the route. Many routes, eg between Jamaica and the Bahamas, are still characterised by a single operator at each end (though state ownership is now less common). On other routes there are multiple carriers at one end but a single operator at the other end, eg between the USA and Jamaica, since there is competition between US operators in international facilities. Each US operator on the Jamaica-USA route has an agreement with CWJ. In circumstances such as these, the regulator in the liberalised regime may impose certain rules on its own operators to prevent what it regards as anti-competitive or other harmful behaviour. For example, the US regulator requires that all US carriers operating on routes with a monopoly operator at the far-end have the same accounting rate for that country ('parallel accounting') and that there be an equal 50/50 division of the accounting rate into settlement rates. In addition, it requires that US operators receive traffic from the far-end operator in the same proportions as they send traffic to the far-end ('proportional return'). These rules are intended to prevent practices, such as the far-end operator playing off one US operator against another in order to obtain more favourable terms ('whipsawing') – since there is only a single

<sup>6</sup> Traffic between countries on the same contiguous land area might alternatively use terrestrial cable or radio links.

operator at the far-end, the US operators would not be able to do the same. Given the general tendency throughout the world for increasing liberalisation in telecommunications, an increasing proportion of routes involves a third type of situation: multiple operators at both ends of the route, eg between the USA and the UK.

**Figure 4.1: International calls using the accounting rate system**



4.26 It is generally accepted by most telecom operators, regulators and commentators that the settlement rates between most countries in the world comfortably exceed the costs incurred by

the operators to terminate international calls – see below for a discussion of Jamaican settlement rates.

### Jamaica as a net recipient of international calls

- 4.27 The accounting rate system has especially important implications for Jamaica, given that it is a large net recipient of international traffic and so has a large net settlement surplus. The reason for this is given in Table 4.4, which shows that Jamaica receives far more international call minutes from other countries that it sends to them. In the case of the USA, Canada and the UK, about five times more call minutes are received by Jamaica than are sent. Table 4.4 also shows that the majority of international calls made and received are with the USA. Other significant contributors are the rest of the Caribbean, Canada, and the UK.

**Table 4.4: International calling patterns to and from Jamaica in 1996/97**

Country	Ratio of incoming to outgoing call minutes	Proportion of total outgoing call minutes	Proportion of total incoming call minutes
USA	5.1	69	77
Caribbean	2.2	11	5
Canada	4.9	7	8
UK	5.5	6	8
Other	1.2	7	2
Total	4.5	100	100

Source: OUR from information supplied by CWJ

- 4.28 The OUR does not have hard evidence to explain these calling patterns. But one important contributory factor will be the pattern of migration from Jamaica. The USA, Canada and the UK are the major destination countries for emigrant Jamaicans, with the USA by far the largest.<sup>7</sup> Migration flows will have an effect on the pattern of business calls, because they are one of the influences on trade flows. Possibly more importantly, migration leads to telecom flows between countries as family and friends stay in contact by telephone. This would also explain the pattern of incoming to outgoing calls, if more of the calls between family members and friends tended to be made by those living overseas, who might be more wealthy than their Jamaican contacts. Certainly there is a clearer reason for residential international call patterns to exhibit a strong net inflow, than for calls between businesses, which might be expected to be broadly in balance.
- 4.29 Many developing countries are net recipients of international traffic. To illustrate the position of Jamaica relative to other countries and regions, Table 4.5 shows a summary of the USA's net traffic flows with the rest of the world. The extent of Jamaica's net inflow from the USA appears to be above average. Amongst developing countries, Jamaica's net inflow is larger than many others (eg larger than for most Caribbean countries), comparable to the average for Eastern Europe and South America, but not as large as in some regions (eg Africa).

<sup>7</sup> For example, in 1996 there were 13,023 emigrants to the USA, 3,138 to Canada and 262 to the UK (Source: *Economic and Social Survey Jamaica 1996*, The Planning Institute of Jamaica).

**Table 4.5: Net traffic flows between USA and various Caribbean countries and regions of the world in 1996**

Country	Ratio of USA outgoing traffic to incoming traffic from countries/regions shown
<i>Caribbean countries</i>	
Jamaica	4.4
Bahamas	1.3
Dominican Republic	3.3
Trinidad & Tobago	3.2
<i>Regions of the world</i>	
Caribbean	3.4
Africa	5.9
Eastern Europe	4.3
South America	4.1
Middle East	3.7
Asia	3.7
Western Europe	2.1
Oceania	1.9
North and Central America	1.6

Source: OUR from FCC international traffic data for 1996

Notes The measure used is the ratio of USA billed traffic minutes to the traffic minutes billed in other countries (that terminates or originates in USA).  
The difference between the ratio for Jamaica-USA traffic here and in Table 4.4 is because the tables relate to different years and may not use identical traffic measures or classifications.

4.30 The net inflow of international traffic translates into a net settlement surplus. The size of Jamaica's net settlement surplus with the USA is shown in Table 4.6. This has been growing by about 16% per annum on average in the 1990s (despite a decline in the level of the settlement rate – see Table 5.1). To give an indication of the importance of this revenue stream, it constituted about one-third of CWJ's total revenue net of settlement outpayments in 1996 (approximately US\$350m).

**Table 4.6: Jamaica's net settlement surplus with USA, 1990-1996, in US\$ million**

Year	Net settlement surplus in US\$ million
1990	47.5
1991	56.2
1992	64.3
1993	78.3
1994	93.0
1995	99.5
1996	115.7

Source: FCC

## Settlement rates relative to cost

- 4.31 Generally, accounting and settlement rates are not publicly known – they are part of private, bilaterally negotiated agreements. However, the regulators in two of the countries with which Jamaica has a great deal of telecoms traffic – the USA and the UK – publish information on the accounting rates governing the payments made between the licensed operators in their countries and most other countries in the world. These therefore provide public sources for settlement rates on the Jamaica-USA and Jamaica-UK routes – this information is shown in Table 4.7. For comparison, the settlement rates that the USA and the UK have with other Caribbean countries are also shown. It can be observed that Jamaica's settlement rates are significantly higher than the settlement rates that the other Caribbean countries have with the USA and the UK, apart from Suriname and Guyana.

**Table 4.7: Settlement rates of USA and UK with Jamaica and other Caribbean countries in US\$ per minute**

	USA	UK
Date	July 1998	August 1998
<b>Jamaica</b>	<b>0.625</b>	<b>0.63</b>
Suriname	0.975	0.88
Guyana	0.85	0.74
Cuba	0.60	0.67
Haiti	0.60	0.45 [+ transit of 0.44]
Barbados	0.525	0.57
Trinidad & Tobago	0.50	0.56
Antigua	0.405	0.67
Cayman Islands	0.405	0.67
Dominica	0.405	0.67
Montserrat	0.405	0.40 [+ transit of 0.55]
Grenada	0.405	0.67
St Kitts & Nevis	0.405	0.67
St Lucia	0.405	0.67
St Vincent	0.405	0.67
Netherland Antilles	0.38	0.54
Bermuda	0.35	0.67
Bahamas	0.15-0.30 [peak/off-peak]	0.30
Dominican Republic	0.05 0.65*	0.47

Source: OUR from information published by the US Federal Communications Commission (FCC) and the UK Office of Telecommunications (OFTEL)

Notes: \* The range relates to various operators, peak/off-peak rates, and a growth based structure. Where there has been a conversion to US dollars, figures are shown to two decimal places. The information published by OFTEL is in Special Drawing Rights (SDRs). It has been converted to US dollars using the exchange rate 1 SDR = \$1.34 (as used in the FCC's analysis). Accounting rate agreements may sometimes involve features such as peak/off-peak rates and different rates for traffic above and below a certain threshold level – for information on the treatment of such features by the FCC and OFTEL, readers are referred to their published information (available on their Websites, respectively [www.fcc.gov](http://www.fcc.gov) and [www.oftel.gov.uk](http://www.oftel.gov.uk)).

The figures in the UK column are for BT. For some countries the settlement rate of Cable and Wireless Communications (CWC) may be different – see OFTEL's published data for details.

- 4.32 BT, the largest telecoms operator in the UK, publishes some information on the costs of international conveyance in its regulatory accounts. The information published for routes to Caribbean countries in 1996/97 is shown in Table 4.8. To compare against the settlement rate, the costs of termination on the national network (approximately 1 US cent per minute) needs to be added on – the final two columns of Table 4.8 show BT's costs of national and international networks added together. This suggests that, on an outgoing call to the UK, CWJ's settlement rate payment can be expected to be substantially above the cost incurred by the foreign operator to terminate the call. Since the same jointly owned facilities tend to be used for calls in both directions, there should be some similarity between CWJ's costs and BT's. However, even if CWJ's costs were substantially larger than BT's, there would still appear to be a very large gap between the settlement rate and CWJ's cost.

**Table 4.8: BT's costs of international transmission and switching to the Caribbean in 1996/97**

Destination country	International network costs per minute		National and international network costs per minute	
	Pence	US cents	Pence	US cents
Jamaica	2.30	3.8	2.89	4.8
Barbados	4.64	7.7	5.23	8.7
Bermuda	6.02	10.0	6.61	11.0
Trinidad	5.24	8.7	5.83	9.7

Source: OUR from BT's Financial Statements for the Businesses and Activities 1997

Notes: The domestic network cost is BT's cost for the average incoming international call that it received in 1996/97. The exchange rate used to convert to US cents is 1 pound = US\$ 1.67.

- 4.33 The impression that settlement rates are substantially above cost is strengthened by comparisons with settlement rates between other countries that are likely to be more cost related. The current settlement rate on the route between the USA and the UK is about US\$0.07 (above a specified traffic threshold and about US\$0.10 below that threshold). Given that there is significant and increasing competition at both ends of the USA-UK route, this settlement rate can be expected to be closer to cost than most others. The USA's lowest settlement rate is with Sweden at US\$0.05-0.06 – on this route there is also competition present at both ends. The gap between the USA-UK/ USA-Sweden settlement rates and Jamaican settlement rates is very large (more than US\$0.50 per minute). Some of this difference may be due to cost differences, since the USA-UK route is one of the largest in the world and the unit costs will reflect the exploitation of economies of scale. However, it seems extremely unlikely that such cost differences can explain more than a relatively small part of the gap.
- 4.34 Strictly speaking, the settlement rates shown for Jamaica in Table 4.7 are the rates in CWJ's agreements with USA and UK operators (as reported by regulators in those countries). Other Jamaican telecom operators, such as Jamaica Digiport International (JDI), have separate agreements and different accounting rates. JDI, which is a joint venture between Cable & Wireless and AT&T (the largest long distance operator in the USA), operates a telecoms network in the Montego Bay Free Zone, and is not in direct competition with CWJ. The FCC's published information shows that the accounting rate between the USA and JDI is currently US\$0.20 with a settlement rate of US\$0.10, very much smaller than CWJ's settlement rate of US\$0.625.

- 4.35 JDI's international network cost should be similar to CWJ's, because they use similar facilities. CWJ can be expected to incur a higher national network cost, because JDI's serving area is contained just in the Free Zone, whereas CWJ may be delivering an incoming international call to anywhere in Jamaica. But it seems clear that causally related national network costs are small in terms of cents per minute – BT has a much larger serving area than CWJ, but its national network cost is about 1 US cent per minute. This broad level of cost is consistent with cost information and interconnection charges in other countries that have the type of modern digital switching and transmission equipment that CWJ has deployed in its network. Therefore, the difference between JDI's and CWJ's causally related costs of terminating international calls should not be large.
- 4.36 As long as the JDI settlement rate with the USA is not below cost (and there seems no clear reason why it should be), it suggests that the settlement rate between CWJ and the USA could be as much as US\$0.50 in excess of the causally related costs of terminating international calls. When in the later discussion, settlement rates are referred to as 'Jamaica's' this should be understood to mean those in CWJ's agreements.
- 4.37 Many commentators, regulators and international organisations consider that settlement rates should reflect the costs of terminating international calls (see Chapter 5 and Annex B for a fuller discussion). Typically, in their view of relevant costs, such commentators would exclude the costs of providing telephone lines, which are not causally related, because such costs do not vary with the number of calls received or made (they depend upon the number of lines). For example, the costs of lines are not part of BT's costs shown in Table 4.8. Where there are references in this document to the costs of terminating calls, the costs of lines are similarly excluded. However, this is not to pre-judge the issue of whether or not the settlement rate should make a contribution to the recovery of the costs of lines. Some commentators, especially in developing countries, consider that settlement rates should make such a contribution, in order to sustain unbalanced tariffs and promote the achievement of universal service. The use of terminology is not uniform - sometimes this approach to settlement rates is described by proponents as being 'cost based', where the costs of lines are considered by them to be relevant costs.

#### **Prices of outgoing international calls**

- 4.38 The settlement rate is one of the main determinants of the price charged by CWJ for an outgoing international call, and settlement rates high relative to cost partly explains the high prices charged by CWJ. Table 4.9 shows CWJ's prices for calls to the USA and the UK – they may be compared to the settlement rate of about US\$0.63 per minute for both countries. The settlement rate is not the only cost incurred by CWJ (see Figure 4.1): there are the network costs of originating the call and taking it up to the notional mid-point of the international circuit; and there are associated retail costs, such as billing and marketing. The OUR has no direct information on either element of cost to CWJ.

**Table 4.9: CWJ's prices per minute for calls to USA and UK**

	Full (peak)		Reduced (off-peak)	
	J\$	US\$	J\$	US\$
USA Zone 1	34.05	0.95	25.89	0.72
USA Zone 2	48.20	1.34	40.41	1.12
UK	48.20	1.34	48.20	1.34

Source: OUR from CWJ price list

Notes: Prices are per minute for direct dialled calls.  
The reduced charge applies between 6pm and 5am, Monday to Saturday, and all day Sunday.  
The exchange rate used to convert to US dollars is 1 US\$ = 36 J\$.

4.39 The off-peak charge for calls to USA Zone 1 is relatively close to the settlement rate. The other five charges comfortably exceed the settlement rate, by between about 30 and 70 US cents per minute (approximately J\$10-25). From the size of this difference it can be expected that the margin over the settlement rate is generally likely to exceed the network and retail costs to CWJ in originating the call. But confirmation of this proposition and quantification of the extent of profitability of outgoing international calls will require access to relevant and robust cost information.

*Relative profitability of incoming and outgoing calls*

4.40 Given that key cost information is unavailable, no attempt is made to estimate the absolute profit per minute. But some indication can be obtained of the relative profit per minute of outgoing and incoming international calls to and from each of the USA and the UK, as shown in Table 4.10.

4.41 There are three types of cost for which the OUR has no Jamaican information. First, the cost of CWJ's international network. In Table 4.10 the cost to and from the USA is denoted by A, and the cost to and from the UK is denoted by D. Since the same facilities are generally used in each direction, an operator's cost of international switching and transmission facilities on a particular route can be expected to be very similar for origination as for termination.

**Table 4.10: Illustration of CWJ's relative profit per minute on incoming and outgoing calls to the USA and the UK in US\$**

	Incoming from USA	Outgoing to USA		Incoming from UK	Outgoing to UK
		Zone 1	Zone 2		
Revenue per call minute (settlement rate for incoming; average price for outgoing)	0.625	0.84	1.23	0.63	1.34
Cost per minute of international switching and transmission	A	A		D	D
Settlement rate payment to foreign operator	-	0.625		-	0.63
Domestic network cost	B	B		B	B
Retail and other costs (eg billing, marketing)	-	C		-	C
<b>Total</b>	<b>0.625-A-B</b>	<b>0.215-A-B-C</b>	<b>0.605-A-B-C</b>	<b>0.63-D-B</b>	<b>0.71-D-B-C</b>

Source: OUR from information in Tables above



Note:

The figures shown for revenue per call minute for outgoing calls to the USA are derived as simple averages of the prices per minute for full and reduced charges (in the absence of information on the appropriate weights to compute a weighted average).

- 4.42 A second type of cost incurred by CWJ will be the use of its domestic network on both incoming and outgoing calls – this is denoted by B. For simplicity, it has been assumed that the domestic network cost is the same for all types of call. This is a reasonable assumption in the absence of better information (the sort of relevant information would be, for example, that (say) calls to the USA originate on lines in Jamaica further from the international switch than the lines on which calls from the USA terminate). In any case, the variation in this cost is likely to be small (even if not small in proportionate terms, small in terms of cents per minute).
- 4.43 The third type of cost relates to retail costs, which are only incurred on outgoing calls, not incoming calls (for which CWJ does not bill the customer) – this is denoted by C. For simplicity, this cost is assumed to be the same for calls to the USA and the UK. In practice, there might be differences between these costs. However, such differences would not affect the point being made, namely, the relative profitability of outgoing and incoming calls to and from a particular country.
- 4.44 Even though the amounts A, B, C and D are not known, some inferences can be drawn. In both cases the same (or very similar) international and domestic network costs are incurred. But in the case of the outgoing call, an additional retail cost (C) is incurred. Perhaps more importantly, on an incoming call the settlement rate (\$0.63) is CWJ's revenue per minute, whereas on an outgoing call the settlement rate is paid out to the foreign operator. A key determinant of which direction of call is more profitable to CWJ, therefore, is whether the settlement rate (on an incoming call) is larger or smaller than the collection charge less the settlement rate (on an outgoing call). For USA Zone 1, the former comfortably exceeds the latter, so it can be inferred that incoming calls from the USA are more profitable to CWJ than outgoing calls to the USA Zone 1. The same appears to be true for USA Zone 2, although the relative profitability is much closer. On the other hand, outgoing calls to the UK may be more profitable to CWJ than incoming calls from the UK (unless the retail cost, C, is larger than \$0.08).

### Conclusions on the Current Structure of Prices

- 4.45 In the absence of Jamaican cost data, other types of information and comparisons have been used to attempt to assess whether and to what extent the current structure of tariffs is unbalanced. The OUR draws the following preliminary conclusions from the discussion and evidence presented in this Chapter:-

#### *Domestic tariffs*

- There is some evidence to support the contention that at least some domestic telephone services are provided by CWJ at prices appreciably below cost, especially the line (see Tables 4.2 and 4.3).
- But the question of the existence and extent of the imbalance, will only be resolved when relevant and robust information on the costs of services in Jamaica is available.

#### *Incoming international calls*

- Since CWJ's settlement rates appear to be well above the costs of terminating international calls (see Tables 4.7 and 4.8), it earns a significant profit from incoming international calls.

#### *Outgoing international calls*

- The high settlement rate (see Table 4.7) is one important reason for the high price of outgoing international calls, but it is not the only factor, since prices (collection charges) are generally significantly above settlement rates (see Table 4.9), at least for the major destination countries for which settlement rate information is available: the USA and the UK.
- There is therefore some evidence to suggest that the prices for outgoing international calls exceed the costs to CWJ.

***Q4.1 Please explain, giving reasons, whether or not you agree with the OUR's preliminary conclusions on the relationship of the current structure of telephone prices to costs?***

***Q4.2 What additional evidence should the OUR use to assess the existence and extent of unbalanced tariffs in Jamaica?***

#### *Sustaining unbalanced tariffs*

- Since incoming international calls are profitable for CWJ, foreign consumers, especially in the USA and to a lesser extent in the UK (and Canada and the rest of the Caribbean, if settlement rates for these routes are also above cost) are important contributors to sustaining the current tariff structure. This arises simply from settlement rates being above cost and does not depend on there being any net traffic inflow to Jamaica (eg the conclusion would still be correct even if Jamaica had as many outgoing as incoming calls).
- Some Jamaican consumers may also contribute, if outgoing international calls are profitable and if such consumers make a sufficiently large volume of international calls to more than offset losses from any pricing below cost of the domestic services they consume.
- But the overall contribution to unbalanced tariffs from Jamaican consumers is likely to be much smaller than for foreign consumers, because there are far more incoming international call minutes than outgoing (see Tables 4.4, 4.5 and 4.6), and incoming calls may be more profitable than outgoing calls (see Table 4.10).
- Therefore, any significant decline in the settlement profits from incoming calls is likely to require significant increases in the prices paid by Jamaican consumers (given that CWJ is subject to rate of return regulation).

***Q4.3 Please explain, giving reasons, whether or not you agree with the OUR's preliminary conclusions on how unbalanced tariffs are sustained?***

- 4.46 To some it may seem an unsurprising conclusion that international call profits sustain the relatively low prices of domestic telephone services. But such a blanket statement hides many important features that the discussion in this Chapter has sought to bring out. Also, no cost information has been provided to enable the assertion to be fully assessed, or to quantify the extent to which it may occur. As discussed in Chapter 8, one of the key tasks to progress the issue of tariff rebalancing will be the investigation of relevant and robust cost information. The OUR intends that the results of that investigation will form a major element of the second Consultative Document proposed on this topic. It will not be possible to reach firm conclusions on rebalancing for Jamaica until the existence and extent of unbalanced tariffs is properly established.

## CHAPTER 5: EXTERNAL PRESSURES FOR SETTLEMENT RATE REDUCTIONS

### Introduction

- 5.1 Why should Jamaican telephone prices be rebalanced? There are two main reasons why some rebalancing of tariffs may be either necessary or desirable:-
1. As discussed in Chapter 4 there is some evidence to suggest that the profits earned by CWJ for terminating incoming international calls are major contributors towards the recovery of the costs of those domestic services whose prices are below cost. But there is increasing pressure from a number of sources for the payments for terminating international calls worldwide - based on the accounting rate system - to fall, as it is generally accepted that they are currently well above cost. If there was to be a significant reduction in the profit earned by CWJ for terminating incoming international calls; the prices of other telecom services in Jamaica would have to rise.
  2. Even putting to one side possible reductions in accounting rates, it is likely that a degree of tariff rebalancing for some consumers would be desirable. Unbalanced tariffs are to the disadvantage of some consumers, such as those that make or wish to make a significant volume of international calls.

The first reason is explained and discussed in this Chapter; the second reason is the subject of Chapter 6.

- 5.2 There are two types of development that may materially affect the system of accounting rates and the level of settlement rates. The first type, which is discussed in this Chapter, concerns the efforts of international organisations and national regulators to encourage or require changes. The second type relates to 'alternative calling procedures', including ways in which technology may currently and in future enable arbitrage opportunities within the accounting rate system to be exploited, and the bypass of accounting rates - this is discussed in Annex C.

### Liberalisation and the WTO

- 5.3 In February 1998 the World Trade Organisation (WTO) Agreement on Basic Telecommunications Services became effective, with seventy two countries, including Jamaica, as signatories. The signatory countries account for about 95% of the global revenue in basic telecoms services. The agreement will serve generally to increase the liberalisation of telecoms services worldwide by, for example, facilitating the entry of foreign suppliers and investors. But there is significant variation in the liberalisation commitments made by the different signatory countries. The Schedule of Specific Commitments made by the Jamaican Government is attached at Annex A, including the WTO Reference Paper on Regulatory Principles that has been adopted by fifty seven countries, including Jamaica.
- 5.4 For those international routes where liberalisation in international facilities is occurring (or has already taken place) in countries at both ends of the route, there is the prospect that accounting rates will increasingly be driven towards cost by the pressure of competition. Accounting rates may also be replaced (if permitted by regulators) by other types of arrangement, such as end-to-

end provision of international calls by a single operator that has a network in and between both countries, or the handing over of international traffic inside the far-end country, so that normal domestic interconnection arrangements apply rather than the accounting rate system. Jamaica's liberalisation commitments to the WTO do not yet include the introduction of competition in international facilities. However, the Government has indicated that it intends to improve its WTO commitments.

### **The FCC's Benchmarks Order**

- 5.5 The accounting rate system is of greatest concern to those countries that have a substantial net settlement deficit. Such countries experience a net outflow of funds, paying out to operators in foreign countries far more in settlement payments than they receive, because they make more outgoing calls than receive incoming calls. Some consider that, since accounting rates exceed costs, this represents an unwarranted transfer of wealth and welfare from their own consumers to the inhabitants of foreign countries.
- 5.6 Whilst various countries that suffer net settlement deficits have sought ways to encourage and apply pressure for accounting rates to fall closer to cost, the US telecoms regulator – the FCC – has chosen to adopt a public and unilateral approach to seek to require such reductions, through its 1997 Benchmarks Order. The FCC's Order is of interest to all countries because it applies to US licensed operators on all of the international routes on which they operate. But it is of particular importance to Jamaica, because its potential impact on Jamaica could be huge. This arises from Jamaica's apparent dependence on profits from the accounting rate system to sustain its existing tariff structure, because the great majority of incoming international call minutes to Jamaica comes from the USA (see Chapter 4), and because of the scale of the reductions in the settlement rate that the FCC is proposing (see below).
- 5.7 A short summary of the FCC's position is set out below. A fuller presentation of the debate, including the FCC's published information relating to Jamaica, and the main objections lodged by various operators and commentators is at Annex B.
- 5.8 The FCC considers that settlement rates above cost lead to artificially high international calling prices for US (and foreign) consumers. It has adopted the Benchmarks Order in the attempt to bring settlement rates closer to cost. In the FCC's view, this will result in much lower prices paid by consumers for international calls, which in turn will stimulate significant increases in traffic volumes.
- 5.9 The FCC's Order sets out benchmark figures for each country with which the USA has telecoms traffic. By dates laid down in the Order ('transition periods'), US licensed operators will be required to pay a settlement rate no higher than the benchmark figure specified by the FCC for the relevant country. Countries have been classified into four categories using their Gross National Product (GNP) per head. Benchmark rates were derived for each category separately, and each has a different transition period. In the FCC's view, this categorisation provides a reasonable indicator of a country's ability to make the transition to settlement rates that are closer to costs. The FCC's benchmarks and the dates by which they are to be achieved are shown in Table 5.1. Jamaica falls into the lower middle income category.

**Table 5.1: FCC's benchmark settlement rates in US cents per minute**

<i>Country category</i>	<i>Benchmark rate</i>	<i>Date by which to be achieved</i>
Upper income	15	1 January 1999
Upper middle income	19	1 January 2000
<b>Lower middle income</b>	<b>19</b>	<b>1 January 2001</b>
Lower income	23	1 January 2002 1 January 2003 (for countries with less than one line per hundred inhabitants)

Source: FCC

- 5.10 The FCC's benchmark settlement rate for the category including Jamaica, 19 cents per minute, is substantially below the current settlement rate of 62.5 cents per minute. So, a reduction in the settlement rate of some 70% would be required to achieve the benchmark figure. According to the FCC's transition period, this reduction would have to occur within a period only just over two years from now.

### **International Telecommunications Union (ITU)**

#### **Recommendation D-140**

- 5.11 Accounting rate agreements are bilaterally negotiated under regulations and recommendations issued by the ITU-T (Telecommunication Standardization Sector of ITU). It is part of the ITU's constitution that its membership should work together for "the establishment of rates at levels as low as possible consistent with an efficient service". In 1992 the ITU adopted recommendations (denoted "D-140") that accounting rates should be cost orientated and non-discriminatory. It was also recommended that reductions to achieve such rates should be agreed normally over a period of one to five years.
- 5.12 A subsequent amendment to D-140 earlier this year recommended that accounting rates, after deduction of any allowance for transit, should be less than 1 Special Drawing Right (SDR) per minute by the end of 1998. With a 50/50 division this corresponds to a settlement rate of about 67 US cents. It was further noted that the 50/50 division of the accounting rate might be altered in order to cushion revenue reductions for countries that might have adjustment difficulties, but only in the context of an agreement to achieve cost orientated rates.<sup>8</sup>
- 5.13 Since 1992 there has been a general tendency for accounting rates to fall over time, on average by 9% per annum worldwide. But costs have also been falling with rapid advances in telecoms technology. It is not clear that decreases in all accounting rates have kept pace with the cost decreases, so it is possible that the gap between some settlement rates and cost is not narrowing. The ITU's current view is that, on a cost orientated basis, few settlement rates should be in excess of 25 US cents per minute.

<sup>8</sup> A copy of D-140 may be obtained from [www.itu.int/insect/itu-t/d140/d140\\_e\\_rev.htm](http://www.itu.int/insect/itu-t/d140/d140_e_rev.htm)

## Focus Group

- 5.14 The ITU has set up a Focus Group to develop proposals for transitional arrangements towards cost orientated settlement rates. A recent working document (dated 25 August 1998) produced by the Chairman of the Focus Group sets out proposals for amendments to ITU Recommendation D-140. These proposals have not yet been adopted and might be modified or rejected following discussion. The ITU-T Study Group 3 will consider the Chairman's Working Document in December when a decision may be taken whether or not to amend D-140. The Chairman's proposed approach identifies six categories of countries by tele-density (lines per 100 inhabitants) and for each category there is a specified target settlement rate, which it is proposed be achieved by the end of 2001. The targets were derived by taking an average of the five lowest published settlement rates in each category. The target settlement rates are shown in Table 5.2. Jamaica falls into the tele-density category of 10-30 lines per 100 inhabitants (countries have been classified by their tele-density in 1996 when Jamaica's was 14.17).

**Table 5.2: ITU Focus Group - Chairman's Proposed Approach**

<i>Tele-density</i>	<i>Less than 1</i>	<i>1-5</i>	<i>5-10</i>	<i>10-30</i>	<i>30-40</i>	<i>More than 40</i>
Target settlement rate in SDRs	0.344	0.300	0.257	<b>0.221</b>	0.164	0.063
Target settlement rate in US cents	46	40	34	<b>30</b>	22	8

Source: OUR from ITU-T Study Group 3 Focus Group – Chairman's Working Document (version: 25 August 1998)

Note: Targets are specified in SDRs. Conversion to US cents uses the exchange rate 1 SDR=US\$1.34. The Working Document is available on [www.itu.int/sg3focus](http://www.itu.int/sg3focus)

- 5.15 In the Chairman's proposed approach it is recommended that the target rates be achieved by reductions of no less than 12% per annum from current settlement rate levels. This figure is the global average achieved over the last three years. It is proposed that the rate of reduction could be greater than 12% where settlement rates exceed the target rate by more than 50%. The rate of reduction should be less than 12% where there is significant dependence on a net settlement surplus, eg where the surplus is more than 10% of total telecoms revenue. The general guidance provided is that the rate of reduction be no less than 5% and no greater than 20% per annum. In making such adjustments, the Chairman also notes that deviations from the 50/50 division of the accounting rate into settlement rates may be possible to allow an acceleration of accounting rate reductions or (as in D-140) to cushion declines in the net settlement surplus.

### Jamaican settlement rates

- 5.16 How does the recent experience of CWJ's accounting rates compare with the ITU's recommendations, its data on global settlement rate reductions, and the draft proposals and advice? A comparison is shown in Table 5.3. The settlement rates with the USA and the UK already comply with the formal recommendation in D-140 that the settlement rate be below 0.5 SDR by the end of 1998. But the rate of decline in the settlement rate with the USA (derived from data published by the FCC – see Table 5.4) has been less than the global rate of decline.

**Table 5.3: Performance of Jamaican settlement rates against ITU recommendations, data on settlement rate reductions, draft proposals and advice**

<i>ITU recommendation, data, proposal etc</i>	<i>Status</i>	<i>Figure</i>	<i>Performance of Jamaican settlement rates</i>
ITU-T Recommendation D-140	Formal Recommendation	0.5 SDR (about 67 US cents)	Already achieved – CWJ's rates with USA and UK both about 63 US cents.
Global average reductions since 1992	Based on data on settlement rates worldwide submitted to ITU	9% per annum	CWJ's rate with USA has fallen by only about 3% per annum (see Table 5.4).
Global average reductions in the last three years	Based on data on settlement rates worldwide submitted to ITU	12% per annum	CWJ's rate with USA has fallen by only about 4% per annum (see Table 5.4).
Focus Group Chairman's proposed target rate	Proposed amendment to D-140 by Chairman of Focus Group	30 US cents	CWJ's rates with USA and UK more than 2 times larger. Jamaica Digiport rate with USA (10 US cents) already comfortably below target rate.
ITU view of maximum for cost orientated rate	View of ITU staff	25 US cents	CWJ's rates with USA and UK 2.5 times larger. Jamaica Digiport rate with USA already comfortably below this figure.

Source: OUR from ITU, FCC and OFTEL

- 5.17 CWJ's current settlement rates with the USA and the UK are more than two times larger than both the target rate for the end of 2001 proposed by the Chairman of the Focus Group and the ITU's view of the maximum cost orientated settlement rate. However, the settlement rate that Jamaica Digiport International has with the USA already complies with the draft proposal and advice.

**Table 5.4: Accounting rate between USA and Jamaica (CWJ), 1990-1998, in US\$**

Year	Accounting rate in US\$
1992	1.55/1.40
1993	1.50/1.40
1994	1.40
1995	1.40
1996	1.30
1997	1.25
1998	1.25

Source: FCC

#### Other International Organisations

##### Caribbean Telecommunications Union (CTU)

- 5.18 The CTU is an inter-governmental organisation of states in the English-speaking Caribbean. It recognises the need for Caribbean countries to start positioning themselves to deal with the

complex matter of settlement rate changes and telephone tariff rebalancing and has discussed the matter, for example at the CTU/ITU 4<sup>th</sup> Annual Policy Seminar (28<sup>th</sup> June - 3<sup>rd</sup> July 1998) in Nassau, Bahamas. No common position on settlement rate reform and tariff rebalancing has yet been adopted by the CTU's Members and the CTU has taken no formal position on the matter.

### **Inter-American Telecommunication Commission (CITEL)**

- 5.19 CITEL is an entity of the Organization of American States (OAS), an inter-governmental organisation of 35 Member States in the Americas. CITEL has set up an Ad Hoc Working Group to examine the issue of settlement rate reform. A proposal for a call termination fee to replace settlement rates has been put forward by Telecommunications Services of Trinidad and Tobago Limited (TSTT).<sup>9</sup> The proposal is that the fee would be non-discriminatory, transparent and cost oriented. The fee would not be bilaterally negotiated, but would be the same for traffic from all countries outside a regional grouping (such as the Caribbean), for which there might be a different fee. The level of the fee and the methodology on which it was based would be made available to all interested parties. The fee would cover the cost of terminating international calls, but might also include contributions to the recovery of the costs of network expansion and of universal service. The concept of a termination fee has received some support within CITEL, but the details of exactly what the fee would constitute are yet to be agreed upon and are still under active consideration at various regional fora.

### **Conclusion**

- 5.20 There is some similarity in the potential effect of the proposals from the Chairman of the ITU's Focus Group and the FCC Benchmarks Order. If implemented, both would require substantial reductions in CWJ's settlement rates: respectively, a reduction of just over 50% in the rate with the USA (and UK) by the end of 2001 and of about 70% by the start of 2001. But there are also important differences between the approaches, notably that whilst the ITU's developing proposals are within the framework of multilateral and bilateral relations, the FCC's approach is unilateral. Also, the ITU Focus Group target rates are at present draft proposals, whereas the FCC has already issued its Benchmarks Order.
- 5.21 As discussed in Chapter 4, incoming calls, especially from the USA, are a major source of profit for CWJ that is used to sustain the current structure of tariffs for domestic telephone services in Jamaica. To achieve either the target rate proposed by the Chairman of the ITU's Focus Group or the FCC's benchmark would require a very large reduction in CWJ's settlement rates. It might be argued that this would be offset by volume increases, as for example in the 1990s Jamaica's net settlement surplus with the USA has continued to exhibit strong growth (see Table 4.6) despite a steady decline in the settlement rate (see Table 5.4). However, the scale of the reductions proposed are far in excess of historical declines, so the past may not be a sound indicator.<sup>10</sup>

<sup>9</sup> For further details of TSTT's proposal see its paper at [www.tstt.net.tt/tt-rates-reform/tt-rates-reform.html](http://www.tstt.net.tt/tt-rates-reform/tt-rates-reform.html)

<sup>10</sup> Also, the increase in the net settlement surplus could have arisen in part from an increase in USA traffic to Jamaica *relative* to traffic from Jamaica, as well as from absolute increases in traffic from the USA.



- 5.22 The volume increases that would be required to prevent a reduction in Jamaica's settlement revenue from the USA, if the target settlement rate proposed by the Chairman of the Focus Group or the FCC's benchmark rate was to be achieved, are straightforward to calculate. In the case of the target settlement rate, the volume of incoming call minutes to Jamaica from the USA would have to more than double ( $62.5/30=2.1$ ); in the case of the FCC's benchmark rate, there would need to be a more than threefold increase ( $62.5/19=3.3$ ). An even larger volume increase would be required to prevent a decline in the profit earned on incoming calls from the USA, since additional costs would be incurred to supply the increased volume. The provision of such substantial additional capacity to serve the increased demand might present a transitional problem.
- 5.23 The size of the increase in demand by US consumers for call minutes to Jamaica will depend upon the size of the reductions in US carriers' collection charges that should follow from settlement rate reductions. Such enormous volume increases as identified above are possible, but would seem unlikely, at least in the short run even if not over the longer run. Hence, it appears that, if either the target rates were to be adopted and implemented or if the FCC's Order was to be enforced and to result in reductions in Jamaica's settlement rate with the USA to the benchmark figure, significant tariff rebalancing would be forced upon Jamaica. Under an optimistic scenario this might only need to be transitional, if there were sufficiently large volume increases in response to greatly reduced prices. Otherwise the rebalancing might be permanently required.
- 5.24 If all relevant prices were to be rebalanced, collection charges (the retail prices for outgoing international calls) would fall in line with the settlement rate, and the prices of domestic services – the line rental and connection charges (and possibly intra- and inter-Parish calls) – would increase appreciably. One possibility would be to leave the collection charges unchanged. This would greatly increase CWJ's profit per minute of outgoing international calls (because the settlement outpayment would have fallen substantially). Put another way, it would greatly increase the misalignment between price and CWJ's cost for outgoing international calls. Even so, given the large net inflow of international traffic to Jamaica, keeping collection charges unchanged would reduce, but might not prevent, the need for significant increases in the prices of domestic services.
- 5.25 If the target rates were adopted as recommendations by the ITU they would potentially directly affect all international routes (if implemented by member countries). The FCC's Order would ostensibly only affect the settlement rate with the USA. However, it is quite possible that a reduction in the settlement rate with the USA would force reductions in Jamaica's settlement rates with other countries. This is because foreign operators might seek to exploit the arbitrage opportunities created. For example, it might become significantly cheaper to route traffic originating in other countries through the USA rather than directly to Jamaica, with the result that relatively little traffic might end up paying the settlement rate specified for the direct route. These arbitrage opportunities are discussed further in Annex C. If this scenario was accurate, all of Jamaica's settlement rates would fall substantially, not just the rate with the USA, and the extent of the rebalancing exercise forced upon Jamaica would be increased.

**Q5.1** *Do respondents consider that a reduction in Jamaica's settlement rate with the USA either to the level of the target rate proposed by the Chairman of the ITU's Focus Group or the*

***FCC's benchmark rate would force significant increases in the prices of domestic services in Jamaica? Please explain the reasons for your view.***

5.26 In the case of the FCC's Benchmarks Order, some commentators have suggested that in the event settlement rates will not be forced down to the benchmark level. First, some suggest that the FCC will pull back from taking action to enforce its Order and that consequently US carriers will be able to agree settlement rates above the benchmark level even after the end of the transition period. Second, it is claimed that the FCC does not have the legal power to enforce its Order, which it is argued amounts to 'extra-territoriality', ie imposing settlement rates on foreign operators that are outside of its jurisdiction. Cable & Wireless PLC is seeking a ruling on the validity of the FCC's Benchmarks Order in the United States Court of Appeals for the District of Columbia Circuit. The Caribbean Association of National Telecommunication Organizations (CANTO), of which CWJ is a member, has also joined in the legal action. Third, it is suggested that even if the FCC was to require US operators to pay no more than the benchmark settlement rate, the foreign operators might refuse to accept any settlement rate that was not significantly higher (eg closer to or equal to the current settlement rate). In these circumstances there would be an impasse, and it is not clear what would happen.

***Q5.2 Do respondents consider that substantial reductions in settlement rates in the near future because of pressures from the FCC or the ITU will be avoided and, if so, why?***

5.27 The OUR does not take a position at this stage on the appropriateness or otherwise for Jamaica of substantial settlement rate reductions, until there has been a fuller consideration of the pros and cons – see the discussion of this question in Chapter 6. However, the OUR does not support the FCC's attempt to use a unilateral approach to agreements that are bilaterally negotiated. The OUR does not choose to make a prediction about the success or otherwise of efforts by the FCC, the ITU and other international organisations to reduce settlement rates in the near future. However, it considers that it is necessary for Jamaica to be prepared for substantial rebalancing of tariffs that could be forced on it by reductions in settlement rates.

***Q5.3 Do respondents agree with the OUR that preparations should be made now to develop the regulatory framework to cope with future possible settlement rate changes?***

## CHAPTER 6: POSSIBLE BENEFITS OF REBALANCING

### Introduction

- 6.1 One view of high accounting rates is that they are of great benefit to Jamaican citizens, because they enable the prices of domestic telephone services to be offered at prices that are relatively low or below cost. Also, the large net inflow of international calls to Jamaica means that a significant amount of money flows into Jamaica from abroad. In this chapter, it is considered why high accounting rates and unbalanced tariffs are not uniformly advantageous for businesses and consumers in Jamaica.
- 6.2 There are three types of reason why high settlement rates and unbalanced tariffs might not benefit some Jamaican consumers:-
1. Some consumers suffer from the high prices of international calls arising from high settlement rates.
  2. Some consumers would prefer to be on a more rebalanced tariff (even taking the level of the settlement rate as given).
  3. Some consumers could afford to be on a more rebalanced tariff.

Each of these is discussed in turn below. The ways that tariffs might be rebalanced are discussed in Chapter 7.

### High Settlement Rates: Cost or Benefit?

- 6.3 Critics of the accounting rate system argue that it would be in the interest of world economic welfare for settlement rates to be closer to the costs of terminating international calls. High settlement rates result in high prices to consumers for international calls in both of the countries on the international route. In general, prices that are high relative to cost are economically inefficient. Looked at in isolation, ie ignoring for the moment any consequential effects that there might be on domestic prices or network development, consumers in both countries would be better off, if settlement rates and retail prices for international calls were lower.
- 6.4 Reaping these consumer benefits might also be expected to result in 'multiplier' effects, leading to additional benefits. For example, telecoms is an increasingly important business tool, used as a vital input in a wide cross-section of industries – the Government has explicitly recognised the importance of telecoms to the infrastructure of the country in its National Industrial Policy. If Jamaican collection charges are higher than average or higher than the countries with which it competes, its international competitiveness is adversely affected. Lower collection charges would feed through into lower business costs, especially for large users such as businesses in the tourism and financial service sectors. So, if businesses were able to make (and receive) cheaper international calls, benefits would be expected to accrue in terms of the stimulation of international trade, improved international competitiveness, enhanced economic development and increased economic growth.

6.5 The Montego Bay Free Zone provides a very relevant case study to explore the nature and size of the possible benefits to Jamaica from cheaper international calls. Telecoms services are provided to the Free Zone by Jamaica Digiport International (JDI), which as noted in Chapter 4 has a much lower settlement rate with the USA (10 US cents per minute) than CWJ (62.5 US cents per minute). JDI's collection charges are consequently appreciably lower than CWJ's, ranging from 56 US cents per minute down to 12.5 US cents per minute depending upon the volume of call minutes (according to a published schedule). CWJ's collection charges to the USA are all in excess of 70 US cents per minute, and the highest, for Zone 2 during the peak period, is more than 130 US cents per minute – see Table 4.9.

6.6 The Montego Bay Free Zone competes against a range of other countries to attract businesses to Jamaica, primarily from the USA. The types of businesses for which the price and quality of telecoms may be an especially important factor are:-

- Tele-marketing, such as call centres (eg callers in the USA dialling a 1-800 number in the USA, routed on to a call centre in Jamaica).
- Data entry and processing, such as for insurance claims, surveys, bills of lading etc.

In their telecoms services, these businesses may use a mixture of leased circuits (full or fractional T1s) and switched calls – only the latter use the settlement rate system.

6.7 Telecoms price and quality are not the only factors attracting businesses to the Free Zone, nor typically the most important. The availability of a workforce, suitably well-educated and productive is essential. The Free Zone also offers advantages such as tax exemptions and access to duty free imports. But the relatively cheap and high quality telecoms service available appears often to be an important facilitating factor to encourage investment and employment in tele-marketing and data processing.

6.8 The main countries with which Jamaica competes when US companies are looking to locate tele-marketing or data processing overseas are shown in Table 6.1 alongside their settlement rates with the USA. A comparison of the collection charges that would be paid by large users in each country would be more relevant, but is not available to the OUR. However, whilst the pattern of collection charges need not be the same as the pattern of settlement rates, there is likely to be a degree of similarity.

6.9 The lowest settlement rate in Table 6.1 is for JDI in the Montego Bay Free Zone. However, the prices of leased circuits, which are not shown in Table 6.1 are also relevant. For example, many US business locating offices in Mexico might use a relatively cheap leased circuit to carry traffic across the border and not switched calls that are subject to the settlement rate. In such a case, the JDI settlement rate would be more in competition with the price of *domestic* US calls (typically significantly below 10 cents per minute) to connect to the leased circuit on the US side of the border, than against the Mexican settlement rate. Furthermore, factors other than telecoms are also very important, such as the quality, wage level and availability of labour. Nevertheless, it seems very likely that relatively cheap international telecoms services provided by JDI have encouraged inward investment into Jamaica from the USA.

**Table 6.1: Main countries competing for US overseas investment in tele-marketing and data processing and their settlement rates with the USA**

Country	Settlement rate with USA in US cents per minute
<b>Jamaica</b>	<b>10 (JDI) 62.5 (CWJ)</b>
<i>Other Caribbean</i>	
Antigua	40.5
Barbados	52.5
Dominican Republic	30 – 62.5
<i>Other regions</i>	
Costa Rica	35
India	79
Ireland	16
Mexico	35
Philippines	41 – 60
Sri Lanka	100

Source: OUR from FCC

- 6.10 It is not clear precisely how the experience of the Free Zone would apply, if much cheaper international calls than at present were available throughout the whole of Jamaica. On the one hand, there would not be the attractions for inward investment offered by duty free and tax exemptions in the Free Zone. But, on the other hand, the location of businesses would not be restricted to one small part of the country that may have particular problems, such as relatively high cost of housing. Also, the Free Zone experience is most relevant to inward investment, but lower telecom prices would reduce the cost base of all Jamaican businesses and potentially improve their international competitiveness. Organic growth in Jamaican businesses might thereby be facilitated.
- 6.11 In considering whether high settlement rates are of overall benefit to Jamaica, these costs (or lost benefits) of settlement rates remaining high would need to be set against the benefits to consumers of domestic telecom services from prices being low. Explicit quantification of these offsetting effects is far from straightforward – it would require a large amount of information and numerous assumptions. However, it is important to recognise that there are effects in both directions.
- Q6.1 What view (if any) do respondents have on whether Jamaica benefits or suffers overall from high settlement rates, and how has this view been arrived at?**
- Q6.2 What benefits would Jamaican businesses obtain from lower priced international calls, and what markets or services would be stimulated?**
- Q6.3 What types of businesses and services located in the Montego Bay Free Zone area have benefited from access to lower priced international calls? Specific examples and any quantification of the benefits in terms of Jamaican employment created, business growth etc would be especially welcome.**

## **Consumers Who Would Prefer a More Rebalanced Tariff**

- 6.12 As discussed in Chapter 4, it appears that high accounting rates are not the sole reason why prices for outgoing international calls in Jamaica are so high. There is some evidence to suggest that the prices of outgoing calls are likely to exceed the costs incurred by CWJ (only prices for calls to the USA and the UK were examined, because of lack of settlement rate data on other routes). This suggests that there is scope to reduce the prices of at least some outgoing international calls, even taking the settlement rate as given. But, since CWJ is subject to rate of return regulation, if its profitability from outgoing international calls was to fall, prices elsewhere would have to rise (or, even if cost reductions were achieved that meant that these prices would not have to rise, the result would still be prices higher than they otherwise would have been). However, there is some scope for this apparent 'circle' to be 'squared'.
- 6.13 The main reason why prices in excess of costs are economically inefficient is that they tend to result in a wasteful use of scarce resources (called a 'deadweight loss' in the economics jargon). One illustration of this waste is that a different tariff could be suitably designed that would make all consumers and producers better off. To use an everyday metaphor, the size of the cake can be increased so that everyone can have a larger slice.
- 6.14 One attractive way to achieve this desirable result is by using optional tariffs, ie tariff packages that consumers can choose to move onto if they wish. Optional tariffs have a particular attraction, because consumers would not choose to move onto the optional tariff unless they were made better off, and CWJ would not choose to offer the tariff unless it also gained. One caveat is that consumers can make mistakes in choosing the tariff package best suited to their demand pattern, but so long as these are easily correctible, ie no undue penalties are incurred in moving from one tariff to another, this is unlikely to be a major problem.
- 6.15 A more rebalanced tariff, involving higher fixed charges and lower international call prices, could be offered as an option. Some consumers would prefer such a tariff, because they make (or wish to make) a sufficiently large number of international calls to gain more from the call price reduction than the additional fixed charge payment. Since other consumers could always choose to remain on their existing tariff rather than moving onto the optional more rebalanced tariff, they would not suffer from the introduction of optional tariffs. But, in fact, they might benefit, because in addition to appealing to some consumers, optional tariffs (suitably designed) should be profit enhancing for the operator. Given that CWJ is subject to rate of return regulation, this could mean that the introduction of optional tariffs would lead to lower prices even for those consumers who choose not to take up the optional tariff. There is a fuller explanation of the effects of optional tariffs in Chapter 7.
- 6.16 Optional tariffs would provide consumers with choices. Furthermore, they offer the possibility that all consumers could be made better off, even those that do not take them up. For these reasons, the OUR considers that optional tariffs would be a welcome development in Jamaica.
- Q6.4** *Would it be desirable for optional tariffs to be offered in Jamaica? Please explain the reasons for your view.*

## Affordability, Targeting and the Distinction Between Universal Service and Unbalanced Tariffs

- 6.17 Unbalanced tariffs are sometimes seen as the embodiment of universal service or that the universal service obligation is the obligation to price the line rental (and possibly also domestic call prices) below cost. However, properly viewed, the OUR considers that this involves a confusion between ends and means. The objective (or end) is universal service, as the Government has set out in its recent Telecommunications Policy, that there be a line to all households in the country that wish to be connected to the network. An unbalanced tariff is one of the means that has historically been used in many countries to allow service to be affordable and so assist in the achievement of this end.
- 6.18 One reason why the distinction needs to be made is that unbalanced tariffs for **all consumers** can then be seen as an inefficient means to achieve the universal service objective (some other implications of the distinction between unbalanced tariffs and universal service are set out in Annex E). Scarce resources would be more efficiently utilised, if the pricing assistance that unbalanced tariffs can constitute were targeted at those consumers that have affordability difficulties. In the absence of targeting, the tariff faced by all consumers is distorted (relative to costs). One of the economic inefficiencies that such an approach introduces was discussed in the previous section, which concluded that some consumers would **prefer** to be on a (suitably designed) more rebalanced tariff. Another possible type of economic inefficiency is discussed further in this section, namely that many consumers could **afford** to be on a more rebalanced tariff, even if they would prefer not to be. This approach is likely to involve a trade-off between different groups of consumers (unlike optional tariffs, which are considered attractive by the OUR because they can yield benefits for all).
- 6.19 A trade-off is involved, because in general it would be more profitable for CWJ to supply telecom services on the basis of a more rebalanced tariff. Rebalancing would involve an increase in the fixed charges, such as the line rental, possibly some increases in the prices of intra- and inter-Parish calls, and reductions in collection charges (prices of international calls). If domestic calls are priced below (marginal) cost, one reason that rebalancing might be profitable is that the price increases for domestic calls can be expected to lead to a decrease in the volume of domestic call minutes, which are unprofitable to provide. Even if this was not the case, rebalancing would be expected to increase profits, because it is likely that the demand for international call minutes is more responsive to price (more 'price elastic') than the demand for domestic calls. This is a general result of studies that have investigated price elasticities in the demand for telephone calls in different countries. It means that, if there was the same percentage increase in domestic call prices as the decrease in collection charges, the volume of international call minutes would increase by proportionately more than the reduction in the volume of domestic call minutes. Hence, CWJ would lose less profit from reducing collection charges than it would gain from increasing the prices of domestic calls. (Indeed, if the magnitude of the elasticity of demand for international calls was sufficiently large, CWJ would gain profit increases from reducing collection charges). An important caveat is that this might not be the case, if the consumer, faced with the increased fixed charge, was to drop off the network. This is one reason why affordability is an important factor in determining those for whom rebalancing could be (economically) desirable. Chapter 7 contains a discussion of the ways in which rebalancing could occur for some consumers, whilst targeting assistance on those most in need.

6.20 If some consumers yield greater profits than before, other consumers obtain lower prices than they otherwise would have, given that CWJ is subject to rate of return regulation. If the tariff policy was suitably designed through the appropriate use of targeting, the consumers benefiting from these lower prices could be those with the greatest affordability difficulties. Or as an alternative to reducing prices, at the same rate of return for CWJ, telecom services could be extended to new households at affordable prices (even if this was unprofitable at the margin for CWJ – the question of funding for universal service is discussed in Annex E). One of the gains from putting some consumers on a more rebalanced tariff even if they would prefer to stay on a more unbalanced tariff is, therefore, that the goal of universal service could be achieved more rapidly and more efficiently. But, since it is an approach that would make some consumers worse off, it requires very careful consideration.

**Q6.5 Do respondents agree with the distinction that the OUR is drawing between universal service (the objective) and unbalanced tariffs (the means)? If not, please explain why not.**

### **Conclusion**

- High settlement rates and unbalanced tariffs – relatively expensive international calls and relatively cheap domestic services – benefit some Jamaican consumers, but are to the disadvantage of others.
- High prices for international calls are likely to act as a brake on economic development and growth, given the increasing importance of telecoms as a vital business tool.
- One way that the benefits might be preserved and the costs alleviated is the use of optional tariffs, which could be attractive to those consumers who would prefer to be on a more rebalanced tariff. But optional tariffs also have the potential, if suitably designed, to benefit not only those choosing to move onto the new tariff, but other consumers as well (because they can be profitable for the operator). The OUR considers that optional tariffs would be a welcome development in Jamaica.
- Other available options mostly involve trade-offs between groups of consumers. It is inappropriate to view the universal service obligation as requiring unbalanced tariffs for all. Many consumers could afford to be on much more rebalanced tariffs, and greater targeting of assistance on those who truly require it would promote the speedy and efficient achievement of universal service. However, if this approach was adopted, some of those consumers moved onto a more rebalanced tariff could be worse off.
- This case is independent of assumptions or predictions about reductions in settlement rates. But if settlement rate reductions were to occur, rebalancing might not be a voluntary choice – it could be forced upon Jamaica. If so, there is an argument that it should be achieved in a way that those with the most affordability difficulties suffer the least 'pain'.

**Q6.6 Should an approach of rebalancing tariffs for those that could afford it be actively pursued, or should it be considered only in circumstances of decreases in settlement rates?**

6.21 If the developments in settlement rates discussed in Chapter 5 result in the need for major rebalancing, it is unlikely that tariff schemes can be designed that meet licence obligations (such as CWJ's permitted rate of return), whilst making no consumer worse off. Hard choices will have to be faced – one of the purposes of this Consultative Document is for the OUR to obtain views



on how these choices should be made (Chapter 8 contains specific consultation questions on this point).

## **CHAPTER 7:     WAYS TO REBALANCE TARIFFS**

### **Introduction**

- 7.1 Chapters 5 and 6 discussed some possible reasons why tariff rebalancing, at least for some consumers, might be either necessary or desirable. Rebalancing would involve an increase in the line rental (and possibly also the prices of intra- and inter-Parish calls) and reductions in the prices of international calls. For some consumers this type of tariff change could mean an increase in their telephone bill. If rebalancing is to be contemplated, given the Government's long stated and recently reiterated goal that universal service be achieved, it is vital that those consumers who would genuinely be unable to afford a more rebalanced tariff are protected from significant increases in their telephone bills.
- 7.2 Three different possible ways are discussed in this Chapter that could allow tariffs to be rebalanced for some consumers, whilst ensuring that assistance was provided to those most in need:-
1. Optional tariffs, so consumers self-select their tariff.
  2. Criteria related to the consumer's income.
  3. Criteria related to the consumer's call volume.

### **Optional Tariffs**

- 7.3 Optional tariffs represent an attractive approach, because consumers are provided with choices and allowed to make their own decisions about the tariff best suited to their needs. Two types of optional tariff are discussed in this section: tariffs that would appeal to those who would prefer to be on a more rebalanced tariff; and tariffs that are designed to appeal only to those who have genuine affordability difficulties.

#### **Self selection of a more rebalanced tariff**

- 7.4 Consider an optional tariff of the type discussed in Chapter 6, in which consumers were offered lower prices per minute for making international calls (collection charges), if they agreed to pay a specified fixed charge per month (over and above the normal line rental). Such an optional tariff would not appeal to all consumers. It would be of most interest to those who make, or wish to make, a relatively large number of international call minutes. For these consumers the benefits from lower prices for international calls would exceed the payment of an additional fixed charge.
- 7.5 Those consumers that opted for the tariff can be expected to make a larger volume of call minutes in response to the lower price per minute, because more calls would be made and/or because calls would be of longer duration. Those consumers would benefit from this increased demand, and this would be the case even if their overall telephone bill was to go up. The value that consumers placed on the additional call minutes would more than exceed the bill increase – if consumers did not gain, they would not choose to make the additional call minutes (putting to one side for the present, the possibility of transitional mistakes by consumers).

- 7.6 The additional call minutes would be profitable to CWJ, so long as the collection charge was still to exceed the marginal cost (the additional cost that CWJ would incur for each additional minute). But CWJ's profit per minute of the volume of international call minutes that was previously made would be reduced, because the collection charge would be lower. However, its overall profit would increase, if the stimulation of additional international call minutes was sufficient to offset the reduced profit per minute on the previous volume of call minutes. Even if this was not the case, profit could still be increased, if the reduced profit on international calls was less than the additional fixed charge that the consumer would pay. Hence, this type of optional tariff (suitably designed) would benefit both consumers and CWJ.
- 7.7 Those who make, or wish to make, relatively few international calls would not opt for the tariff, because the payment of an additional fixed charge would exceed their benefits from the lower collection charges. However, even these consumers might benefit from the optional tariffs being offered. If the optional tariff was both attractive to some consumers and profitable for CWJ, there is the possibility that CWJ's rate of return might rise above its maximum permitted 20%. Or, in the context of falling settlement rates, the rate of return might be prevented from falling below the minimum permitted return of 17.5%. In either case, even those consumers not on the optional tariffs would benefit through prices lower than they otherwise would have been.
- 7.8 Optional tariffs of this type are very common in telecoms markets around the world. For example, there are many optional tariffs on offer in the USA – one example (AT&T's One Rate International Plan) is reported in Table C.1 of Annex C.

#### **Self selection of an unbalanced tariff**

- 7.9 Another very different type of optional tariff would be to offer the most unbalanced tariff in a way that was attractive only to those with affordability difficulties. The idea is that it would only be chosen by those who could not afford a more rebalanced tariff. One way to achieve this would be to combine the most unbalanced tariff with a level of service that was reduced in some way, which whilst it was adequate for the needs of those on whom it was targeted, it would not appeal to those without affordability difficulties.
- 7.10 A possible approach would be to allow groups of consumers in the same building to choose to have a shared line (at a shared line rental), rather than separate lines for each household. Another approach would be to have a tariff with a special low line rental which, for example, only allowed access to a line and incoming calls, but barred outgoing calls (apart from emergency calls and possibly some other types of call than incur no charge to the caller, such as toll free numbers). Or the unbalanced tariff might offer a limited number of outgoing calls per month.
- 7.11 A reduced tariff for a service involving the barring of (chargeable) outgoing calls was, for example, introduced in the UK last year, in the attempt to achieve universal service, ie to enable those consumers not currently on the network to be able to afford a telephone line. With such tariffs there could be a danger that 'second class' telephone consumers would be created. But the tariff was introduced in the UK following research into the specific needs and wishes of those not currently telephone subscribers, and had the strong support of consumer representation bodies. The concept is that the tariff will act as a 'stepping stone' for many of those who take it

up, ie they are attracted onto the network by the tariff, but may only remain on it for a transitional period, before choosing to move onto a tariff that allows them to make outgoing calls.

- 7.12 There is no presumption that this type of tariff would be profit enhancing for the operator that provided it. The motivation for introducing it, therefore, would be rather different than the first type of optional tariff considered. It would seek to ensure that the assistance provided by below cost tariffs is targeted on those with affordability difficulties and does not benefit those who could afford a more cost reflective tariff. The next two sections discuss alternative (or complementary) ways to achieve such targeting.

**Q7.1 How should the low price optional tariff be designed, so that it would only be selected by those with affordability difficulties?**

**Income Related Criteria**

- 7.13 A direct method to target those with affordability difficulties would be to link the telecoms tariff that a consumer was on to the household income. For example, the 'standard' tariff could be rebalanced, but a special unbalanced tariff would continue to be offered to those who met specified criteria. These criteria might be demonstration of household income below a certain level or other indicators, such as eligibility to receive food stamps.
- 7.14 There are schemes of this type in operation, for example, in the USA and Germany. In the USA the Lifeline Assistance Program provides support of up to US\$7 per month for qualifying consumers, and the Link-Up America scheme offsets one-half of initial connection fees (up to US\$30). Eligibility criteria can include participation in Medicaid, food stamps, Social Security Income, federal housing assistance or the Low-Income Home Energy Assistance Program.
- 7.15 One advantage of this approach is that it could be the best way to ensure that those with genuine affordability difficulties receive assistance, whilst excluding those who could afford to do without the assistance. A disadvantage is the potential administrative difficulties of implementing the approach. Experience with these types of schemes in other services and in other countries tends to suggest that take-up can be disappointing, say because of lack of information that the scheme exists. Also, if the scheme was to be administered by CWJ, some consumers might have concerns about revealing their household income to a private company. Or, there could be a different kind of error, such as fraudulent applications, so that many people without genuine affordability problems receive the assistance.

**Q7.2 What practical difficulties would arise from using income related criteria to determine eligibility for different tariffs and how might they be best avoided?**

**Criteria Related to Telecoms Usage**

- 7.16 A third possible way to target tariffs would be to relate eligibility for the tariff (or its attractiveness) to the volume of call minutes made by the consumer, or the volume of international call minutes made, or the call bill. This might be simpler to administer than income related criteria, since the operator can relatively easily observe the volume of calls or the call bill. It could be effective in

targeting assistance, if there is a good correlation between a low volume of these call minutes and affordability difficulties.

- 7.17 The UK provides an example of a tariff scheme, in which eligibility for a more unbalanced tariff is based on the call bill. The bottom twenty one percent of households by call bill are eligible for a tariff (called the "Light User Scheme") that involves a specially discounted line rental, but higher priced calls. It is designed so that consumers on the scheme always have a lower bill, given the number of calls they make, by being on it rather than the 'standard' (more rebalanced) tariff.
- 7.18 Another example is Latvia, which has recently introduced a similar type of tariff, involving a lower fixed charge than the standard tariff, but call prices twice the standard rate beyond a threshold number of call minutes. The scheme (though optional) is designed to appeal to (and provide assistance to) low volume users.
- 7.19 Research in the UK has suggested that there is some correlation between low telephone usage and low income, but that the correlation is far from perfect. If this approach was to be pursued, it would be helpful for research to be undertaken in Jamaica on this question.

**Q7.3 *Would telecoms usage criteria for determining tariff eligibility be effective in targeting assistance on those most in need?***

**Respective Roles of the OUR and CWJ**

- 7.20 Generally, it is for CWJ to propose tariffs and, where there is a need for regulatory involvement, for the regulator to accept, reject or modify them. This section considers some possible reasons for the regulator to be more closely involved in the design of tariffs. The reasons fall into two categories: first, the need for consumer safeguards, and second, arguments that there may be a divergence between the interests of CWJ and the national interest.

**Consumer safeguards**

- 7.21 One of the possible arguments against optional tariffs is that consumers might become confused and find themselves on the wrong tariff. Certain safeguards for consumers might therefore be required.
- 7.22 To make a sound choice, consumers need to be properly informed about each of the tariffs on offer and the implications for their particular calling pattern. It could be argued that, where there is a range of tariffs available, consumers should automatically be put on the one best suited to them, such as the one that results in the lowest bill for their number and type of calls made. There is a case for this approach, but it might not always be appropriate. One of the points of optional tariffs is that it is left to consumers to make the choice, because they have the most information about their actual and potential calling patterns. Also, a consumer's calling patterns can vary from month to month, or quarter to quarter, so the automatic approach could result in some consumers moving regularly from one tariff to another, which they might dislike or find confusing.

- 7.23 It should also be recognised that some consumers might make mistakes in choosing a tariff. Sometimes tariff schemes can have joining fees. Whilst there can be a good reason for such fees (eg to cover specific administrative costs incurred), there is a danger that consumers that made initial mistakes could be penalised. Consumers should be able to correct any initial mistakes, without facing an undue penalty.

#### **Possible divergence of interests**

- 7.24 There are four further reasons in principle why the closer involvement of the regulator might be considered in this context. First, the structure and type of tariffs offered have important implications for the achievement of universal service, in which there is scope for a divergence between the incumbent operator's private interest and Jamaica's national interest. For example, it is likely to be unprofitable to offer very unbalanced tariffs, particularly to consumers who are relatively low users and/or are likely to receive few incoming calls, especially international calls (which, as noted in Chapter 4, appear to be very profitable for CWJ). However, the promotion of universal service may require such tariffs to be offered to ensure affordability (the funding of universal service is discussed in Annex E).
- 7.25 Second, one possible tariffing approach would be to rebalance tariffs for some consumers who could afford to pay more cost reflective prices. Such an approach would have distributional effects, benefiting some consumer groups but harming others. It is not necessarily appropriate for the incumbent operator to be making decisions of this nature.
- 7.26 Third, there is the possibility that Jamaica as a whole is suffering through distortions to the incumbent's incentives, even if those distortions are created by regulation. For example, CWJ's licence issued in 1988 specifies that it will be subject to rate of return regulation. One disadvantage of this type of regulation (compared, for example, to price caps) is that the regulated company may be dissuaded from engaging in profit enhancing measures that are also in consumers' interests, because the additional profit earned might simply be immediately taken back through enforced price reductions. Optional tariffs for those who would prefer to be on a more rebalanced tariff may fall into this category.
- 7.27 Fourth, it is possible that tariffs which would be desirable for consumers are not offered, because of inefficiency on the part of the incumbent operator. Inefficiency can take the form not only of excessively high costs, but also not being properly responsive to consumers' demand. A different possible reason for certain types of tariff not having been introduced in the past, or possibly prevented from being introduced in the future, is the regulatory approval required by CWJ for changes to the prices under discussion. Through this consultation the OUR is seeking views on the types of tariffs that should and should not be approved.

#### **Q7.4 What should be the respective roles of the OUR and CWJ in developing tariffs for universal service and rebalancing?**

## Conclusion

- 7.28 The current set of tariffs offered by CWJ for fixed telephony services provides very little variation. Business customers pay a higher connection charge and line rental than residential consumers, but call prices are the same for all consumers, and there are no volume discounts or optional tariffs available. Chapter 6 provided some reasons why this lack of variation might be undesirable; this Chapter has discussed the ways in which the variation might be provided.
- 7.29 Some of the ways to rebalance tariffs and target assistance have possible associated problems. For example, some may target those with affordability difficulties imperfectly, either by failing to provide assistance to those who require it, or by providing assistance to some who do not require it. Others may raise administrative difficulties or costs. But, proponents would claim that these methods would represent an improvement on the current approach, in which consumers have no choice over their tariff, and assistance is not targeted at all.
- Q7.5 *In what ways could achievement of the universal service objective be best promoted, eg how should tariffs be designed to target those with affordability difficulties?***

## CHAPTER 8: THE WAY FORWARD

### Introduction

- 8.1 This document has sought to explain the nature of the rebalancing debate and its importance to Jamaica. Apart from some parts of Chapter 4, it has focused for the most part on qualitative issues, discussing the issues involved in the current structure of tariffs, the pressures and the possible benefits from rebalancing, the methods that might be used to achieve it, and the types of consequences that might be expected for different groups of consumers.
- 8.2 To assist the OUR to chart the way forward, the specific consultation questions asked in the earlier chapters address various more detailed aspects of the following broader questions:-
- How should Jamaica start to prepare for rebalancing that might be forced upon it by external pressures?
  - Should Jamaica actively pursue rebalancing even in the absence of such external pressures?
  - If the answer to either question is "yes", what mechanisms should be used to rebalance tariffs, in order to protect those consumers most in need of assistance?
- 8.3 The results of the OUR's careful consideration of the responses that it hopes to receive to the consultation questions will be reported in the second Consultative Document, which the OUR expects to publish next year. That document will also take further the quantitative analysis of the issues and put forward for consultation options and/or proposals for a Rebalancing Strategy for Jamaica.
- 8.4 The next section considers and invites views on the principles that the OUR should adopt in developing a regulatory framework for tariff rebalancing. Then the quantitative analysis that will feed into the second Consultative Document is discussed. The final section addresses the regulatory process and pulls together the threads of the discussion.

### Framework for the OUR's Considerations

- 8.5 In developing a regulatory framework for tariff rebalancing, what principles should the OUR take into account? The OUR's initial view is that the following principles are relevant:-
- **The interests of all groups of consumers should be taken into account**— In the context of tariff rebalancing one natural classification of consumers is the following:-
    - Those who benefit from the current structure of tariffs, because they make or wish to make relatively few international calls. This characteristic *may* generally be associated with residential consumers of below average income, and some types of business customer.
    - Those who suffer from the current structure of tariffs, because they make or wish to make a relatively large number of international calls. This *may* generally be associated with residential consumers of above average income and many business customers.
- Those who are potential future subscribers. In 1995 only 21% of Jamaican households had a telephone – although CWJ has significantly increased the number of lines since



then, there is still a long way to go before the Government's universal service objective (a telephone in every household that wishes to be connected to the network) is achieved.

Another possible classification would be those consumers who could afford to be on the telephone network at more rebalanced tariffs, and those that could not.

- **The trade-offs that some rebalancing policies have between different groups of consumers should be carefully considered.** The OUR is especially seeking views from respondents to this document on how such trade-offs should be made (see Q8.2 below).
- **Economic efficiency should be promoted within a context of the social policies specified by the Government,** and concern for the distributional effects of different actions and policies.
- **The most efficient ways to attain social objectives should be sought.** For example, universal service may not require unbalanced tariffs for all and targeting may be more efficient.
- **Regulatory action should be initiated only where appropriate and required.** Intervention by the OUR in the setting of tariffs by CWJ could lead to distortions, unless there is a sound basis for regulatory involvement, such as a divergence between the interests of CWJ and those of consumers, economic efficiency, or the Government's social objectives, which the OUR has been given a remit to promote.

8.6 The OUR also notes that existing licence conditions are binding, such as those relating to CWJ's minimum and maximum permitted rates of return.

**Q8.1 What principles should the OUR take into account in developing a regulatory framework for tariff rebalancing?**

**Q8.2 Should an equal weight be given to all groups of consumers, or should serving the interests of some consumers be given priority? If the latter, please explain which consumers and why.**

**Information and Analysis Required**

8.7 In this document, quantification of, for example, the extent of unbalanced tariffs and the impact of rebalancing on different consumer groups has been severely hampered by a lack of relevant information. In many cases comparisons have had to be made with prices and costs in other countries, where conditions might differ materially from Jamaica. It is the OUR's intention to obtain the missing information and undertake such additional analysis as is required to allow properly informed judgements on tariff rebalancing to be made. The OUR proposes that the **second Consultative Document on rebalancing will incorporate the results of this quantification work.**

8.8 The OUR considers that at least the following information and analysis will be required:

## Existence of unbalanced tariffs

- Obtain relevant and robust cost information by service.
- Quantify the existence and extent of unbalanced tariffs in Jamaica.

- 8.9 The most obvious source of the relevant and robust information referred to is CWJ. Another possibility would be to pursue the use of cost proxies, such as cost information from other countries, as set out in various places in Chapter 4. A third option would be to use economic-engineering cost modelling adapted to Jamaican conditions. A number of such cost models exist and have been or are being used by regulators in other countries (such as USA, UK, Netherlands, France, Hong Kong). Some of these models are publicly available and could be adapted as appropriate for Jamaica. Such models have sometimes been criticised for understating the true level of costs; by omitting relevant costs and assuming idealised, unrealistic network design and operation. On the other hand accounting information has been criticised for lacking transparency, allocating costs among services in arbitrary ways and overstating the efficient level of costs; by incorporating the inefficiencies of the incumbent's network design and operations. This debate is often characterised as the top-down approach (accounting system) versus the bottom-up approach (engineering model).
- 8.10 The bottom-up approach should not be seen as entirely independent of CWJ. Significant amounts of disaggregated information on Jamaican conditions are required to populate engineering models; relating for example to geography, cost factors and demand patterns. Sources for some of this information outside of CWJ might be difficult to find.
- 8.11 The OUR's inclination is to explore with CWJ the supply of relevant and robust accounting information on the costs of services. If such information is not forthcoming within the necessary timescale, or if it is of insufficient quality, the OUR would consider using other types of cost modelling or cost proxies, such as cost information from other countries, to inform its quantification of the issues.

### **Q8.3 What approach should the OUR adopt to obtain cost information on Jamaica that is relevant and robust?**

#### **Impact of rebalancing**

- Obtain information on residential and business consumer bill distributions in Jamaica.
  - Analyse the impact that changes in the tariff structure might have on different groups of consumers.
- 8.12 The simplest impact analysis would be to assume unchanged volumes and establish which consumers would end up with higher bills and by how much under various different rebalancing scenarios. However, this would ignore the fact that volumes would be expected to change in response to more rebalanced prices. It would also presume that consumers are worse off if their bills go up, whereas consumers can gain even if their bills increase, if they make additional call minutes on which they place a sufficiently high value. To analyse on this basis, some information on the nature of telecoms demand would be needed, including values of the demand elasticities (the responsiveness of demand to price changes). This might be done by looking at the results

of studies carried out by CWJ in Jamaica (if any), studies in other countries, or by the OUR commissioning a specific study. The latter would place a much heavier burden on the OUR's limited resources.

#### **Q8.4 What information should the OUR obtain and what quantitative analysis should it undertake?**

### **The Approach to Rebalancing**

#### **Separating rebalancing from rate reviews**

- 8.13 There is a conceptual distinction between a change in the structure of prices (rebalancing) and a change in the overall level (the subject of rate reviews). In this spirit, the OUR would like to explore the option of treating tariff rebalancing and rate reviews as analytically separate issues, potentially subject to different regulatory processes. This seems appropriate because rebalancing can raise quite different issues from a normal rate review, such as whether some groups of consumers should benefit at the expense of others.

#### *Process*

- 8.14 As part of its normal rate applications, CWJ's request for an increase in prices might be combined with a request for tariff rebalancing. There is a procedure and specific rules laid down in CWJ's licence for rate reviews, some of which may not be helpful in this context. For example, the regulator is not required to consider any rate application made before twelve months have elapsed since the previous application. If a significant change in settlement rates was to occur unexpectedly, or if settlement rates were to change more frequently than once a year, it might be useful to have a more flexible procedure for the timing and consideration of rebalancing applications.
- 8.15 In addition, the OUR is consulting in this document on whether there could be benefits from a more positive approach to rebalancing, because of the possible benefits to consumers, rather than solely reacting to settlement rate changes. It is conceivable that one outcome of the consultation could be to pursue rebalancing for some consumers, but phased in over a period of time to avoid large one-off changes in tariffs. If applications to alter prices were only possible once every twelve months, some potentially helpful options would be ruled out, such as progressive targeted rebalancing (say) every six months.

#### *Definition of rebalancing*

- 8.16 If rebalancing is to be distinguished from rate reviews, a definition of the distinction will need to be specified. One definition of rebalancing might be price neutrality:

*A change in a set of prices that makes such prices more cost reflective, but involves no change in the weighted average price.*

- 8.17 One leading option for defining the weights to compute the averages before and after the price changes would be that each price should be weighted by its share of volume in the previous

twelve months (or in the latest financial year for which audited information is available).<sup>11</sup> On this basis the average could be calculated from existing information. However, one problem with this approach is that it is likely to result in an increase in CWJ's profitability, possibly to the extent that CWJ's rate of return rose above its maximum permitted level of 20%. The reasons why rebalancing is likely to be profitable were discussed in Chapters 6 and 7. Essentially, the demand for the services whose prices are increasing are likely to be less elastic than the demand for the services whose prices are decreasing.

- 8.18 A second approach to defining rebalancing might be profit neutrality:

*A change in a set of prices that makes such prices more cost reflective, but involves no change in the expected profitability of the operator in the twelve months following the price changes (or in the following financial year).*

- 8.19 The difficulty is that this would require that particular values of price elasticities (and other key factors affecting demand) be specified, in order to derive a forecast of volumes after the price changes have come into effect. Furthermore, there would also need to be forecasts of the costs of the expected additional volumes (and of the cost savings from the forecast reduced volumes for those services whose price was increasing).<sup>12</sup> There is likely to be significant uncertainty about the true values of the elasticities and the shape of the cost functions, and as a consequence forecast errors will be inevitable. However, on the other hand, it represents the conceptually correct approach if the intention is to separate rebalancing from rate reviews (which are concerned with CWJ's profitability).

- 8.20 A third approach to defining rebalancing might be revenue neutrality:

*A change in a set of prices that makes such prices more cost reflective, but involves no change in the expected revenue of the operator in the twelve months following the price changes (or in the following financial year).*

- 8.21 This approach would be intermediate between the first two definitions. It might involve errors in the forecasting of revenues, but it would at least attempt to take account of the revenue effects of the price changes, which the first approach simply ignores. But, by failing to consider the cost implications of the volume changes (that are explicit or implicit in the revenue forecast), CWJ's rate of return might be systematically raised or lowered by rebalancing (defined in this way), depending upon whether CWJ's costs were reduced or increased by rebalancing. However, this definition might have advantages, if there was no clear presumption about whether costs would rise or fall, and the forecasting of costs was considered more difficult than the forecasting of revenues.

- Q8.5 Is it desirable to separate rebalancing from rate reviews and, if so, how should rebalancing be defined?**

<sup>11</sup> An equivalent expression of this condition is that each percentage price change should be weighted by its share of revenue in the previous twelve months (or latest financial year).

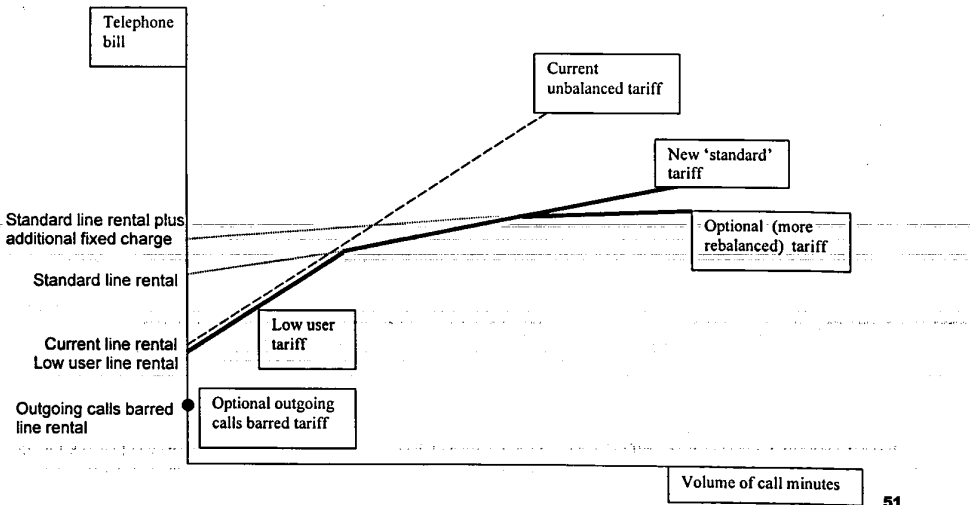
**Different tariffs for different consumers: putting it all together**

8.22 Some might regard the current, almost entirely undifferentiated tariff structure offered by CWJ as 'fair'. But the discussion of possible rebalancing policies in Chapters 6 and 7 suggests that it is likely to be economically inefficient, because:-

- **A group of consumers would prefer to be on a more rebalanced tariff.** By using optional tariffs, rebalancing for these consumers could be done in a way that did not harm, and might benefit, other consumers.
- **A group of consumers could afford to be on a more rebalanced tariff.** More effective targeting of assistance on those most in need could enable universal service to be delivered more effectively and more rapidly. This could occur independent of settlement rate decreases, that might occur as a result of the pressures discussed in Chapter 5. Or, it could be considered as one part of the response to such changes, in order to provide the most protection to those consumers least able to afford increases in their telephone bills.

8.23 Chapter 7 discussed a number of different types of approaches to tariffing - Figure 8.1 illustrates how they might all fit together. The vertical axis show the consumer's telephone bill. The horizontal axis shows the number of call minutes made - for ease of exposition, it is simplest to consider only the outgoing international call minutes. Five different possible types of tariff are shown. One key feature of the tariff lines is the intercept with the vertical axis, which gives the line rental plus any other fixed charges for that tariff. The other important factor is the slope of the tariff line, which indicates the price per minute of (international) calls: the steeper the slope, the more expensive the calls.

**Figure 8.1: Illustration of different types of tariffs**



- 8.24 The current tariff involves a relatively low line rental and relatively high prices for international calls, so this tariff line has an intercept quite close to the origin and a steep slope. One possible approach would be to rebalance this tariff to become the new 'standard' tariff that has a higher intercept, but a flatter slope (higher line rental but lower international call prices). At the time this was done, (at least) three additional tariffs could be offered. Two of these would be to protect consumers with affordability difficulties. First, by allowing low users to remain on the original unbalanced tariff (called the low user tariff in Figure 8.1).<sup>12</sup> Second, by introducing an optional outgoing calls barred tariff with an especially low line rental - this tariff is shown as a point close to the origin on the vertical axis. The other optional tariff, which would be the most rebalanced tariff on offer, would be attractive to relatively high volume users. This would involve an additional fixed charge (an intercept higher than all of the other tariff lines), but a lower price per minute for international calls (the flattest slope of all of the tariff lines shown).
- 8.25 In a context in which specific tariffs were being targeted at different groups of consumers, the tariffs could be designed to better reflect each of their needs, which may be quite different from the rest of the population. For example, those with affordability difficulties tend to care not just about the charges incurred, but also the predictability and manageability of charges. So, a fixed bill per month, possibly pre-paid, could be attractive to this group of consumers (this is one of the possible advantages of the outgoing calls barred tariff). Or the consumers that make or wish to make a large volume of international calls would prefer a much more rebalanced tariff, that would not suit other consumers.
- 8.26 Questions were set out in Chapters 6 and 7 individually on each of these possible tariff approaches. But, because it is so important to the overall thrust of the approach to rebalancing, the OUR would also like to invite views on the general principle of different tariff packages for different consumers.
- Q8.6 Do respondents consider that different tariff packages should be developed for different groups of consumers? Please explain the reasons for your view.**

<sup>12</sup> It is not necessary for the low user tariff to be the same as a portion of the original tariff - it is shown in this way in Figure 8.1 partly because it avoids excessive complexity in the diagram. However, such an approach might make implementation of the tariff easier.

## **CHAPTER 9: LIST OF CONSULTATION QUESTIONS**

### **The consultation process on tariff rebalancing**

- Q2.1** What consultation methods, if any, should the OUR adopt to supplement the written consultation and at what point in the consultation process?

### **The current structure of prices**

- Q4.1** Please explain, giving reasons, whether or not you agree with the OUR's preliminary conclusions on the relationship of the current structure of telephone prices to costs.
- Q4.2** What additional evidence should the OUR use to assess the existence and extent of unbalanced tariffs in Jamaica?
- Q4.3** Please explain, giving reasons, whether or not you agree with the OUR's preliminary conclusions on how unbalanced tariffs are sustained.

### **External pressures for settlement rate reductions**

- Q5.1** Do respondents consider that a reduction in Jamaica's settlement rate with the USA either to the level of the target rate proposed by the Chairman of the ITU's Focus Group or the FCC's benchmark rate would force significant increases in the prices of domestic services in Jamaica? Please explain the reasons for your view.
- Q5.2** Do respondents consider that substantial reductions in settlement rates in the near future because of pressures from the FCC or the ITU will be avoided and, if so, why?
- Q5.3** Do respondents agree with the OUR that preparations should be made now to develop the regulatory framework to cope with future possible settlement rate changes?

### **Possible benefits of rebalancing**

- Q6.1** What view (if any) do respondents have on whether Jamaica benefits or suffers overall from high settlement rates, and how has this view been arrived at?
- Q6.2** What benefits would Jamaican businesses obtain from lower priced international calls, and what markets or services would be stimulated?
- Q6.3** What types of businesses and services located in the Montego Bay Free Zone area have benefited from access to lower priced international calls? Specific examples and any quantification of the benefits in terms of Jamaican employment created, business growth etc. would be especially welcome.

- Q6.4 Would it be desirable for optional tariffs to be offered in Jamaica? Please explain the reasons for your view.
- Q6.5 Do respondents agree with the distinction that the OUR is drawing between universal service (the objective) and unbalanced tariffs (the means)? If not, please explain why not.
- Q6.6 Should an approach of rebalancing tariffs for those that could afford it be actively pursued, or should it be considered only in circumstances of decreases in settlement rates?

#### **Ways to rebalance tariffs**

- Q7.1 How should the low price optional tariff be designed, so that it would only be selected by those with affordability difficulties?
- Q7.2 What practical difficulties would arise from using income related criteria to determine eligibility for different tariffs and how might they be best avoided?
- Q7.3 Would telecoms usage criteria for determining tariff eligibility be effective in targeting assistance on those most in need?
- Q7.4 What should be the respective roles of the OUR and CWJ in developing tariffs for universal service and rebalancing?
- Q7.5 In what ways could achievement of the universal service objective be best promoted, eg how should tariffs be designed to target those with affordability difficulties?

#### **The way forward**

- Q8.1 What principles should the OUR take into account in developing a regulatory framework for tariff rebalancing?
- Q8.2 Should an equal weight be given to all groups of consumers, or should serving the interests of some consumers be given priority? If the latter, please explain which consumers and why.
- Q8.3 What approach should the OUR adopt to obtain cost information on Jamaica that is relevant and robust?
- Q8.4 What information should the OUR obtain and what quantitative analysis should it undertake?
- Q8.5 Is it desirable to separate rebalancing from rate reviews and, if so, how should rebalancing be defined?
- Q8.6 Do respondents consider that different tariff packages should be developed for different groups of consumers? Please explain the reasons for your view.



**Arbitrage and bypass (Annex C)**

- QC.1 Even if attempts are made to prevent arbitrage, such as refile and call back, will the exploitation of profitable arbitrage opportunities have an effect in reducing Jamaica's settlement rates and/or reducing CWJ's net settlement profitability?
- QC.2 How important (in terms of amount or proportion of traffic) will be the methods for accounting rates to be bypassed, and how soon can their effects on a significant scale expect to be felt in Jamaica?

**Fully rebalanced tariffs (Annex D)**

- QD.1 What approach should be taken to defining 'fully rebalanced' tariffs, both conceptually and for practical implementation?

**ANNEX A: WORLD TRADE ORGANISATION (WTO) BASIC SERVICES  
AGREEMENT – JAMAICA'S COMMITMENTS**

The Government of Jamaica's commitments as part of the WTO agreement and the Reference Paper on Regulatory Principles may also be viewed on the WTO's Website at [www.wto.org/wto/new/gbtoff.htm](http://www.wto.org/wto/new/gbtoff.htm)

**WORLD TRADE  
ORGANIZATION**

**GATS/SC/45/Suppl.1**

11 April 1997

(97-1453)

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**Trade in Services**

**JAMAICA**

**Schedule of Specific Commitments**

**Supplement 1**

(This is authentic in English only)

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This text is inserted as the Telecommunication services section in document GATS/SC/45.

**JAMAICA - SCHEDULE OF SPECIFIC COMMITMENTS**

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<b>2. COMMUNICATION SERVICES</b> <b>C. Telecommunication Services</b> All Subsectors listed below	(3) Voice telephone, facsimile, telex, and teleprinter services may not be supplied over cable TV network facilities		See attached additional commitments on regulatory disciplines.  The Government will submit to Parliament a new draft law on Telecommunications. This law will provide the legislative framework for the provision of telecommunication services reflecting technological advances and pro-competitive practices in the sector.
a. Voice telephone services (7521)	(1) Until Sept. 2013, bypass of exclusive private operator not permitted. Callback services and refiling not permitted	(1) None	
- domestic, fixed network only	(2) Callback services not permitted	(2) None	
- international, wire and wireless networks for public use	(3) Reserved to exclusive supply until Sept. 2013. No limitation on foreign equity participation in the exclusive private operator.	(3) None	
d. Telex services (7523**)			
e. Telegraph services (7522)			
g. Private leased circuit services (7522**, 7523**)	(4) Unbound except as indicated in the horizontal commitments	(4) Unbound except as indicated in the horizontal commitments	
- domestic, fixed network facilities			
- international, wire and wireless network facilities			
f. Facsimile services (7521**, 7529**)			
l. Enhanced/value-added facsimile services, incl. store and forward, store and retrieve (7523**)			

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
a. Voice Telephone Services (7521) - for private use	(1) Until Sept. 2013, bypass of exclusive private operator not permitted (2) None (3) Reserved to exclusive supply until Sept. 2013 (4) Unbound except as indicated in the horizontal commitments	(1) None (2) None (3) None (4) Unbound except as indicated in the horizontal commitments	The Government is in the process of reviewing this with the exclusive private operator in the context of the draft Telecom Bill and the establishment of the regulatory regime in 1997. If the outcome of this review is favourable, the Government will submit an improved commitment on private voice telephone services.
b. Packet-switched data transmission services (7523**) - Domestic	(1) None (2) None	(1) None (2) None	
c. Circuit-switched data transmission services (7523**) - Domestic	(3) None (4) Unbound except as indicated in the horizontal commitments	(3) None (4) Unbound except as indicated in the horizontal commitments	
h. Electronic mail (7523**)	(1) None	(1) None	
i. Voice mail (7523**)	(2) None	(2) None	
j. On-line information and data base retrieval (7523**)	(3) None	(3) None	
k. Electronic data interchange (7523**)	(4) Unbound except as indicated in the horizontal commitments	(4) Unbound except as indicated in the horizontal commitments	
m. Code and protocol conversion			
n. On-line information and/or data processing (incl. transaction processing) (843**)			
o. Other			
Internet and internet access services (75260)	(1) Until Sept. 2013, excludes voice telephony over Internet (2) None	(1) None (2) None	The Government is in the process of reviewing this with the exclusive private operator in the context of the draft Telecom Bill and the establishment of the

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<p>Digital mobile services (terrestrial) (75213<sup>**</sup>):</p> <ul style="list-style-type: none"> <li>- Cellular/mobile telephone services</li> </ul> <p>Mobile telephone services (satellite-based) (75213<sup>**</sup>):</p> <ul style="list-style-type: none"> <li>- Domestic</li> </ul>	<ul style="list-style-type: none"> <li>(3) Until Sept. 2013, excludes voice telephony over Internet</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> <li>(1) Commercial presence required</li> <li>(2) None</li> <li>(3) Five to ten year licence scheduled to be issued to exclusive private operator</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> <li>(1) None</li> <li>(2) None</li> <li>(3) Five to ten year licence scheduled to be issued to exclusive private operator</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> </ul>	<ul style="list-style-type: none"> <li>(3) None</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> <li>(1) None</li> <li>(2) None</li> <li>(3) None</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> <li>(1) None</li> <li>(2) None</li> <li>(3) None</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> </ul>	<p>regulatory regime in 1997. If the outcome of this review is favourable, the Government will submit an improved commitment on voice over Internet.</p>
<p>Mobile telephone services (satellite-based) (75213<sup>**</sup>):</p> <ul style="list-style-type: none"> <li>- International</li> </ul> <p>Fixed satellite transport services</p> <ul style="list-style-type: none"> <li>- International</li> </ul>	<ul style="list-style-type: none"> <li>(1) Until Sept. 2013, the exclusive private operator has rights of first refusal to enter into arrangements with suppliers of such satellite services</li> <li>(2) None</li> <li>(3) Until Sept. 2013, the exclusive operator has rights of first refusal to supply such services</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> </ul>	<ul style="list-style-type: none"> <li>(1) None</li> <li>(2) None</li> <li>(3) None</li> <li>(4) Unbound except as indicated in the horizontal commitments</li> </ul>	

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<p>Digital mobile services (terrestrial):</p> <ul style="list-style-type: none"> <li>- Mobile data services</li> <li>- Personal communications services</li> <li>- Paging (75291)</li> </ul> <p>Video transmission services (satellite-based) (75241")</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound except as indicated in the horizontal section</p> <p>(1) Until Sept. 2013, excludes video telephone</p> <p>(2) None</p> <p>(3) Until Sept. 2013, excludes video telephony</p> <p>(4) Unbound except as indicated in the horizontal commitments</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound except as indicated in the horizontal section</p> <p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound except as indicated in the horizontal commitments</p>	<p>The Government is in the process of reviewing this with the exclusive private operator in the context of the draft Telecom Bill and the establishment of the regulatory regime in 1997. If the outcome of this review is favourable, the Government will submit an improved commitment on video telephony services.</p>
<p>Trunked radio system services</p> <p>Teleconferencing services (75292)</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) Until Sept. 2013, interconnection with local public switched network not permitted</p> <p>(4) Unbound except as indicated in the horizontal commitments</p> <p>(1) Until Sept. 2013, only on network facilities supplied by the exclusive private operator</p> <p>(2) None</p> <p>(3) Until Sept. 2013, only on network facilities supplied by the exclusive private operator</p> <p>(4) Unbound except as indicated in the horizontal commitment</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound except as indicated in the horizontal commitments</p> <p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound except as indicated in the horizontal commitments</p>	

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or subsector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
International voice, data and video transmission services supplied to firms involved in information processing located within freezones	(1) None (2) None (3) Until Sept. 2013, interconnection with the local public switched network not permitted. Service to unauthorized parties not permitted (4) Unbound except as indicated in the horizontal commitments	(1) None (2) None (3) None (4) Unbound except as indicated in the horizontal commitments	
Telecommunications equipment sales, rental, maintenance, connection, repair and consulting services (75410 - 75450)	(1) None (2) None (3) None (4) Unbound except as indicated in the horizontal commitments	(1) None (2) None (3) None (4) Unbound except as indicated in the horizontal commitments	

<sup>1</sup>Both customer premises equipment and network equipment including, but not limited to, telephone sets, mobile telephone handsets, facsimile machines, computer terminal equipment, PBAX.

## ATTACHMENT: ADDITIONAL COMMITMENTS

### REFERENCE PAPER

#### Scope

The following are definitions and principles on the regulatory framework for the basic telecommunications services.

#### Definitions

Users mean service consumers and service suppliers.

Essential facilities mean facilities of a public telecommunications transport network or service that

- (a) are exclusively or predominantly provided by a single or limited number of suppliers; and
- (b) cannot feasibly be economically or technically substituted in order to provide a service.

A major supplier is a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of:

- (a) control over essential facilities; or
- (b) use of its position in the market.

#### 1. Competitive safeguards

##### 1.1 Prevention of anti-competitive practices in telecommunications

Appropriate measures shall be maintained for the purpose of preventing suppliers who, alone or together, are a major supplier from engaging in or continuing anti-competitive practices.

##### 1.2 Safeguards

The anti-competitive practices referred to above shall include in particular:

- (a) engaging in anti-competitive cross-subsidization;
- (b) using information obtained from competitors with anti-competitive results; and
- (c) not making available to other services suppliers on a timely basis technical information about essential facilities and commercially relevant information which are necessary for them to provide services.

#### 2. Interconnection

2.1 This section applies to linking with suppliers providing public telecommunications transport networks or services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.



## 2.2 Interconnection to be ensured

Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided.

- (a) under non-discriminatory terms, conditions (including technical standards and specifications) and rates and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates;
- (b) in a timely fashion, on terms, conditions (including technical standards and specifications) and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and
- (c) upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities.

## 2.3 Public availability of the procedures for interconnection negotiations

The procedures applicable for interconnection to a major supplier will be made publicly available.

## 2.4 Transparency of interconnection arrangements

It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.

## 2.5 Interconnection: dispute settlement

A service supplier requesting interconnection with a major supplier will have recourse, either:

- (a) at any time or
- (b) after a reasonable period of time which has been made publicly known

to an independent domestic body, which may be a regulatory body as referred to in paragraph 5 below, to resolve disputes regarding appropriate terms, conditions and rates for interconnection within a reasonable period of time, to the extent that these have not been established previously.

## 3. Universal service

Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive *per se*, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member.

4. **Public availability of licensing criteria**

Where a licence is required, the following will be made publicly available:

- (a) all the licensing criteria and the period of time normally required to reach a decision concerning an application for a licence and
- (b) the terms and conditions of individual licences.

The reasons for the denial of a licence will be made known to the applicant upon request.

5. **Independent regulators**

~~The regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of and the procedures used by regulators shall be impartial with respect to all market participants.~~

6. **Allocation and use of scarce resources**

Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, will be carried out in an objective, timely, transparent and non-discriminatory manner. The current state of allocated frequency bands will be made publicly available; but detailed identification of frequencies allocated for specific government uses is not required.

## ANNEX B: THE FCC's BENCHMARKS ORDER, AUGUST 1997

1. In this Annex a summary is presented first of the FCC's position and proposals in its Benchmarks Order<sup>2</sup>, and then some of the main criticisms that have been made of this approach. The OUR's intention in presenting these summaries is simply to provide a purely factual account of the Order and the surrounding debate. By their nature, the summaries will provide only a selected account of the positions of the various parties involved in the debate. Consequently, it might be considered by some that important pieces of information or arguments have been omitted. Inclusion or omission should not be regarded as indicating the agreement or disagreement of the OUR.

### Summary of the FCC's Order

2. The FCC considers that settlement rates, which are significantly above cost, lead to artificially high international calling prices for US and foreign consumers. The USA's net settlement deficit was approximately \$5.4 billion in 1996. The FCC estimates that at least 70% of the annual settlement payments made by US operators constitutes a payment in excess of costs. It regards its Benchmarks Order as seeking to reduce this amount significantly by bringing settlement rates closer to cost, which it believes will result in much lower prices paid by consumers for international calls, and in turn will stimulate significant increases in traffic volumes.
3. The FCC's Order sets out benchmark figures for each country with which the USA has telecoms traffic. By dates laid down in the Order ('transition periods'), US licensed operators will be required to pay a settlement rate no higher than the benchmark figure specified by the FCC for the relevant country. Countries have been classified into four categories using their Gross National Product (GNP) per head. Benchmark rates were derived for each category separately, and each has a different transition period. In the FCC's view, this categorisation provides a reasonable indicator of a country's ability to make the transition to settlement rates that are closer to costs. The FCC's benchmarks and the dates by which they are to be achieved are shown in Table 5.4, which is repeated as Table B.1 for completeness. Jamaica is included in the lower middle income category.

**Table B.1: FCC's benchmark settlement rates in US cents per minute**

<i>Country category</i>	<i>Benchmark rate</i>	<i>Date by which to be achieved</i>
Upper income	15	1 January 1999
Upper middle income	19	1 January 2000
<b>Lower middle income</b>	<b>19</b>	<b>1 January 2001</b>
Lower income	23	1 January 2002
		1 January 2003 (for countries with less than one line per hundred inhabitants)

Source: FCC

#### *Derivation of benchmarks*

4. The FCC derived its benchmark figures from a methodology, which it refers to as Tariffed Components Prices (TCP). The costs incurred by operators in terminating international calls are

<sup>2</sup> *In the Matter of International Settlement Rates*, IB Docket No. 96-261, Report and Order, FCC 97-280, released August 18, 1997

classified into three elements (see Figure 4.1), following ITU-T recommendation D-140. In each case, operation and maintenance costs are relevant as well as investment costs (and some indirect costs may also be relevant):-

1. International transmission facilities – these facilities may include the following elements: satellite transmission, earth station, submarine or terrestrial cable system, cable landing station, and national links between these facilities and the international switch.
  2. International switching facilities – the cost of the international switching centre and associated signalling equipment.
  3. National extension – the cost of transmission and switching on the domestic network, using the same facilities as would be used for a domestic call (and, according to D-140, the local loop, if appropriate and identified under a bilateral or multilateral agreement).
5. Figures for elements 1 and 3 were derived by the FCC based on the information that it gathered on the tariffs charged by operators in foreign countries for international leased circuits (element 1) and domestic calls (element 3). Cost information was not used, because it was not available. The figures for element 2 were taken from information published by the ITU on settlements between various European countries, which show the amount of the rate related to international switching.<sup>3</sup>
6. To arrive at the benchmarks, TCPs were derived for countries and then averaged together within each country category. The FCC's view is that the TCP for a country can be expected to exceed the costs incurred by the foreign operator in terminating international calls, primarily because the TCP methodology uses tariff information, which will include cost elements not relevant to terminating incoming international calls, such as retail costs. Tariffs may also exceed the efficient level of costs, if there are inefficiencies in the operations of foreign operators (the TCPs were averaged together to mitigate the effect of these inefficiencies on the benchmarks). The TCP figures for Jamaica (and, for comparison, other Caribbean countries) are shown in Table B.2.

**Table B.2: FCC's figures for Jamaica and other Caribbean countries, using the Tariffed Components Price methodology in US cents per minute**

Country	International transmission	International switching	National extension	Total TCP
Jamaica	2.9	4.8	1.0	8.7
Bahamas	5.2	1.9	12.8	19.9
Bermuda	4.5	1.9	3.5	9.9
Barbados	8.6	3.4	zero	12.0
Dominican Republic	3.6	4.8	6.1	14.5
Guyana	6.6	4.8	0.6	12.0
Haiti	8.6	4.8	17.0	30.4
Trinidad	3.6	3.4	7.6	14.6

Source: FCC

<sup>3</sup> For details of the assumptions used, see Appendix E to the FCC's Report and Order.

7. The FCC's TCP figure for Jamaica of just under 9 cents per minute is less than one-half of the settlement benchmark rate of 19 cents that applies to Jamaica as a lower middle income country. This difference arises from the averaging of Jamaica's TCP with higher TCPs for other countries in the lower middle income group of countries.

#### **Summary of criticisms of the FCC's approach**

8. The FCC's Order was preceded by a Notice of Proposed Rule Making, which invited comments from interested parties. The FCC received comments from over 90 governments and operators outside the USA, in addition to comments from within the USA. A short summary of criticisms is presented here to provide readers with information on both sides of the debate.
9. The FCC has been criticised for adopting a unilateral approach to settlement rates, which are negotiated in bilateral agreements. It is suggested that effectively the FCC is seeking to control the rate for terminating international calls charged by foreign operators that are outside of the FCC's jurisdiction.
10. Some commentators have suggested that reductions in settlement rates would not necessarily flow through into reductions in the collection rates charged by US carriers, but might instead merely increase the US carriers' profit margin. Evidence cited includes the slower pace of decline in recent years of both US carriers' undiscounted collection charges and average revenue per billed minute (which incorporates the effects of discounts) compared to the rate of decline of settlement rates.
11. Some of the assumptions used by the FCC in its TCP methodology have been criticised. For example, the use of tariffs for the national extension element, because in many countries, possibly including Jamaica (see Chapter 4), domestic call prices are below cost (the criticism is most clearly illustrated by countries that do not charge for local calls on the basis of usage, eg Barbados, for which the FCC uses a TCP figure of zero). Criticisms have also been put forward concerning the assumptions used by the FCC to convert prices per leased circuit into per minute figures in the international transmission element, and the appropriateness of the information used to derive the figures for the international switching element. Consequently, some critics consider that the TCP figures are inappropriate and may significantly understate costs for some countries.
12. The classification of countries by GNP is regarded by some as inappropriate, for example, because it is an imperfect indicator of the state of telecoms development of countries. Some critics argue that the averaging of TCPs within each country category is unfair, because certain countries (such as Jamaica) benefit by having a benchmark rate applied to them that is well above the TCP derived, whilst others suffer a benchmark rate that is substantially below their TCP.
13. Another criticism is that the FCC has ignored in its benchmarks the need for settlement rates to make a contribution to enable incumbent operators in developing countries to make investments to expand their telecoms networks, and to sustain unbalanced tariffs and thereby promote universal service. The point is made, which the FCC accepts, that investment in network infrastructure in developing countries benefits not only those economies, but also the economies of other countries with which they trade and communicate. To many, the need to finance

investment and sustain unbalanced tariffs is regarded as a justification for settlement rates to remain above the costs of terminating international calls. (Or, looked at another way, a justification for including some costs of the local loop in the relevant costs to be covered by the settlement rate).

14. The FCC explicitly disagrees with some of these criticisms. For example, it argues that it is misleading to compare collection charge declines against reductions in gross settlement rates, because the effect on a carrier of a settlement rate decline is the reduction in its settlement outpayment net of the partially offsetting reduction in its settlement receipt. The FCC also claims that its benchmarks will generally be above costs and so will allow some contribution to be made towards sustaining unbalanced tariffs. It emphasises that it is giving operators an opportunity to supply evidence to demonstrate that its costs exceed the benchmark figure, in which case the higher cost-based amount would replace the benchmark. In response to criticism of its unilateral approach, the FCC states that it will waive enforcement of the benchmark settlement rates, if a multilateral consensus is reached "on a substantially equivalent measure to achieve our [the FCC's] goals of a cost-based system of settlements in a timely manner" [paragraph 190].

#### **FCC's Proposals to Reform International Settlements Policy**

15. The FCC has traditionally placed a number of restrictions on US licensed carriers concerning the nature of the accounting rate agreements that they may reach with foreign carriers. As discussed in Chapter 4, these include, for example, requiring the 50/50 division of the accounting rate, the same accounting rate for all US carriers with the same foreign carrier (parallel accounting) and proportional return. These restrictions, which are collectively known by the FCC as its international settlements policy, are imposed to attempt to prevent dominant foreign carriers from whipsawing, ie playing off one US carrier against another.
16. In August 1998 the FCC issued a Notice of Proposed Rule Making (NPRM)<sup>4</sup> that sets out proposals to relax the international settlements policy in certain circumstances. This follows an Order<sup>5</sup> issued by the FCC in 1996 that allowed US carriers more flexibility in their arrangements with foreign carriers where competitive conditions exist at the foreign end of an international route. The FCC's intention is to allow greater flexibility in the agreements between carriers providing international calls, where it considers such flexibility would not result in anti-competitive practices, such as whipsawing. In the NPRM the FCC proposes to remove the international settlements policy for agreements with foreign carriers in WTO countries that do not have market power. It has also sought comment on whether to remove the international settlements policy for all carriers from WTO countries that meet certain conditions, such as having 50% of traffic settled at or below the FCC's benchmark rates. CWJ would not satisfy any of the proposed conditions for the FCC's international settlements policy to be removed.

<sup>4</sup> *In the Matter of 1998 Biennial Regulatory Review - Reform of the International Settlements Policy and Associated Filing Requirements*, IB Docket No. 98-148

<sup>5</sup> Flexibility Order: *In the Matter of Regulation of International Accounting rates*, CC Docket No. 90-337, Phase II

## ANNEX C: ALTERNATIVE CALLING PROCEDURES

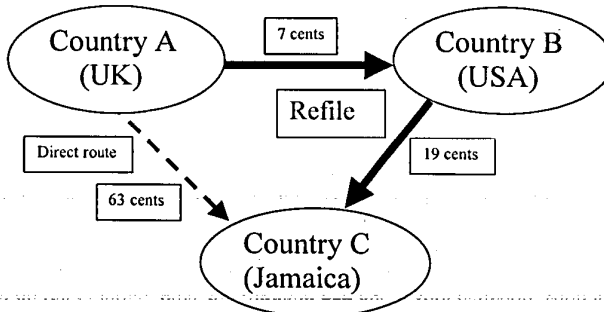
1. This Annex contains a summary of the main alternative calling procedures available now or in the near future. The first category involves ways of exploiting arbitrage opportunities within the accounting rate system, such as differences between collection charges and settlement rates, and among settlement rates. A second type are procedures that bypass the accounting rate system, ie avoid the payment of the settlement rate for international telephony.

### Arbitrage opportunities

#### Refile

2. Refile involves indirect routing of traffic through a third country (sometimes called a 'hub') and presentation of the call to the destination country as if it had originated in the hub country, rather than sending it on the direct route between two countries. It could involve the payment of two settlement rates, or more typically the use of an international leased circuit for one leg and so only one settlement rate – see the discussion of bypass below (for ease of exposition, however, the case of payment of two settlement rates is discussed further). Say there was a call from country A to country C that was refiled in hub country B - there would be a settlement payment by A to B and B to C. This is unlike use of a third country for transit, where the accounting rate agreement specifies use of a third country and a proportion of the accounting rate is paid to the transit operator.

Figure C.1: Refile – hypothetical example



3. Refile may be used to exploit differences in settlement rates between countries. For example, consider the following hypothetical example, illustrated in Figure C.1. Say the origination country A was the UK, the hub country B was the USA and the termination country C was Jamaica, and assume that the FCC's benchmark settlement rate (19 US cents per minute) applied on the USA-Jamaica route, but that there had been no change in the UK-Jamaica settlement rate (63 cents) or in the UK-USA settlement rate (7 cents). There would be a profitable refile opportunity for traffic between the UK and Jamaica, because refile would result in settlement payments of 26 cents per

minute (UK-USA plus USA-Jamaica) as opposed to the 63 cents per minute that would be paid on the direct UK-Jamaica route.

4. Refile can apply pressure for settlement rates to be reduced. For example, if in the hypothetical example, a large proportion of traffic from the UK to Jamaica was refiled, there would be an incentive for the UK-Jamaica settlement rate to be reduced to 'recapture' this traffic on the direct route. Since, there may be some costs incurred in implementing refile, the direct route to Jamaica is likely to be cheaper than the route through the hub country, so the traffic 'recapture' could occur at a settlement rate just above the sum of the two settlement rates paid under refile (26 cents in the hypothetical example). Where refile was carried out using leased circuits for one leg of the route, the settlement rate would have to be lower to 'recapture' the traffic onto the direct route. In its commitments to the WTO, the Government of Jamaica has stated that refile is not permitted (see Annex A). But detecting and preventing refile may not always be easy.

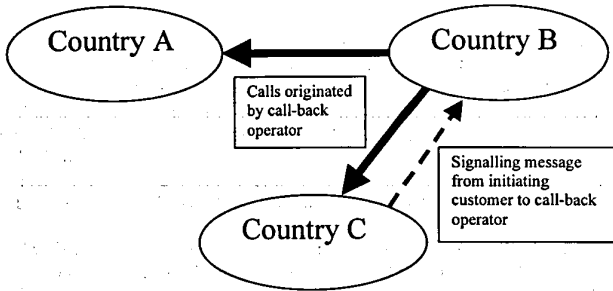
#### *Call back*

5. Call back involves reversing the direction of a call to exploit differences in retail prices (collection charges) between countries. Call back enables consumers in the initiating country to indicate to the call-back operator located in another country that they wish to place an international call and the call is made to (not from) the initiating consumer. The initial contact with the call back operator might be by the initiating consumer sending a signalling message to the call back operator's switch (eg by hanging up after a specified number of rings) or by placing an initial international call, possibly toll free, to the call back operator, which then calls back the initiating consumer. Call back may turn outgoing traffic into incoming traffic and its use may be a contributory factor to the pattern of net traffic flows between countries.
6. There are crude ways in which a Jamaican consumer can reverse the (effective) direction of the call, although these are not considered to be call-back. One example is by placing a collect call to an overseas contact. In a network sense, the direction of the call is not reversed, but the flow of payments is reversed (ie the overseas consumer pays the collection charge and the Jamaican operator receives the settlement rate payment). Another possible method would be to request the operator for a person-to-person call to a particular overseas contact, using (say) that contact's middle name rather than the first name - the idea is that the overseas contact realises who is attempting to contact him or her; refuses to accept the person-to-person call, and instead places a call to the Jamaican. The Jamaican would not pay anything for the use of the operator, because the person-to-person call was not connected. These types of practices are not generally referred to as 'call-back', and there are two main differences. First, they are relatively cost inefficient compared to call-back, because they make use of operators' time; either to set up the collect call or the person-to-person call. Second, under these practices the overseas contact pays the collection charge, whereas under call-back the Jamaican consumer pays the collection charge at the collection rates in the overseas country.
7. In the simplest case, call back involves just two countries: the country in which the call is initiated (and terminated) and the country in which the person resides, whom the initiating consumer is attempting to contact (where the call is originated). But call back can also involve three countries: say an initiating consumer in country C was attempting to contact a person in country A, using a call back operator located in country B. The call back operator would link together two outgoing calls from country B (from B to C and from B to A) to connect the consumers in C and A, as



illustrated in Figure C.2. (In practice, one of these calls might be on an international leased circuit – see the discussion of bypass below).

**Figure C.2: Call-back in the three country case**



8. Call back can be profitable, even though additional costs are typically incurred than on a 'normal' international call, because it exploits differences between collection charges in the countries involved. An illustration of the possibilities is shown in Table C.1, which compares current prices offered by CWJ on Jamaica to USA and Jamaica to UK routes, with prices offered by the leading US and UK operators in the opposite direction.

**Table C.1: Asymmetries in collection charges in J\$**

Operator	Between Jamaica and USA		Between Jamaica and UK	
	Peak	Off-peak	Peak	Off-peak
CWJ (USA Zone 1)	39.16	29.77	55.43	55.43
CWJ (USA Zone 2)	55.43	46.47		
USA - AT&T (undiscounted)	65	53		
USA - AT&T (discount plan)		30		
USA - overall average (1996)		36		
UK - BT			47	39 or 38
UK - CWC			45	30 or 29

Source: OUR from FCC and published price information from operators listed

- Notes:
- The exchange rates used to convert from local currency to J\$ are \$1 = J\$36 and 1 pound = J\$60.
  - All prices include sales tax: 15% GCT for CWJ; 8.25% sales tax for US operators (which is the rate in New York City); and 17.5% Value Added Tax for UK operators.
  - AT&T's discount plan shown is the One Rate International Plan, which requires payment of a monthly fee of \$3. Other US carriers provide similar discount plans.
  - USA – overall average (1996) is the average revenue per minute for all traffic to Jamaica billed by US carriers, derived from information filed by US carriers with the FCC.
  - Prices shown for UK operators are before discounts and so overstate the prices available to large purchasers, such as call back operators.
  - BT and CWC have two off-peak periods: Evening (weekdays, 6pm to 8am) and Weekend (all day Saturday and Sunday). The Weekend prices are the lowest shown for BT and CWC.

9. In general, whether calls from the USA to Jamaica are cheaper than calls in the other direction appears to depend on whether the consumer in the USA is paying an undiscounted tariff or is on a discount plan. The difference between the two types of tariff is very large. But since the overall average for calls to Jamaica from the USA (albeit for an earlier year, 1996) is much closer to the discounted than the undiscounted price, it would seem that a large proportion of US consumers is on some kind of discount plan. Moreover, it would be expected that call-back operators, as potentially large purchasers, would pay a discounted price. For US consumers on the AT&T discount plan shown in Table C.1, the differences for calls in each direction between Jamaica and USA Zone 1, which includes, for example, Florida and Washington, D.C., are significant in the peak period but non-existent at off-peak times. But calls from the USA appear to be appreciably cheaper than calls from Jamaica to USA Zone 2, which includes, for example, New York, Boston and Chicago. The figures in Table C.1 include sales taxes; because these are included in the prices paid by consumers – a relatively small part of this difference reflects a lower rate of sales tax in the USA. The comparison is also clearly affected by the exchange rate used.
10. The respective peak and off-peak prices charged by UK operators are below CWJ's price for calls in the opposite direction. Moreover, the UK prices quoted are before any discounts (though there is typically not as large a difference between undiscounted and discounted prices in the UK as in the USA). Countries that are on different longitudes can have non-coincident peak charge periods, which can also contribute to creating a profitable opportunity for call-back. For example, in the case of the UK, weekday afternoon calls initiated in Jamaica would occur in the UK off-peak period.
11. Table C.1 is intended merely to provide an illustration of how there can be a profitable arbitrage opportunity using call back. In its commitments to the WTO (see Annex A) the Government has stated that call back is not permitted in Jamaica, although there is currently no law against it. Nevertheless, if the gains to particular suppliers and customers are sufficiently large, they may attempt to utilise call back. Detecting and preventing such activity is not always straightforward.
12. The most direct effect of call back, where it is permitted, is to apply some pressure for collection charges in the respective countries to be aligned. Call back does not necessarily apply pressure for settlement rates to fall – indeed the reverse is possible, since it tends to increase the incoming calls to a country 'suffering' from call back relative to outgoing calls and so may increase the incentive of the operator to keep settlement rates high, to benefit from a net settlement surplus.

**QC.1** *Even if attempts are made to prevent arbitrage, such as refile and call back, will the exploitation of profitable arbitrage opportunities have an effect in reducing Jamaica's settlement rates and/or reducing CWJ's net settlement profitability?*

#### **Bypass opportunities**

##### *Private networks*

13. A number of ways exists in which the normal international telephony settlement rate system can be bypassed. Some of these methods are permitted, for example, where an organisation has activities in two countries and connects them using a private network. Neither the public network in the originating or terminating country would be used and no settlement rate payment would be

due on such international traffic. Another possible bypass method involves say a call originating on such a private network, but 'breaking out' onto the public switched network at the other end. By bypassing the public international network, a settlement payment is avoided. This type of bypass is not permitted in Jamaica.

#### *ISR*

14. Regulators in some countries have mutually agreed to permit bypass at both ends of some of their international routes, because of the additional competition in international traffic that this can create. For example, International Simple Resale (ISR) is permitted on routes between certain countries (such as USA-UK and Australia-Sweden). Callers reach the ISR operator's network using the public domestic network in the originating country; the ISR operator routes the call over its network, which includes international circuits leased from an international facilities provider, and hands it over for termination on the public switched network in the far-end country (hence, there is 'break out' at both ends). ISR is not permitted on international routes to and from Jamaica.

#### *Internet telephony*

15. Another way to bypass the telephony settlement rate would be to make voice telephony calls over the Internet (or other types of data networks). The Internet, based around data services, uses a different type of technology (packet switching) from that traditionally used for voice telephony (circuit switching). Data networks were not designed to carry voice traffic, which requires that messages are carried on the network in a precise order and to precise timings – otherwise the conversation would be garbled. But the technology has existed for several years to enable voice calls to be made over the Internet from a computer in one country to a computer in another country. The technology now also exists to enable voice calls to be carried over the Internet from computer to telephone and from telephone to telephone. Future advances in the technology can be expected to improve the quality and efficiency of Internet telephony.
16. Many predict that Internet telephony will have a dramatic effect on the pattern of international traffic. It is unclear whether fewer costs are incurred to provide Internet telephony than international calls over the traditional voice networks, but the greater the amount by which settlement rates and collection charges exceed the underlying cost of the latter, the larger the scope for Internet telephony to be provided profitably at prices comfortably below collection charges for normal voice calls. So, it is possible that the use (or threat to use) Internet telephony could apply significant pressure for settlement rates to fall closer to cost.
17. Voice over the Internet should not be viewed as providing solely a bypass opportunity. Voice can be expected to be used increasingly as one element of new types of 'converged' services available on the Internet that also include, for example, video, audio and data elements (eg multimedia videoconferencing involving video, voice and data, and an icon on a Website indicating "click here to speak to....").

#### *GMPCS*

18. Later this year service will be offered on the first Global Mobile Personal Communications by Satellite (GMPCS) network (Iridium), with service on other networks to follow next year. These will provide worldwide coverage for a mobile service from and to handheld, portable phones, by using a network of (typically) low earth orbiting satellites. It is intended that roaming agreements

will be set up so that the domestic cellular network could also be used from the same phone. When using the low earth satellites, GMPCS could bypass the current international networks and the accounting rate system (though at present the networks are not intending to do so). The initial price of calls will be relatively high, eg approximately US\$4 per minute for a call between Jamaica and the USA (on the Iridium network, using the low earth orbiting satellites), and it is expected that on launch the service will appeal primarily to specialist users. But, over time, prices could fall and demand could be much more widespread.<sup>6</sup>

**QC.2 How important (in terms of amount or proportion of traffic) will be the methods for accounting rates to be bypassed, and how soon can their effects on a significant scale expect to be felt in Jamaica?**

**Conclusion on alternative calling procedures**

19. Arbitrage and bypass opportunities arise primarily from misalignments between settlement rates and cost, and between collection charges and settlement rates. Much of the bypass (and arbitrage) activity may be productively inefficient, in the sense that the costs incurred may exceed the costs of carrying traffic on the international networks that are being bypassed (or used in 'unusual' ways, such as in call back and refile). However, there is a private incentive to engage in bypass and arbitrage because price signals - settlement rates and collection charges - are so out of line with costs. Whilst there may be a productive inefficiency, the consumers using bypass and arbitrage benefit because they pay lower prices. There may also be consumer benefits in terms of customer service (eg billing procedures better tailored to the customer's wishes), convenience and mobility (as with GMPCS), and from the integration of voice in new and innovative 'converged' service offerings (eg over the Internet).
20. Commentators' attitudes to bypass and arbitrage tend to depend upon whether or not they wish to see settlement rates fall towards cost or remain high. In the context of this document, it can be noted that if bypass and arbitrage occur and reduce CWJ's net settlement profits, pressure for tariff rebalancing in Jamaica would be created.

<sup>6</sup> International calls could also be made via the local cellular network (with whom there is a roaming agreement) - these would use existing international networks and would not bypass settlement rates.

## ANNEX D: COST CONCEPTS AND FULLY REBALANCED TARIFFS

1. As noted at the start of Chapter 4, all references to 'cost' in this document include a return on investment as well as operating costs and depreciation. However, for ease of exposition, a discussion of different possible cost concepts was avoided in Chapter 4. Three different cost measures are explained in the first section of this Annex: fully distributed, incremental and marginal costs. Each can form the basis of a definition of 'fully rebalanced' tariffs – these various definitions are discussed in the second section.

### Cost concepts and measures

#### Fully distributed costs

2. Fully distributed costs are derived by accounting systems that distribute costs among the various services that the company provides. All costs are distributed, so that the sum of the fully distributed costs of the services equals the company's total costs.

#### Incremental costs

3. There are several possible meanings for the term 'incremental cost'. Here, incremental cost is identified with total service long run incremental cost, ie the cost caused by the provision of a service (eg lines or intra-Parish calls), given that some other services are already provided.<sup>7</sup> Total service (or total element) incremental cost is commonly used in telecoms regulation, eg by the FCC in the USA, OFTEL in the UK, OPTA in the Netherlands, and OFTA in Hong Kong.
4. The sum of the incremental costs of the services will be less than the total cost of the company – the remainder of the costs are the common costs. Common costs (sometimes referred to as 'joint' or 'fixed common' costs) arise where there are economies of scope between services, and they are not causally related (or incremental) to any of the products or services taken individually. Economies of scope exist if two (or more) services can be produced at lower cost by a single company, than by two separate stand-alone producers.

#### Marginal costs

5. The marginal cost is the cost of producing an additional unit of output of a service. The additional unit could be another line, or another call minute. The sum of the marginal costs of the services is less than the total costs of the firm and indeed less than the sum of the incremental costs. **Marginal costs (by definition) do not include fixed costs, costs that do not vary with the level of output, nor common costs.**

<sup>7</sup> Other possible uses of the term 'incremental cost' are to refer to the cost of adding a small increment of output, in which case the concept is closely related to marginal cost (see below), or to refer to the cost of adding a defined amount of output, not necessarily 'small', in which case the concept is closely related to avoidable cost (see Annex E).

6. Incremental costs include fixed costs (if they are specific to particular services – otherwise they form part of the common costs). Fully distributed costs include both fixed costs and common costs.

### Summary of differences

7. Table D.1 summarises the key cost concepts and the differences between the cost measures discussed.

**Table D.1: Key cost concepts**

<i>Types of cost</i>	<i>Marginal cost</i>	<i>Fixed cost</i>	<i>Common cost</i>
<i>Measure of cost of a service</i>			
Marginal cost	Included	Excluded	Excluded
(Service) incremental cost	Included	Included (if service specific)	Excluded
Fully distributed cost	Included	Included	Included

### Possible definitions of fully rebalanced tariffs

8. In considering tariff rebalancing, it is important to have a vision of the end-point, ie what would constitute tariffs that are 'fully rebalanced'. As the discussion below will indicate, there is in general a trade-off between, on the one hand, the conceptual relevance of the definition and, on the other hand, the ease of practical implementation (though currently there is insufficient information to implement any of the definitions). It might be thought that it is not worth considering definitions that could not be implemented in practice, because of measurement difficulties. However, the usefulness of considering the most conceptually relevant definitions, even if they cannot be implemented in detail, is that certain qualitative implications can be drawn. It also shows up the compromises and simplifications that need to be made in any practical approach.
9. Three possible approaches to defining fully rebalanced tariffs are discussed in turn below in increasing order of conceptual relevance and declining order of ease of implementation.

### Using fully distributed costs

10. The first approach defines rebalanced tariffs in terms of fully distributed costs:-  
*A tariff is fully rebalanced if the price of each service equals its fully distributed cost.*
11. This approach defines a unique set of prices as representing the fully rebalanced tariff. Although it is simpler to implement than the other approaches discussed below, the ease of implementation can be overstated. The meaning, characteristics and usefulness of fully distributed cost data depend very greatly upon the detail of the accounting approach used to derive them, including the relevance and accuracy of the initial data and the methods used to allocate costs among services.

For example, if the valuation of assets was inappropriate, perfect allocation methods would still not lead to useful cost results (on the principle of "garbage in, garbage out"). Or the cost results by service would have little value if the costs had been allocated in a way that bore no relation to the ways in which costs are caused.

12. From the point of view of economic efficiency, using fully distributed costs is arbitrary, because it imposes a particular way for common and fixed costs to be recovered, determined by the accounting methods. Such costs are not caused at the margin by the provision of output of the services. They need to be recovered in total or the company will make a loss (or an inadequate return on investment), but in general, economic theory suggests that the nature of the demand for the services should be taken into account when considering the recovery of costs that are not directly caused.

#### **Using incremental costs**

13. One way to approach this issue is to define fully rebalanced tariffs as a range of possible sets of prices:-

*A tariff is fully rebalanced if the price of each service is greater than or equal to its incremental cost.*

14. This approach to defining a tariff considered fully rebalanced is equivalent to requiring that no service receives a subsidy. The usual (economic) definition of a subsidy is that a service is in receipt of a subsidy only if its revenue fails to recover its incremental cost. If revenue exceeds incremental cost, the company is more profitable by providing the service than by not providing it (even if revenue is less than the fully distributed cost).
15. Rather than imposing a particular pattern of recovery of the common costs (as with the first definition), this approach does not specify how the common costs are to be recovered. According to the definition, tariffs may be fully rebalanced, even if all of the common costs are recovered from a single service, so long as each service at least recovers its incremental cost.
16. This approach can be implemented and has some conceptual appeal, eg it does not restrict the number of tariffs – several tariffs could be offered, each of which was 'fully rebalanced'. But there is both a practical and a conceptual disadvantage. The practical disadvantage is that incremental costs are generally considered more difficult to derive than fully distributed costs (although they have been estimated and used in various regulatory regimes). The conceptual disadvantage is that the approach ignores some potentially relevant considerations. These are taken into account in the third approach.

#### **Using marginal costs (Ramsey prices)**

17. The third approach is the most difficult to implement, partly because it takes account of the greatest number of relevant factors:-

*A tariff is fully rebalanced when it is the same as the set of Ramsey prices.*

18. Ramsey prices are the economically efficient prices where there are economies of scale and scope. Fixed costs give rise to economies of scale (ie declining average costs as output increases) and common costs are present where there are economies of scope.
19. In general, prices are economically efficient when they equal marginal costs, because consumers then face a price signal that reflects the resource cost, the cost to society of supplying another unit of the service. Only where price equals marginal cost is it the case that all consumers, whose willingness to pay exceeds the resource cost, purchase the service (and no consumers purchase whose willingness to pay is less than the resource cost).— But, prices set equal to marginal cost will result in the company incurring a loss, because it would fail to recover its fixed and common costs. The Ramsey prices identify the set of mark-ups over marginal costs that result in the most economically efficient outcome, given the need for the company to break-even (strictly; earn an adequate return on investment).
20. The Ramsey framework can be made progressively richer by allowing for the incorporation of additional relevant factors. With each addition the trade-off with the ease of practical implementation becomes ever more apparent. Three types of Ramsey prices are discussed here, each adding an additional layer of complexity to the previous one.
  - i) *Elasticities of demand for the services*
21. At their simplest, Ramsey prices relate the size of the mark-up of the price of a service over its marginal cost to the inverse of the elasticity of demand for that service. If the demand for a service is more inelastic (elastic) than other services, its price should include a larger (smaller) mark-up over marginal cost. The rationale is that this set of prices results in the least distortion in the pattern of consumption compared with marginal cost pricing.
22. The relevant elasticities are not just the 'own-price' elasticities (ie the effect that a change in the price of service A has on the demand for service A), but also the 'cross-price' elasticities (ie the effect that a change in the price of service A has on the demand for service B - positive if the services are substitutes, negative if complements, and zero if neither).
23. Empirical studies generally find that, on average amongst consumers, the demand for the line is the most inelastic and the demand for international calls is the most elastic. The simple version of Ramsey prices would imply therefore that it would be economically efficient for the line rental to have the largest mark-up over the marginal cost of the line, and for collection charges to have the smallest mark-up over the marginal cost of international calls (essentially, the opposite of the price structure observed in most countries).
24. Even this relatively simple version of Ramsey prices is generally considered not to be practically implementable, primarily because of the difficulties in obtaining robust estimates of the various elasticities. Despite this, it is worthwhile pursuing the discussion, even though by now it may be considered largely theoretical, because some significant implications can be drawn from the full-blown version of Ramsey prices.



*ii) Network externality*

25. In telecoms there is an important reason why a deviation from marginal cost pricing (even in the absence of economies of scale and scope) could be optimal. This feature is usually referred to as the network externality. An externality arises where a decision is taken that affects others (either positively or negatively) but the individual making the decision has no incentive to take these indirect effects into account. The externality is 'internalised' by altering the price signal so that the decision maker takes the indirect effects into account: if the external effect is positive (as here) price should be below marginal cost (absent other factors, such as economies of scale and scope).
26. The decision of a new subscriber to join the network benefits existing subscribers, because they can now call and be called by the new subscriber. But these benefits would be lost, if the subscriber were to decide not to join the network, because he/she could not afford to pay the tariff. The network externality can therefore provide a justification for reducing the size of the mark-up of the line rental over the marginal cost of the line. This is economically efficient, so long as the benefits gained from the new subscriber joining are sufficiently large.
27. Consideration of the network externality reduces the economically efficient mark-up over marginal cost. Whether it would be economically efficient for the line rental to be priced above or below the marginal cost of the line is an empirical matter, since it depends on the magnitude of the offsetting network externality and elasticity effects.

*iii) Different Ramsey prices for different consumers*

28. So far, the discussion of Ramsey prices has been in terms of the single set of prices that is economically efficient. But different consumers (or groups of consumers) can have different patterns of demand elasticities and different sizes of the network externality effect. In principle, therefore, the tariff that is most economically efficient for one consumer may not be the most efficient for another.
29. This approach suggests that a relatively low line rental and relatively high call prices may be economically efficient for those consumers for whom demand for the line is most elastic, and for whom the network externality effect is strong (eg those with affordability difficulties, who would make relatively few calls but might receive a relatively large number of calls). On the other hand, a relatively high line rental (or other fixed charges) and call prices close to the marginal cost of calls may be economically efficient for other consumers that have a very inelastic demand for the line and a small network externality effect.

**Conclusion**

30. The most useful interpretation of the question "what are fully rebalanced tariffs?" is the set of tariffs that should be the end objective of rebalancing activity. The approach that is the most simple to implement, using fully distributed costs, is also the most simplistic. It suggests that a single set of prices for all consumers should be the end objective. The discussion in Chapters 6-8 suggested that there are good reasons why different groups of consumers would want to be on different tariffs, or the achievement of universal service would benefit if different consumers were put on different tariffs. The discussion of economic theory above suggests that this approach of

variation in tariffing may also be economically efficient. The other two approaches, using incremental costs and Ramsey prices allow for a set of prices to be offered to different consumers, each tariff being (in some sense) 'fully rebalanced'.

31. It is not suggested that the end objective of rebalancing – fully rebalanced tariffs – should be explicitly calculated, full-blown Ramsey prices. However, in order to develop an approach that is appropriate as well as practical, there should be a clear idea of the conceptual underpinning of the issue at hand. The type of simplifications made to derive a practical approach should as far as possible take into account the relevant conceptual considerations.

**QD.1 What approach should be taken to defining 'fully rebalanced' tariffs, both conceptually and for practical implementation?**

## ANNEX E: UNBALANCED TARIFFS AND UNIVERSAL SERVICE

1. In Chapter 6 a clear distinction is drawn between universal service (the goal of a line to every household that wishes to be connected to the network) and unbalanced tariffs (the means used to attempt to make tariffs affordable), and some implications of the distinction were discussed. This Annex considers the difference between the costing and funding of universal service and of unbalanced tariffs.

### Distinction between access deficit and cost of universal service

#### Access deficit

2. The reasoning is simpler to present, if it is considered that the line rental is below the cost of the line but domestic call prices are not (this may or may not be the case in Jamaica – see Chapter 4). With this simplification, the 'cost' of unbalanced tariffs to the incumbent can be measured by the access deficit, which is the difference between the costs of providing lines and the revenues raised from connection charges, line rentals and other fixed charges (sometimes called subscription charges).
3. The access deficit is a service based approach, ie it measures the extent to which the prices charged for a particular service, the provision of lines, falls below the cost of that service.<sup>8</sup> In some liberalised environments (eg Europe), the access deficit is sometimes included in the charge for domestic interconnection paid to the incumbent. It is important to be clear why this 'surcharge' is included – it is there to provide competitive neutrality (and the flip-side of this reason, to enable the incumbent to sustain unbalanced tariffs), but it is not there to fund universal service.
4. For reasons of competitive neutrality, this surcharge is to be paid, for example, by those operators who do not themselves incur costs of lines but who compete with the incumbent for calls, eg indirect access (or long distance) operators. Indirect access operators sell domestic or international calls to consumers in competition to the incumbent, but using the incumbent's existing lines. An indirect access call originates on the consumer's line provided by the incumbent and is handed over to the indirect access operator from an incumbent's switch. The indirect access operator buys call origination from the incumbent (and may need also to buy call termination to deliver the call). Consumers may choose different indirect access operators by dialling different access codes before the dialled number (in some regimes a 'preselect' option is also available). This type of arrangement is not available in Jamaica.
5. The argument is that the competing operator should face the same access deficit 'cost' as the incumbent implicitly faces because of its unbalanced tariffs (which may be imposed on the incumbent by explicit or implicit government or regulatory policy). Otherwise, an indirect access operator could undercut the incumbent's call prices, even if it had higher costs of supplying calls (ie were less efficient) than the incumbent. In the limit, the incumbent could lose all of its profit on calls and so would be unable to sustain pricing the line rental below cost (without suffering an overall loss). Hence, indirect access operators pay these access deficit charges or contributions but mobile operators generally do not, because it is considered that mobile calls do not compete

<sup>8</sup> For simplicity, it is not discussed whether the 'cost' considered should be the marginal, incremental or fully distributed cost – see Annex D for a discussion of these cost concepts.

directly with (are not close substitutes for) calls on fixed networks. This is the case, for example, in France and in the UK (before access deficit contributions were abolished in 1996).

#### *Cost of universal service*

6. A methodology is now well-established to estimate the costs of universal service. It was originally developed in Australia and has been used subsequently in many countries, including France, Hong Kong, the Netherlands, Norway, Sweden, Switzerland and the UK. The cost of the universal service obligation (USO) is the difference in the universal service provider's (USP's) profitability with and without the universal service obligation. The methodology seeks to identify those customers that the operator serves only because of its obligation. This involves identifying those customers or clusters of customers that the USP would be better off (ie more profitable) by not serving - such customers are referred to as 'uneconomic'.
7. An uneconomic cluster of customers may be in a remote rural area. If the USP were to discontinue service to that area, it would save the long-run avoidable costs (the cost that can be avoided by not providing a defined amount of output, such as a given number of lines and call minutes). It would forego not only the revenues billed to the customers in that area, but also the revenue from calls made by the USP's other customers to that area. An area is uneconomic, therefore, only if the long-run avoidable costs exceed the sum of the revenue from the fixed charges and the revenue from outgoing and incoming calls to that area. An individual consumer may be uneconomic because he or she makes and receives few (international) calls and the line rental is below the avoidable cost of his or her line.
8. The USO costing methodology is a customer based approach, not service based like the access deficit. It measures the reduction in profitability imposed on the USP from bearing the obligation to provide service on a universal basis to all consumers.
9. The USO cost may be more difficult to estimate in practice than the access deficit. The USO costing methodology depends upon very detailed and disaggregated cost and revenue information. In estimating the access deficit, it is the average cost and revenue that matters; but for the USO cost, what matters is the distribution of avoidable costs and revenue and the correlation between them. Table E.1 describes some of the differences between the access deficit approach and the USO costing methodology.

#### *Conclusion*

10. The cost to the incumbent of unbalanced tariffs is measured quite differently from the cost of universal service. The issue of the funding of the access deficit, which arises from unbalanced tariffs, through 'surcharges' on domestic interconnection charges is about competitive neutrality. If the operator providing the unbalanced tariffs was to face no competition in the services from which the access deficit was recovered, there would be no sound reason for including surcharges on domestic interconnection charges to fund the access deficit (even if the unbalanced tariffs were considered socially or economically desirable). For wireless local loop (WLL) competitors the surcharge would not be needed (or a similar surcharge would be paid by the incumbent to the WLL operators for call termination as well as vice versa), because they incur costs of lines as well as calls. In contrast, funding the cost of universal service might still be relevant to all providers, as discussed below.

**Table E.1: Differences between the access deficit and the cost of universal service**

<i>USO costing methodology</i>	<i>Access deficit</i>
Customer based approach	Service based approach, looking only at one service: the line
Long run avoidable cost, which excludes common costs and some fixed costs that are included in fully distributed costs	Typically, fully distributed cost (FDC), although, in principle, long run avoidable cost could be used
Modern equivalent asset (MEA) valuation, ie assets valued at their cost of replacement by an asset serving the same function that incorporates the lowest cost proven technology	Typically, embedded or historic cost asset valuation, although FDC can be derived using MEA asset valuation (as, for example, BT does in the UK)
Inclusion of incoming call revenue (net of avoidable costs)	Does not take account of profits from incoming international calls or other types of call
Only the loss from serving unprofitable customers is measured	The gains (if any) from serving customers with below average line costs is netted off against the losses from serving customers with above average costs
If tariffs were rebalanced <i>on average</i> (ie the average line rental equals the average line cost), a universal service cost may remain because it may still be unprofitable to serve customers with above average cost	If tariffs were rebalanced <i>on average</i> , the access deficit would be zero

### Funding universal service costs

11. It is beyond the scope of this document to explore in full the issues surrounding the appropriate way to fund the costs of universal service. This may be an issue on which, in due course, the OUR will issue a separate Consultative Document. For the purposes of this document, the main funding options are very briefly sketched.
12. Although the immediate incidence of payments to fund the costs of universal service may fall upon operators, it is more appropriate to consider which sets of consumers are providing the subsidy, because ultimately it is consumers who pay. The main funding options, in principle, are:-
  - Taxpayers (eg Chile, Poland)

- Profitable telecoms consumers, through a 'tax' on all telecoms revenue or on call minutes using the USP's network, such as via an interconnection 'surcharge' (eg Australia, France, Hong Kong, Peru, USA).
13. In Jamaica the costs of universal service are currently funded by CWJ's profitable telecoms consumers. However, this occurs implicitly and is not explicit, eg the size of the cost of universal service is not known, nor the size of contributions made by any consumers.
  14. The recent Government Telecommunications Policy states that competition will be introduced in the provision of value added and wireless services. The question may arise as to whether the customers of new entrants should also make a contribution towards the recovery of the costs of universal service, as well as CWJ's customers. Depending on the answer to this question, there may be a need, therefore, for the current implicit universal service funding arrangements to be made explicit.

### Conclusion

15. The distinction between unbalanced tariffs and universal service is crucial in developing an appropriate framework for universal service funding. France provides a practical example of a regulatory regime that makes a clear distinction in the mechanisms used to fund, on the one hand, universal service and, on the other hand, unbalanced tariffs. Two separate 'surcharges' are identified in addition to the basic cost-based interconnection charge to be paid to France Telecom, the incumbent and universal service provider. One surcharge is an access deficit charge, arising from unbalanced tariffs, that is to be paid by indirect access operators, but not, for example, by mobile operators. The other surcharge is a universal service contribution that is to be paid by all purchasers of interconnection, including mobile operators. The access deficit and universal service cost are estimated in the ways described above.<sup>9</sup>

<sup>9</sup> There is one modification - to avoid double-counting the universal service cost is calculated on the assumption of a fully rebalanced line rental rather than the actual line rental.

## **ANNEX F: GLOSSARY**

### ***Accounting rate***

The rates specified in bilateral agreements between operators that carry international calls, which determine the charges to be paid by one to the other for calls to be terminated. See also *settlement rate* and *transit*.

### ***Alternative calling procedure***

Methods for international calls to be made that do not involve 'normal' uses of the *accounting rate* system. One category involves arbitrage of differences in *settlement rates* (eg *refile*) and *collection charges* (eg *call-back*). Another category involves bypassing the payment of settlement rates (eg *ISR*, *Internet telephony* or *GMPCS*).

### ***Call back***

A type of *alternative calling procedure*, in which the initiating customer sends a signalling message to an operator in another country (eg by hanging up after a specified number of rings), in order for the call to be made to (rather than from) that customer. The direction of the call is reversed to exploit differences in *collection charges* between countries.

### ***Circuit switching***

The type of switching currently used in public telephone networks, in which a whole circuit is held open for the duration of the call. Unlike *packet switching*, this means that for much of the time a significant amount of the capacity of the circuit may not be used due, for example, to pauses and silences during a conversation.

### ***CITEL***

Inter-American Telecommunication Commission, an entity of the OAS.

### ***Collection charge***

The retail price charged to consumers for outgoing international calls. An important influence on the collection charge is the *settlement rate*.

### ***CTU***

Caribbean Telecommunications Union.

### ***CWJ***

Cable & Wireless Jamaica (formerly known as Telecommunications of Jamaica, ToJ).

### ***Deadweight loss***

A wasteful use of resources arising from prices that are excessive relative to cost – the deadweight loss measures the potential benefit that is obtained by neither consumers nor producers, but would be captured by one or the other (or shared between them) if prices were economically efficient.

### ***Economies of scale***

There are economies of scale if the average cost falls as the level of output rises.

### *Elasticity*

The price elasticity of demand is the ratio of the percentage change in demand that would result from a given percentage change in price (other things being equal). Since a higher price usually leads to a reduction in demand, the price elasticity is normally negative. If the magnitude of the elasticity is equal to unity, a small price reduction will lead to no change in revenue. For price changes that are not small, the relevant elasticity needs to be larger than unity for revenue not to decline. For example, say the initial price is 10 and the volume demanded is 20. If the elasticity were  $-1$ , a 20% price decrease (from 10 to 8) would lead to a 20% demand increase (from 20 to 24), and revenue would fall from 200 to 192 (in this example, the elasticity would need to be  $-1.25$  to prevent a revenue decline).

### *FCC*

Federal Communications Commission, the telecoms regulator in the United States of America.

### *GMPCS*

Global Mobile Personal Communications by Satellite: a technology, generally involving low earth orbiting satellites, that will be used by networks to provide a global telecoms service from a portable hand-held telephone.

### *Internet telephony*

The provision of voice calls over the Internet, which uses *packet switching* technology.

### *ISR*

International Simple Resale – an international call service provided to the public (where permitted) involving the use of an international leased circuit to bypass *settlement rate* payments (the public network is used in both countries on the route to originate and terminate the call).

### *ITU*

International Telecommunications Union, which issues regulations and recommendations regarding the bilateral negotiation of *accounting rates*.

### *Leased circuit*

The provision of dedicated transmission capacity to be used by the lessee. It may be used as part of a *private network*, or in the provision of a public service (where permitted), eg by Internet service providers.

### *Local loop*

The telephone line (usually a pair of copper wires) from the local exchange to the customer's premises, including associated capital (eg duct or poles) and operating activities (eg maintenance). The costs of the local loop are driven by the number of lines (whereas the costs of switching and transmission are driven by the amount of traffic).

### *Marginal cost*

The cost of producing an additional unit of output (such as an additional call minute or an additional line).

### *Net settlement surplus (deficit)*

The difference in an operator's payments made to and received from an operator in another country to and from whom international calls are sent and received. An operator will have a net settlement surplus



if it receives a larger number of call minutes from the other operator than it sends (if, as is usual, the *settlement rate* is equal in each direction).

**OAS**

Organization of American States.

**OFTEL**

Office of Telecommunications, the United Kingdom telecoms regulator.

**One way breakout**

A practice in which a *private network* (or *leased circuit*) is used, but the call either originates or terminates on the public network (if the call both originates and terminates on the public network, there is two way breakout, as in *ISR*).

**OUR**

Office of Utilities Regulation.

**Packet switching**

A technology, traditionally used for transporting data and used for the Internet, that arranges messages in separate packets, which may be transmitted at different times over different transmission paths and reassembled. Software has been developed to provide the precision in the synchronisation of messages required in a voice call to allow *Internet telephony*.

**Parallel accounting**

A regulatory requirement, imposed in some circumstances by some regulators (such as the *FCC*), to ensure that all operators licensed by that regulator have the same *accounting* and *settlement rates* with operators in particular far-erid countries (eg where there are monopolies). It may be imposed in the attempt to prevent *whipsawing*.

**Private network**

A network typically comprising leased circuits which is often used for telecom services within an organisation that (say) has offices at different locations, possibly in different countries, but is not used for the provision of services to the public.

**Productive efficiency**

This occurs when outputs are produced at minimum cost, ie the fewest possible resources are used to produce the given amount of output.

**Proportional return**

A regulatory rule, imposed in some circumstances by some regulators (such as the *FCC*), to require the operators licensed by that regulator on a particular international route to receive traffic from the far-end country in the same proportions as those operators send traffic to that country. It may be imposed in the attempt to prevent *whipsawing*.

**Rebalancing**

A change in the structure of a set of prices to make them more cost reflective.

### **Refile**

A type of *alternative calling procedure* in which international calls are routed via a third country (unlike *transit*, not as part of the *accounting rate* agreement), rather than using the direct route. It may be used in order to exploit differences in *settlement rates* between countries.

### **Settlement rate**

The amount to be paid by one operator under an *accounting rate* agreement to the other for an international call to be terminated. The settlement rates are usually equal in each direction of the international route, ie 50% of the accounting rate (where no *transit* is involved).

### **TCP**

Tariffed Components Pricing – the methodology used by the FCC to derive its benchmark *settlement rates*.

### **ToJ**

See CWJ.

### **Transit**

The use in an international call as part of an *accounting rate* agreement of a third country, in which the call neither originates nor terminates. Most traffic involves direct routings and does not include transit, but where it is used, a proportion of the accounting rate is specified for payment to the transit operator.

### **Unbalanced tariffs**

A structure of prices, which is not cost reflective, involving some prices below cost and other prices above cost.

### **Universal service**

The goal of provision of a line at affordable prices to every household that wishes to be connected to the network.

### **Whipsawing**

A practice whereby (say) a monopolist at one end of an international route plays off competing operators at the other end of the route against each other, in order to obtain more favourable terms in the bilaterally negotiated *accounting rate* agreements.

### **WTO**

World Trade Organisation.