



# CABLE BAHAMAS

**BY Facsimile & Hand**

October 1, 2009

Mr. Usmann Saadat  
Director of Policy and Regulation  
Utilities Regulation and Competition Authority (URCA)  
4 Terrace East Centreville  
Agape House  
Nassau, Bahamas

Dear Sir:

Re: Consultation on Cost of Capital

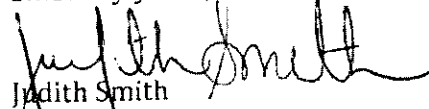
Please find herewith our submission in respect of the Consultation on the Cost of Capital.

Our submission is abridged as a result of the Preliminary Determination revealed by URCA on the 30 September, 2009 on the Types of Obligations on Cable Bahamas Ltd under s. 116(3) of the Communications Act, 2009. The contents of this document define more clearly URCA's services/market definition as they relate to SMP operators. This then relates to areas of Cost of Capital.

We are disappointed that the Authority chose to publish that information, which is so material to consideration of a market-specific cost of capital measure, in such a way as to effectively prevent stakeholders from considering it in their response. We are making this response with the understanding that we will have the opportunity to make a further submission once we have had a chance to fully consider the detail of the SMP designations that the Authority is intending.

If there are any further questions, please let us know.

Sincerely yours,



Judith Smith  
Legal Counsel

Jms

Attachment

**Public Consultation on the Cost of Capital  
for designated SMP operators**

*Consultation Document – ECS 02/2009*

*Issued by the Utilities Regulation and Competition Authority*

**Response of  
Cable Bahamas Limited (“CBL”)**

**October 1, 2009**

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## 1.0 Introduction

Cable Bahamas Limited (“CBL”) hereby responds to the Public Consultation on the preliminary determination on the cost of capital for designated SMP operators (the “Consultation Document”) issued 19 August 2009 by the Utilities Regulation & Competition Authority (the “Authority”).

On the eve of this submission, CBL was issued URCA’s Preliminary Determination – Types of Obligations on Cable Bahamas Ltd. under s. 116(3) Communications Act, 2009 (“Preliminary Determination”). We are disappointed that the Authority chose to publish that information, which is material to consideration of a market-specific cost of capital measure, in such a way as to effectively prevent stakeholders from considering it in their response. We are making this response with the understanding that we will have the opportunity to make a further submission once we have had a chance to fully consider the detail of the obligation that the Authority is intending.

CBL is pleased with the general approach and level of detail that the Authority has applied to its analysis of the cost of capital. CBL respectfully submits, however, that certain aspects of the approach undermine the key objective of its exercise: to develop reasonable market-specific cost of capital measures for communications in the Bahamas. In particular, we believe that the Authority should modify its approach in order to measure more accurately the cost of capital for data and Pay TV services by revising the relevant betas.

On the basis of modifications which are described in detail in our response to the Authority’s questions, we conclude that a much more appropriate set of estimates for the cost of capital are as follows:

- Data: 11.9%
- Pay TV: 11.1%

CBL’s response to the Consultation Document consists of two sections. In the first, CBL addresses two issues that are not explicitly raised in the Consultation Questions and relate to the application of the cost of capital measures determined through this Consultation. The second section provides CBL’s response to each of the 17 specific Consultation Questions.

## 2.0 Preliminary issues relating to the application of the cost of capital

### 2.1 Consultation exposes an additional flaw with respect to presumption of SMP

## in high-speed data services

The Authority is well aware of CBL's objections to it being presumed dominant in the provision of Pay TV and high-speed data services and connectivity. In our submission to the recent retail price regulation consultation, we provided more evidence as to why we believe these presumptions are flawed and may lead to significant negative effects on investment and innovation.

CBL recognizes that this Consultation is not the place to be making arguments with respect to dominance designations. However, we believe that the discussion in the Consultation Document further exposes the error in the approach to how SMP was designated in the first place.

Above all, the references in this document to the market in which CBL is presumed to be dominant underscore the lack of clarity as to what markets are actually at issue. The markets are described as "high speed data and connectivity services" (paras 6 and 9), "high speed data services" (paras 66, 135, table 9, 159), "data" (table 10, paras 142, 157-164). The benchmarking also refers to sets of data services that we would be surprised if the Authority really believed CBL has dominance in.

We again urge the Authority to reconsider its presumption of SMP for CBL in high-speed data services and connectivity as well as in Pay TV. Alternatively, as also suggested in our retail price submission, if it cannot reverse this designation at this time, the Authority should ensure that any price regulation should be narrowly focused and light-handed in nature. In either of the cases--reversal of the SMP designation or light-touch regulation--the relevance of the cost of capital measure for the Pay TV and high-speed services at issue in this consultation is greatly reduced, if not eliminated.

### 2.2 Consultation raises additional questions in respect to application of cost of capital

There are statements made in the Consultation Document that raise questions concerning how the cost of capital will be applied in price regulation. For example, in para. 23, the Authority states that the cost of capital may be thought of as a regulated profit margin, or mark-up over efficient costs. The Authority does not indicate, however, what the implication of such an interpretation may be for the application of the cost of capital. Does the Authority, for instance, believe that the costs of the comparator companies from which it draws the component values for its measure of cost of capital (either directly or indirectly through other benchmarking studies) are any more "efficient" than each of the SMP service providers in the Bahamas? If so, on what basis does the Authority think this to be true and, what are the implications for cost-based price regulation?

Also, the Authority implies that it will be using the cost of capital to assess profitability by comparing the weighted average cost of capital (WACC) against economic measures of profit (para. 25 and 26), but then finds fault with those measures of profit. In particular, the Authority cites the measurement problems associated with the internal rate of return and return on capital

employed. Is there then some other measure of profit that the Authority is suggesting it will be using in the regulation of prices? If so, what does it have in mind?

We trust that the Authority will provide interested parties ample opportunity to comment on these issues, when the precise applications of the cost of capital are set out, presumably in subsequent Consultations.

### 3.0 Responses to the Consultation Questions

In this section, CBL provides its responses to each of the 17 questions included in the Consultation Document. CBL notes that it has generally responded to the questions in the context of their potential applicability to Pay TV and high speed data services or CBL's use of the fixed or mobile network. Some of the questions pertain to BTC's fixed line and mobile telephony retail services as well. Although BTC's retail services are of far less relevance to CBL, we respond to all of these questions based on what we believe to be most conducive to supporting good regulatory practice in all segments of the communications market in the Bahamas.

#### Question 1

Do you agree with URCA's use of the CAPM for the purposes of estimating the cost of equity?

#### Response 1

We understand that CAPM has a number of weaknesses, some of which the Authority discusses in the Consultation Document; however, alternative models for estimation—Arbitrage Pricing Theory, Fama French Three Factor model, Dividend Discount model and Stochastic/option pricing—have arguably more serious problems as well. We agree that CAPM is the best among the options for measuring the cost of equity.

Our concern with the Authority's use of the CAPM is more with its actual application in the Consultation Document. Some of the results shown for the cost of equity in Table 15 are inconsistent with the formulas presented in paras 34 and 114. We believe the Authority has either miscalculated the cost of equity or mis-entered the appropriate figures in these instances. The Authority should review the results presented in Table 15.

#### Question 2

Do you agree with URCA's use of benchmark and regulatory proceedings data? Please elaborate.

## Response 2

The use of a combination of benchmark and regulatory proceedings data has its merits. However, there are aspects of the calculation of the WACC that we believe the Authority should improve upon, and there are instances where we believe that the Authority should have used a better mix of data for estimation. We will deal with these issues under the questions below that specifically address the concerns we have.

## Question 3

Do you agree with URCA's use of ranges as a means to deal with uncertainty around parameter estimates?

## Response 3

The Authority has used ranges in two ways: a) it has used the low, mid and high values for each parameter of the equity and debt formulae; and b) it has derived the range of the nominal WACCs on the basis of the low, mid and high values of each of the parameters respectively. The result, presented in Table 15, is a set of very wide, overlapping, ranges of nominal WACC for each market. We agree in principle that it is best regulatory practice to indicate ranges; however, we have two issues with the approach to ranges that the Authority has adopted.

Firstly, with respect to the ranges of the parameter values, the Authority has not been entirely clear on what basis it has eliminated outlier values or otherwise truncated the ranges. For example, with respect to the risk-free rate, the Authority has used neither the minimum and maximum values nor the means, but rather something in between, for its range. The inconsistency in defining the ranges exposes the Authority to the accusation of its being arbitrary.

Secondly, with respect to the range of the nominal WACCs, it is not clear whether, or under what circumstances, the Authority would opt for the high-end, low-end or mid-point of a range. The preliminary determination indicates that the mid-points of the ranges will be used, which puts into question why the range of nominal WACCs are presented at all. If the Authority is opting for the midpoint of the nominal WACCs, it could have simply presented a table of mid-points of all the parameter values. If the Authority is not considering using low-end or high-end values of the WACCs, then the Authority is effectively not using the range.

We believe that the Authority could, however, make use of the ranges for the WACCs it has derived. In particular, CBL and other stakeholders are likely to present evidence why a number of WACC estimates should be revised. The Authority can use its original ranges to cross-check these revisions. For example, the revisions that we make to the calculation of specific parameters produce results that fall within the Authority's range of the nominal WACCs. The Authority can therefore draw comfort that our estimates are broadly consistent with its original approach and results.

#### Question 4

Do you agree with URCA's approach of estimating market-specific costs of capital?

#### Response 4

Our ability to comment fully on the approach depends to large measure on the market definitions that may have only been clarified in the Preliminary Determination. We intend to expand on this in our supplementary response.

Parenthetically, we note that the Consultation Document at para 66 states that Section 116 of the Communications Act identifies four relevant *retail* markets where SMP is presumed. The Authority seems to be implying that the SMP designation only relates to retail services. We seek clarification on this, as we do not believe this is the case, nor do we believe the Authority considers this to be the case.

#### Question 5

Do you agree with URCA's use of US government bond yields to assess the risk-free rate?

#### Response 5

We understand that there are a number of alternatives that could be considered. The Authority could choose risk-free instruments from another low-risk country, for example. However, we find no compelling reason why it should use a non-US alternative. The Authority could also use a relatively low-risk Bahamian instrument and make adjustment to its approach to country risk. However, we understand that there are problems associated with local bonds related to liquidity which disqualify them from consideration.

In terms of maturity, we would suggest that the Authority leave the one-year Treasury yield out of the calculation. We understand that the choice of maturity depends upon the purpose for which the cost of equity is being measured. As the Consultation Document notes regulators have generally opted for terms that comport with either the regulatory cycle over which the rate will apply, e.g. the duration of a price cap regime, or the life span of the assets costed. As a one-year term comports with neither of these traditional criteria, we believe the Authority should set the range for risk-free rate excluding the one-year treasury yield result.

Excluding the one-year treasury yield also allows for a more methodologically acceptable approach to reducing the wide range of the parameter's mean--3.4% and 5.2%--found in Table 1 of the Consultation Document.



Finally, the exclusion of the one-year treasury yield allows for the range to comport better with past regulatory decisions elsewhere.

#### Question 6

Do you agree with URCA's estimated range for the risk-free rate?

#### Response 6

Based on our comments above, we believe the range for the risk-free rate should be modified. The one-year treasury yield results should be dropped. Based on the means of the five-year, ten-year and twenty-year yields given in Table 1 of the Consultation Document, this suggests that the low end value should be 4.2% and the high end value 5.2%. That range remains consistent with the evidence of past regulatory decisions listed in 6.1.2.

We include these revised figures in our response to question 17.

#### Question 7

Do you agree with URCA's estimated range for the MRP?

#### Response 7

The Authority presents the results of numerous studies that use both historic and forward-looking approaches to estimating the MRP. We understand that there are problems with each of the techniques used with these approaches. However, we can agree with the reasonableness of the Authority's range of averages of estimates for the MRP between 4.0% to 6.0%.

#### Question 8

Do you agree with URCA's application of an equity country risk premium?

#### Response 8

We agree that it is entirely appropriate to apply an equity country risk premium for the reasons discussed in paragraph 109 of the Consultation Document.

#### Question 9

If so, do you agree with the approach used by URCA to estimate the size of this premium? Please elaborate.

#### Response 9

There are a number of different specifications for building country risk premia into the CAPM. The Authority has opted for an approach associated with Professor Damodaran. Using this approach, the Authority has taken Moody's country's credit rating for The Bahamas, adopted the cost of traded bonds at that credit rating and calculated the spread between that cost and a default-free bond rate. This represents the country risk. The Authority then multiplies by 1.5 to account for the additional volatility in emerging economy equity markets. This equity country risk premium is then added to the developed market risk premium.

CBL does not have any objection in principle to the use of Damodaran approach of estimating long-term equity country risk.

#### Question 10

Do you agree with URCA's approach to gearing for the SMP operators?

#### Response 10

We believe that a notional approach to gearing is appropriate, and that reasonable gearing levels, should always be used.

We note that Table 7 is somewhat misleading in that it suggests that regulators have produced very different measures of notional gearing assumptions. Generally speaking there are two sets of notional gearing assumptions: those from jurisdictions without corporate tax (Bahrain, Jersey and Guernsey), which tend to produce low gearing estimates and those from jurisdictions with corporate tax (UK, Ireland, Malta, New Zealand), which produce higher ones.<sup>1</sup> Given the tax benefits of debt over equity financing in tax jurisdictions, this is what we would expect. Seen in this light, the assumptions for notional gearing are fairly consistent.

We do agree with the Authority, however, that corporate debt policies are not solely

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<sup>1</sup> The admitted anomaly here is the Cayman Islands, a zero corporate tax jurisdiction, which the regulator opted for a high notional gearing level.

determined by the tax advantages of debt and so, even though The Bahamas has a tax regime similar to a country like Bahrain, to apply the extreme, zero gearing assumption would not be appropriate.

#### Question 11

Do you agree with URCA's approach of estimating market-specific betas? Please elaborate.

#### Response 11

We agree that the Authority should be estimating market specific betas; however, based on market data presented we believe, the Authority has underestimated the betas for data and Pay TV.

In particular, we have issues with respect to some of the aspects of the discussion of market risks (in paragraphs 131-136 and Table 9), which in turn lead us to believe that the betas for Pay TV and data services have been underestimated. First of all, the Authority does not clearly link the risk drivers and the implication for the betas in each market. Secondly, the Authority's examination of the markets appears inconsistent. For example, the reference to the development of a Next Generation Network (NGN) for fixed telephony should carry through to high-speed delivery. Why would the advent of an NGN be listed as a competitive advantage for BTC and not a competitive threat to CBL's high speed data? Finally, with respect to the Pay TV market, we disagree with some of the statements made. For example, we disagree that it is any less sensitive to macroeconomic conditions than the others. Moreover, given the regulatory regime proposed for Pay TV in The Bahamas, it is more exposed to regulatory risk than Pay TV companies in other jurisdictions. Finally, Pay TV also has just as much exposure to market risk as other companies in terms of large shutdown and resumption costs. More importantly, when one looks in more detail at actual comparator company data one finds that Pay TV and data do in fact have higher betas than the Authority indicated in its estimates. We discuss this in our response to question 12.

Our ability to comment fully on its approach depends to large measure on the market definitions that may have only been clarified the Preliminary Determination. We intend to expand on this in our supplementary response.

## Question 12

Do you agree with the equity beta ranges proposed by URCA?

## Response 12

Our ability to comment fully on its approach depends to large measure on the market definitions that may have only been clarified in the Preliminary Determination. We intend to expand on this in our supplementary response.

We do not agree with the equity beta ranges provided by the Authority for data and Pay TV betas.

With respect to the evidence from past regulatory decisions, there seems to be a logical flaw in how the Authority has used the beta ranges for Bahrain in 2005 and 2009, and Malta and Jamaica in 2008. The Authority simply uses the same range that those jurisdictions used for integrated operators for multiple, individual markets. This implies the beta is the same across markets. If empirical evidence bore this out, we might not have a problem with how the Authority has represented the betas in the table. However, this is not the case, and the use of beta estimates in this way runs counter to what the Authority is trying to achieve.

The Authority should exclude these items from the sample. Once this is done and considering Bahrain's TRA 2003 decision of 1.48 for the data beta, we can conclude that the equity betas for data services from regulatory precedent are comfortably above 1. As the Authority notes, with respect to Pay TV, there is less in the way of regulatory decisions that can service as benchmarks. Still, the regulatory benchmarks for the equity beta are in the range of 0.9-1.4, which we believe point the Authority in the right direction.

### *Data and Pay TV betas – empirical evidence*

It is in the interpretation of empirical evidence that we disagree with the Authority. With respect to Pay TV, the Authority collected data to estimate equity betas for comparator firms for the last one-year, the last three year and the last five-year periods. By unlevering the raw betas into asset betas and re-levering them using the notional gearing of 20%, the Authority arrives at the set of beta estimates found in Table 11 of the Consultation Document.

The most notable aspect about the results for Pay TV is that they are far lower than what would have expected on the basis of the regulatory decisions. Thus, instead of being in the neighbourhood of 0.9-1.4, the high and low are between 0.3 and 0.9.

In order to understand this better, we sourced beta information from Bloomberg directly for the last 5 years on the basis of monthly data set. We un-levered and re-levered the betas on the same basis as the Authority, the Miller adjustment and notional gearing of 20%. The results are in Table 2 below. As you can see for many of the companies we were very close to the Authority's figures; however there were a number of significant differences. Ultimately, our mean result is within the range of the regulatory benchmarks.

Table 2. Betas for Pay TV

Pay Tv	Equity Beta		Asset Beta		Equity (Relevered)	
	URCA	CBL	URCA	CBL	URCA	CBL
Virgin Media	1.69	1.70	0.86	0.87	1.08	1.08
BSkyB Group	0.82	0.74	0.74	0.67	0.93	0.84
Cablevision Systems Corp	1.1	1.68	0.36	0.55	0.45	0.69
Comcast Corp	1.13	0.82	0.67	0.49	0.84	0.61
Crown Media Holdings	1.07	1.76	0.3	0.49	0.38	0.62
Dish Network Corp	1.12	1.38	0.64	0.79	0.80	0.99
Liberty Global Inc.	1.22	1.62	0.33	0.44	0.41	0.55
Liberty Media Corp	1.3	2.63	0.72	1.45	0.90	1.82
Lodgenet Entertainment Group	1.07	4.78	0.4	1.79	0.50	2.23
Mediaset SpA	0.72	0.83	0.65	0.75	0.81	0.94
Shaw Communications	0.51	0.34	0.37	0.25	0.46	0.31
Time Warner Cable Inc.	0.85	0.97	0.42	0.48	0.53	0.60
Vivendi	0.77	0.76	0.66	0.65	0.83	0.81
Min	0.51	0.34	0.30	0.25	0.38	0.31
Max	1.69	4.78	0.86	1.79	1.08	2.23
Mean	1.03	<b>1.54</b>	0.55	<b>0.74</b>	0.68	<b>0.93</b>
Median	1.07	1.38	0.64	0.65	0.80	0.81

The Authority, on the basis of its 1-year, 3-year and 5-year data, and in light of qualitative conditions examined, set its asset beta range at 0.4 to 0.9. On the basis of a similar logic but noting the higher mean beta range from our own research above, we believe a more fair range is 0.4 to 1.1. With a gearing range of 10% to 30%, the corresponding equity beta range for Pay TV would be: 0.4 to 1.6.

With respect to data services, we find the Authority's reasoning behind its derivation of the beta flawed. First of all, as we have indicated elsewhere, we believe the data service definition is inconsistent throughout the study. The inconsistency between what the Authority is trying to measure and its approach is most clearly apparent in para 159. Here the Authority states that "since fixed telephony, mobile telephony and Pay TV operators all provide data services, the risk profile will be a blend of the risks faced by those companies." CBL wonders how such a statement comports with the presumption that it is dominant in these services.

More importantly, the highly tenuous supposition that the data services at issue here are the same as those provided by fixed and mobile service providers leads to the Authority's

misguided conclusion that the beta range is nearly the same as that for fixed telephony and lower than Pay TV. This does not seem to comport with the qualitative assessment that the Authority had made earlier in the Consultation, nor does it comport with market reality.

With respect to empirical evidence, it is clear from our own experience that more research indicates the equity betas should be higher for data services.

Understanding the difficulty in identifying close-to-pure-players in the relevant market, we spent considerable time to isolate a representative sample of high-speed data and connectivity service providers. In Table 3 below we present our proposed comparators. They are roughly equal in number to the comparators in Pay TV and fixed telephony. As with Pay TV, we sourced beta information from Bloomberg directly for the last 5 years on the basis of a monthly data set. We un-levered and re-levered the betas on the same basis as the Authority, the Miller adjustment and the notional gearing of 20%. The results are also given in Table 3 below.

We believe these figures are now consistent with regulatory precedent and the qualitative market story we believe will unfold in the Bahamas.

The Authority, on the basis of its fixed, mobile and Pay TV analysis and in light of qualitative conditions examined, set its asset beta range at 0.4 to 0.8. On the basis of our own research in appropriate comparator companies, we believe a more fair range for high speed data services is 0.5 to 1.3. With a gearing range of 10% to 30%, the corresponding equity beta ranges would be: 0.5 to 1.8.

**Table 3. Betas for High speed data Services**

Data Services	Beta		
	Raw	Asset	Equity
QSC AG	1.59	1.24	1.55
LG Powercom Corporation	1.27	0.73	0.92
Abovenet Inc.	0.65	0.59	0.73
Cogent Communications Group	2.26	1.02	1.28
Earthlink Inc.	1.06	0.75	0.93
NIFTY Corporation	0.54	0.49	0.61
So-net Entertainment	1.18	1.18	1.47
MDU Communications Internationa	1.61	0.71	0.89
United Internet	1.40	0.47	0.59
Zon Multimedia	0.82	0.14	0.17
Tiscali Spa	1.22	0.40	0.51
Forthnet	1.00	1.00	1.25
Min	0.54	0.49	0.61
Max	2.26	1.24	1.55
Mean	1.22	0.73	0.91
Median	1.20	0.72	0.90

*Proposed revised betas*

In summary, based on consideration of regulatory precedent, forward-looking market conditions in The Bahamas and additional research into comparator company data, we believe the betas for each of the markets should be revised as follows.<sup>2</sup>

**Table 4: Revised Equity and Asset Betas Ranges**

Market		Equity Beta
Pay TV	Low	0.4
	Mid	1.00
	High	1.6
Data	Low	0.5
	Mid	1.15
	High	1.8

<sup>2</sup> At this time, we do not suggest a change in the beta for mobile. However, we note what appears to be an oversight in the Authority's calculation. In its sample of 20 mobile operators, one of the operators is repeated twice: Idea Cellular Ltd. There are only 19 unique operators in the Authority's sample.

We introduce revised figures for the following betas in the calculation of the cost of equity in our response to question 17.

#### Question 13

Do you agree with URCA's benchmarking of the debt premium to the average paid by A-rated companies, as well as past regulatory precedent?

#### Response 13

We can agree with the Authority's approach of deriving the debt premium on the basis of the debt spread for A- rated companies. Looking at each market, under normal circumstances, we can detect no obvious difference between the average debt rating. Thus, we believe that the assumption of a uniform credit rating across all markets is reasonable.

#### Question 14

Do you agree with the size of the debt premium proposed by URCA?

#### Response 14

We agree that credit ratings have both dropped to unusually low levels and become unusually more divergent over the recent past, so it is reasonable to look at the period before the current financial period to get a better sense of where debt spreads may be going as economies stabilize. So, whereas today the average debt rating may be around the BBB level in telecommunications, A- seems reasonable for the prior period. We also recognise that the 2.4% premium proposed by the Authority falls within the range of those determinations made by other regulators.

#### Question 15

Do you agree with the approach used by URCA to estimate a country risk premium on debt?

#### Response 15

It seems reasonable.

#### Question 16

Do you agree with the size of the country risk premium on debt premium allowed by URCA?



**Response 16**

It seems reasonable.

**Question 17**

Do you think that the proposed WACC for each of the SMP markets is appropriate?

**Response 17**

No, we do not believe this is the case. In the table below, which is a revision of Table 15 in the Consultation Document, we have summarized the impact of the parameter changes discussed above for high-speed data and Pay TV. We believe a much more appropriate set of estimates for the cost of capital for these services are as follows:

- Data: 11.9%
- Pay TV: 11.1%

Table 5. Revised WACC values for the SMP markets

Parameter	Data			Cable TV		
	Low	Mid	High	Low	Mid	High
Risk-free rate	4.2	4.7	5.2	4.2	4.7	5.2
MRP	4.0	5.0	6.0	4.0	5.0	6.0
Equity Country risk premium	2.1	2.1	2.1	2.1	2.1	2.1
Equity beta	0.5	1.2	1.8	0.4	1.0	1.6
Cost of Equity	7.3	12.9	19.8	6.6	11.8	18.2
Risk-free rate	3.5	4.3	5.0	3.5	4.3	5.0
Debt premium	2.4	2.4	2.4	2.4	2.4	2.4
Country risk premium on debt	1.4	1.4	1.4	1.4	1.4	1.4
Cost of debt	7.3	8.1	8.8	7.3	8.1	8.8
Gearing	10%	20%	30%	10%	20%	30%
Nominal WACC	7.3	11.9	16.5	6.7	11.1	15.4



**By e-mail & Hand**

October 13, 2009

Mr. Usman Saadat  
Director of Policy and Regulation  
Utilities Regulation and Competition Authority (URCA)  
4 Terrace East Centreville  
Agape House  
Nassau, the Bahamas

Dear Sir:

Cable Bahamas Limited ("CBL") is grateful to URCA for affording it the opportunity to supplement its comments to the preliminary determination on the cost of capital submitted on 1 October 2009. As URCA is aware, CBL felt that URCA's Preliminary Determination which was published on the 30 September 2009, could contain information material to consideration of a market-specific cost of capital measure. Given the shortness of time available to review the extensive SMP document, CBL could not fully consider its detail and its relevance to the market-specific analysis in the cost of capital document.

We now have had time to consider the Preliminary Determination. We have two general comments. Firstly, we believe that the SMP designations and the accompanying obligations are unjustified, disproportionate and unfair. However, we will not be addressing this point in this letter as we are preparing a separate submission on the Preliminary Determination consultation itself.

Secondly, we believe the analysis found in URCA's Preliminary Determination lends support for proposals we made in our 1 October submission for modifying URCA's approach to the measure of cost of capital for Pay TV and high-speed data services. We look at each of these markets in turn below.

*Pay TV*

URCA will recall that, in respect of Pay TV services, CBL made no objection to the company sample that URCA had chosen for the comparative beta analysis, but questioned the results as they did not seem to comport with our expectations or the regulatory decisions that URCA had reviewed. We conducted our own check and proposed revised results. With respect to these revised results, URCA, in its letter of 8 October 2009, has asked CBL to provide additional information relevant to its proposed revised results, which we intend to do. For purpose of this letter, the point we wish to make is that the proposed focus of regulation is consistent with that sampling.

1

In particular, and without prejudice to our view that CBL should not be regulated in the manner proposed in the Preliminary Determination, the services for which URCA has proposed regulation—SuperBasic package, Digital Package, and wholesale access to facilities delivering these services—are comparable to the service offerings of the comparator companies. We are therefore, subject to a revision of the actual calculations that we have cited in our 1 October submission, satisfied with the sample of comparator companies used in the derivation of the betas.

*High speed data services*

With respect to data services, URCA will recall that we found fault with its approach of using a blend of fixed telephony, mobile telephony and Pay TV cost of capital measures. We do not agree that because “fixed telephony, mobile telephony and Pay TV operators all provide data services, the risk profile [of data services] will be a blend of the risks faced by those companies.” We therefore proposed URCA use empirical evidence based on companies that offer analogous high-speed data services.

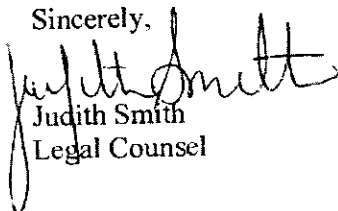
We introduced empirical evidence and derived results along these lines in our 1 October submission. URCA in its letter of 8 October 2009, has asked CBL to provide additional information relevant to these results, which we intend to do. However, again, for purpose of this letter, the Preliminary Determination, we believe, lends further support to the need to conduct separate empirical analysis and not simply take a blend of results from the other markets.

Again, without prejudice to our view that CBL should not be regulated in the manner proposed in the Preliminary Determination, the services for which URCA has proposed regulation—broadband internet access, bitstream access and backhaul used for these services—underscore the very different nature of these services to the portfolio of services generally offered by the fixed, mobile and Pay TV service providers. It cannot be concluded that the risk profile of these services will be a blend of the risks faced by fixed telephony, mobile telephony and Pay TV markets.

The companies that we proposed for empirical research in our 1 October submission offer a portfolio of services similar to that which URCA proposes to regulate and therefore should be the focus of URCA’s empirical evidence.

We thank URCA again for this opportunity to supplement its 1 October comments.

Sincerely,



Judith Smith  
Legal Counsel

/jms

# The Bahamas Telecommunications Company Ltd.

P.O. BOX 18-2048 NASSAU, BAHAMAS

TEL (242) 402-0000



October 16, 2009

**Mr. Usman Saadat**  
**Director of Policy and Regulation**  
**Utilities Regulation and Competition Authority**  
Fourth Terrace, Collins Avenue  
Nassau, The Bahamas

Dear Mr. Saadat,

**Re: Preliminary Determination on Cost of Capital**

Reference is made to BTC's letter of October 14, 2009 relative to the captioned.

Attached, is BTC's amended Response to the Public Consultation Paper on the Preliminary Determination on the Cost of Capital of October 1, 2009. As outlined in the company's correspondence of October 14, the dividend yield for the Standard and Poor's 500 used in calculating the First Call market risk premium should have been 2.10 percent instead of the 3.06 percent used in the Response of October 1. This amended Response reflects the use of a dividend yield of 2.10 percent.

Using the dividend yield of 2.10 percent reduces the WACC for fixed and mobile from 12.27 and 12.48 percent respectively, to 11.90 and 12.11 percent respectively. BTC's WACC rates for fixed and mobile are still significantly higher when compared to URCA's fixed and mobile WACC rates of 8.9 and 11.0 percent respectively.

Should the need arise, please feel free to contact the undersigned.

Sincerely yours,

(s) **Felicity L. Johnson**  
**Vice President Legal, Regulatory**  
**& Interconnection & Company Secretary**



The Bahamas Telecommunications Company Limited

Response To

**Public Consultation Paper on Preliminary  
Determination on the Cost of Capital for Designated  
SMP Operators**

Legal, Regulatory and  
Interconnection Division  
**1 October, 2009**  
**(Revised 15 October 2009)**

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## **Executive Summary**

The Bahamas Telecommunications Company Limited (BTC) welcomes this opportunity to respond to this Public Consultation on the Preliminary Determination on the Cost of Capital for Designated Significant Market Power (SMP) Operators.

The cost of capital represents the return that BTC is allowed to recover when setting prices for its regulated services. The company recognizes that the weighted average cost of capital (WACC) adopted by URCA has implications for the company and its customers over time competing in liberalized markets. A WACC, which is too low, makes it difficult for the company to recover its cost of capital and is a disincentive to future investments in the provision of price regulated services. In contrast, an excessive WACC could impede the company's ability to compete in the market for retail price regulated services.

Whilst BTC accepts that URCA's approach to estimating the WACC is a standard CAPM (Capital Asset Pricing Model) approach, the company disagrees with a number of estimates and the approach used to estimate certain key parameters of the model. The WACC rates presented by URCA for BTC's fixed and mobile telephony are unusually low. BTC is firmly of the view that the WACC rates presented by URCA will not reflect a fair return on BTC's investments.

In its response to the WACC Public Consultation, BTC has taken a three (3) pronged approach:

- Presentation of an alternative WACC model. BTC requested that National Economic Research Associates, Incorporated (NERA) estimate the WACC for its fixed and mobile services. BTC is of the view that the alternative model developed by NERA takes into account estimates that are more reflective of the underlying risks associated with providing the various price regulated services and setting a fair return on BTC's investments.
- Critique of the underlying assumptions that URCA used in developing its WACC model. It is the underlying assumptions that form the basis of the estimates derived for URCA's WACC calculations.
- Response to the questions presented in the WACC Public Consultation Paper.

In its response to this Public Consultation, BTC wishes to caveat its response in that given the volatility of the financial markets at this time, BTC would like to reserve the right to revisit WACC rates in the next twelve (12) months.

The following are some of the inherent weaknesses that BTC has identified relative to the assumption/methodology used in URCA's calculation of the WACC:

- The risk free rates described in the Consultation Paper should be replaced by a risk free rate based on 30 year U.S. Treasury Bonds that reflects the character of common equity. Given that equity has an infinite life, the use of long term U.S. Bonds was recommended.



This was a more acceptable approach compared to eleven year historical averages of one year, five year, 10-20 year T-bond rates as used in the Consultation Paper.

- In the Consultation Paper, the report fails to adjust raw beta estimates for 'regression to the mean tendencies', a standard financial technique.
- The Equity Risk Premium is understated in the model. URCA uses historical equity risk premium information, much of which predates the financial crisis over the past year. It is more appropriate to consider forward looking estimates of the equity risk premium.
- The absence of provisions for a small company premium. While BTC in the context of The Bahamas, a small country, may be considered large, when compared against the benchmarked firms, BTC is quite small. Given the size of the company, there are overall efficiency challenges associated with its size, including the premium it has to pay in sourcing financing for its operations.
- In the Consultation Paper, there is no discussion on making allowances for regulatory risk. Regulatory risk, be it systematic or non systematic can impact the cost of debt independently of what is captured as part of the Capital Asset Pricing Model (CAPM). Regulatory risk can be presented in a number of ways, for example, a change in beta affecting the cost of equity can impact asset recovery.

## Introduction

In preparation for competition in electronic communications sector, as envisioned in the Communications Act 2009,<sup>1</sup> on 19 August 2009 the Utilities Regulation & Competition Authority ("URCA") issued its Preliminary Determination on the Cost of Capital for designated Significant Market Power ("SMP") operators.<sup>2</sup> The Consultation Paper presents a wide range of weighted average cost of capital ("WACC") values for fixed telephony, mobile, and other SMP markets.<sup>3</sup>

The Bahamas Telecommunications Company Limited ("BTC" or the "Company") used the assistance of National Economic Research Associates, Incorporated (NERA) to evaluate the WACC methodology and results developed in the Consultation Paper. In addition to the evaluation of URCA's methodology and results, BTC is presenting alternative WACC calculations performed by NERA and the results are presented as part of BTC's assessment of this Public Consultation.<sup>4</sup> BTC is in agreement with some aspects of the Consultation Paper methodology and results (e.g., capital structure, cost of debt). BTC has also focused on identifying and recommending the appropriate forward-looking return on equity capital ("ROE") for the company's regulated fixed and mobile telecommunications services.

The purpose of this report is to:

1. Assess the Consultation Paper methodology and results.
2. Develop BTC's own cost-of-equity calculations for selected fixed and mobile peer groups, which are comparable in terms of business and financial risk to BTC's fixed and mobile operations, respectively.
3. Provide additional information and conclusions related to international best-practice in setting the allowed rate of return on common equity ("allowed ROE") by a utility regulatory agency.

In the remainder of this section, BTC summarizes its primary criticisms of URCA's cost of capital calculation and identifies the effects of the proposed corrections on the Consultation Paper's cost of equity results. BTC has provided its own estimates for costs of equity capital for fixed and mobile services, which are based on CAPM analysis of fixed and mobile peer groups that are comparable to BTC's fixed and mobile operations, respectively, in terms of business and financial risks. These are: **12.85 percent** (with a range of 12.17 to 15.22 percent) for BTC's fixed telecommunications services, and **13.10 percent** (with a range of 11.33 to 14.78 percent) for its mobile telecommunications services. The overall WACC rates (inclusive of both the cost of equity and the cost of debt) calculated as part of BTC's analysis is **11.90 percent** for fixed telecommunications services and **12.11 percent** for mobile telecommunications services.

<sup>1</sup> The Communications Act specifies, among other things, that the URCA "shall take into account the investment made by the relevant licensee and allow the licensee a reasonable rate of return on capital efficiently employed, taking into account the risks involved." The Communications Act, 2009, p. 36.

<sup>2</sup> Utilities Regulation & Competition Authority, "Preliminary Determination on the Cost of Capital for Designated SMP Operators," Consultation Document—ECS 02/2009, 19 August 2009. [Hereinafter, "Consultation Report."]

<sup>3</sup> *Id.*, p. 56.

<sup>4</sup> NERA independently performed an objective and expert cost-of-capital analysis, the results of which are incorporated into this BTC response. BTC is solely responsible for the conclusions contained in this report.

## A. Summary of Review and Critique of the Consultation Report's Cost of Equity Results

While the Consultation Paper is very resourceful and thorough in developing its WACC recommendations and commentary, the cost of equity ranges shown in Section 7 of the Paper are too wide to provide useful guidance to the URCA.<sup>5</sup> BTC recommends the adjustment of the Consultation Paper capital asset pricing model ("CAPM") analysis to:

1. *Use a risk-free rate, based on 30-year U.S. Treasury bonds, that reflects the character of common equity.* Equity has an infinite life and so BTC would recommend the use of a long-term U.S. Treasury bond ("U.S. T-bond"), such as the 30-year U.S. T-bond, as the risk-free rate. Also, the company used recent 30-year T-bond rates, not an 11-year historical average of one-year, five-year, and 10-20 year T-bond rates, as the Consultation Paper used for its low, mid, and high ranges, respectively.<sup>6</sup> Nevertheless, the 4.3 percent figure used by the Consultation Paper as its midpoint is not significantly different from the 4.33 percent figure that BTC would recommend.
2. *Adjust raw betas for the known phenomena of regression to the mean tendency.* Calculating beta correctly is an important issue as it is the only CAPM input that is company-specific, *i.e.*, it measures the correlation between the peer group's returns and those of the market as a whole. The Consultation Paper fails to adjust the raw beta estimates for "regression to the mean tendencies," which is a standard financial technique. Dr. Roger Morin, an acknowledged expert on setting the allowed ROE in regulatory proceedings, explains that "the regression tendency of beta to converge to 1.0 over time is very well known and widely discussed in the financial literature. Well-known college-level finance textbooks routinely discuss the use of adjusted betas."<sup>7</sup> **Appendix A** provides a selection of quotations from leading academic textbooks on the use of adjusted betas.
3. *Use a forward-looking equity risk premium ("ERP").* The Consultation Paper uses historic equity risk premium information, much of which predates the financial crisis of the past year, while BTC recommends the use of a forward-looking premium of equity over debt. Given the "market break" experience in world equity markets in the past year,<sup>8</sup> forward-looking estimates of the ERP can be expected to be relied upon by investors, and would therefore be a more accurate indication of the ERP than historic rates. Dr. Morin explains that "historical risk premium data are available and verifiable, but may no longer be applicable if structural shifts have occurred."<sup>9</sup>

<sup>5</sup> *Id.*, p. 56.

<sup>6</sup> The Consultation Report (p. 56) uses 3.5 percent, 4.3 percent, and 5.0 percent as low, mid, and high risk-free rates, respectively. Table 1 of the Consultation Report (p. 23) shows 11-year-average mean yields of 3.4 percent, 4.2 percent, and 4.6-5.2 percent, for one-year, five-year, and 10-20 year T-bonds, respectively.

<sup>7</sup> *Id.*, pp. 72-73.

<sup>8</sup> It may be the case that the financial crisis, which began in earnest in September 2008, can be considered to be just such a structural shift. The 2008 annual return of negative 37 percent on large company stocks was the second-worst on record. In fact, only four other years since 1926 have seen returns worse than negative 25 percent. (See: *Stocks, Bonds, Bills, and Inflation Yearbook, 2009: Classic Edition*. City: Ibbotson Associates, 2009.)

<sup>9</sup> Roger A. Morin, *New Regulatory Finance* (Vienna, VA: PUR, 2006), p. 163.

**Table 1** presents the results of BTC's analysis and adjustments to the Consultation Paper CAPM analysis for its fixed and mobile groups. As shown in **Table 1**, when BTC replicated the Consultation Paper method using the inputs on page 56 of the Consultation Paper, the company's result is 17 basis points higher for BTC's fixed services, and 31 basis points higher for its mobile operation.<sup>10</sup> Replacing the risk-free rate used in the Consultation Paper with BTC recommended risk free rate adds 3 basis points to both the fixed and mobile ROEs. Adjusting for regression to the mean, BTC obtained a ROE of 10.01 percent for fixed and 11.90 percent for mobile. Thus, this adjustment adds about 71 basis points to the fixed ROE, but subtracts about 24 basis points from the mobile ROE. Using the company's estimates of the forward-looking equity risk premium adds 216 basis points to the fixed ROE and 288 basis points to the mobile ROE. The cumulative effect of these corrections to the Consultation Paper's final costs of equity calculations yields estimate ROEs of 12.17 percent and 14.78 percent, rather than 9.1 percent and 11.8 percent for fixed and mobile, respectively. In Section II, each individual adjustment is explained.

**Table 1. BTC Adjustments to Consultation Report CAPM Calculation**

	Fixed		Mobile	
	ROE (%)	Δ (%)	ROE (%)	Δ (%)
Baseline (URCA Consultation Report)	9.10		11.80	
Baseline (BTC Replication)	9.27	+0.17	12.11	+0.31
[1] Adjusted Risk-Free Rate	9.30	+0.03	12.14	+0.03
[2] Beta Regression to the Mean	10.01	+0.71	11.90	-0.24
[3] Forward-looking Equity Risk Premium	12.17	+2.16	14.78	+2.88
Total	12.17	+3.07	14.78	+2.98

While **Table 1** does not necessarily reflect all of BTC's concerns with the Consultation Paper methodology and results, it reflects BTC's primary concerns. The "low" ends of the proposed WACC values identified on page 56 of the Consultation Paper suffer from these same infirmities.

## B. Summary of BTC's Cost of Equity Results

In addition to correcting for the conceptual issues discussed above, BTC performed its own cost of equity analysis. In doing so, the company selected peer groups for both fixed and mobile telecommunications services, and then applied the CAPM and dividend growth models ("DGM")<sup>11</sup> to those peer groups. **Table 2** summarizes the results of BTC's CAPM and DGM calculations.

<sup>10</sup> BTC has relied on the numbers for the CAPM inputs that are presented on page 56 of the Consultation Report. In replicating the Consultation Report results, BTC produced slightly different numbers, perhaps due to rounding. Therefore, we include both baseline (as in the report) and replicated baseline numbers in Table 1.

<sup>11</sup> The DGM is more commonly known as the discounted cash flow ("DCF") model, but we will use the Consultation Report's terminology.

**Table 2. Results of BTC Cost of Equity Models**

	Fixed		Mobile	
	ROE (%)	Δ (%)	ROE (%)	Δ (%)
<b>BTC CAPM</b>	<b>12.85</b>	<b>+3.75</b>	<b>13.10</b>	<b>+1.30</b>
BTC DGM	15.22	+6.12	11.33	-0.47
Yield + Growth	12.46	+3.36	12.51	+0.71

Strengths of BTC's cost of equity analysis include the following:

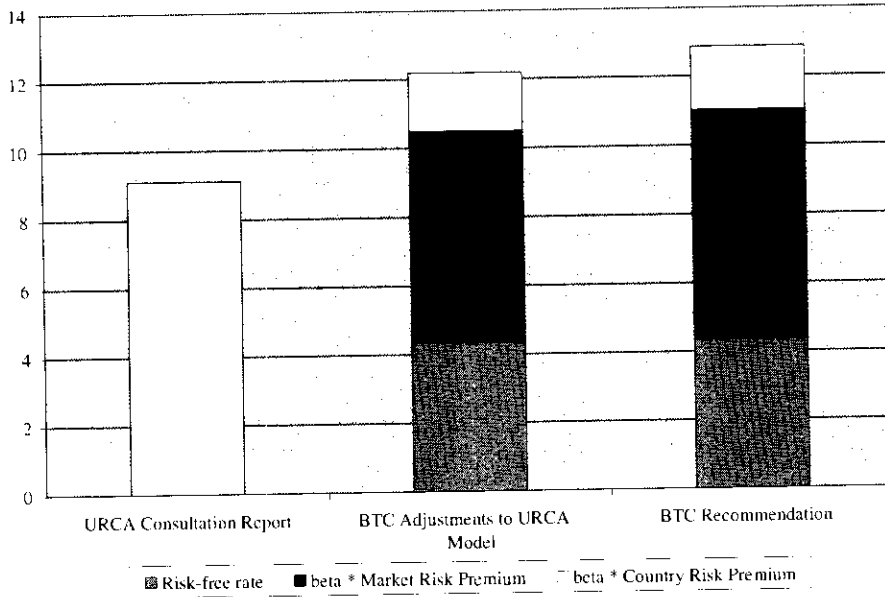
- *Comparable companies:* BTC developed its own peer groups, one for fixed and another for mobile companies. These groups are primarily made up of US, European, and South American carriers.<sup>12</sup> The purpose of the screening process used to select the peer groups was to select companies with as high a percentage of revenues from fixed or mobile telecommunications service, as the case may be, while screening out highly diversified companies. Also, the selection process screened out very large companies that may not be comparable to BTC.
- *CAPM:* BTC's CAPM calculation (which yields 12.85 percent and 13.10 percent for fixed and mobile, respectively) incorporates the updated peer group, and corrects for the shortcomings of the Consultation Paper CAPM model, as previously described. With peer groups of 13 companies for each fixed and mobile, a CAPM analysis that uses timely and forward-looking measures of the risk-free rate and the equity risk premium, and the correct use of equity betas that have been adjusted to reflect academic best-practice with respect to the tendency of beta to regress toward the mean, BTC's CAPM estimates provide appropriate measures of the cost of equity capital to be applied to BTC's fixed and mobile telecommunications operations.
- *DGM:* The dividend growth model is another commonly used method by which cost of equity can be measured. Many companies in the fixed and wireless peer groups do not pay dividends; therefore, the number of companies used in the DGM calculation is small. Thus, BTC uses the DGM analysis as a check on the reasonableness of the CAPM results, as well as to provide additional information to guide the URCA's consideration of the appropriate ROE.
- *Yield-plus-growth Method:* BTC also calculated a "yield-plus-growth" estimate for the US telecommunications industry as a whole. This calculation uses an estimated dividend yield for the telecommunications services followed by the *Value Line Investment Survey*, and five-year estimated earnings per share growth rates from First Call and Reuters. The yield-plus-growth method produced results of 12.46 percent for fixed and 12.51 percent for mobile.
- By BTC selecting its own comparable groups for fixed and mobile, performing its own CAPM, and confirming the reasonableness of the CAPM results using DGM analyses and the Yield-plus-growth Method, BTC was able to develop reliable cost-of-equity recommendations for proxy groups that reflect the business and financial risks of the company's fixed and wireless operations, respectively. Based on its CAPM analysis for peer groups of fixed and mobile

<sup>12</sup>

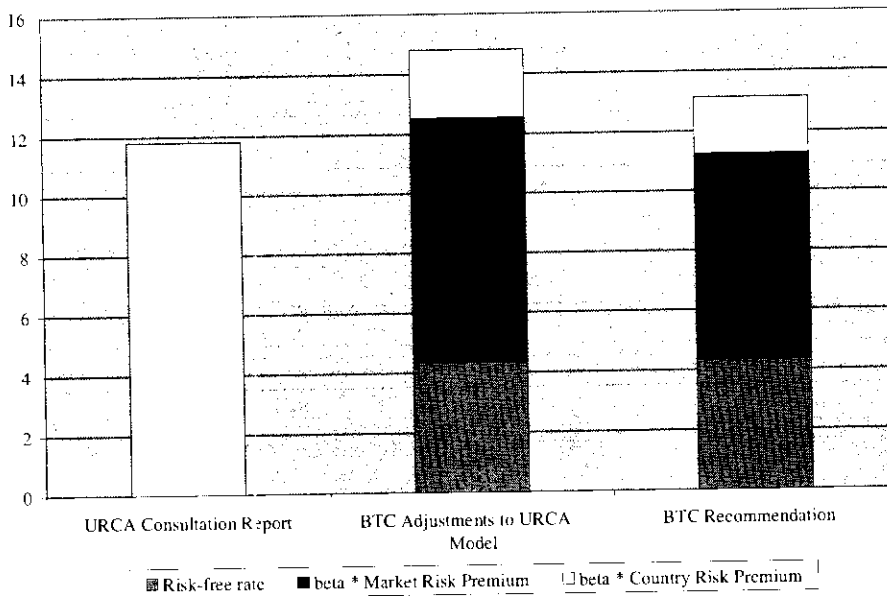
The companies in each peer group are listed in Appendix B.

carriers, BTC is firmly of the view for the use of **12.85 percent** as the allowed rate of return on common equity for BTC's fixed operations, and **13.10 percent** for BTC's mobile operations. **Figure 1** and **Figure 2** compare the different CAPM scenarios described in this report.

**Figure 1. Comparison of Fixed CAPM ROE Approaches**



**Figure 2. Comparison of Mobile CAPM ROE Approaches**



## II. CRITIQUE OF CONSULTATION PAPER METHODOLOGY AND RESULTS

BTC's critique of the Consultation Paper cost of equity methodology and analysis focuses on the three major issues summarized in Section I and **Table 1**. This is not to say that there are no other problems with the Consultation Paper's cost of equity analysis (e.g., the proxy group selection process, or the lack of a DGM analysis). For each of the three primary issues, the company briefly explains the issue, discusses the effect on the Consultation Paper cost of equity results when the problem is corrected, and provides additional background on theoretical and practical aspects of the problem. **Table 3** and **Table 4** summarize the effects of BTC's adjustments on the fixed and mobile ROEs, respectively.

**Table 3. Adjustments to the URCA Fixed ROE Calculation**

	$R_f + (\beta_e \times R_m) + (\beta_e \times ECRP) = CAPM$	$\Delta$
Baseline (URCA Consultation Report)	9.10	
Baseline (BTC Replication)	$4.30 + 0.70 \times 5.00 + 0.70 \times 2.1 = 9.27$	+0.17
[1] Adjusted Risk-Free Rate	$4.33 + 0.70 \times 5.00 + 0.70 \times 2.1 = 9.30$	+0.03
[2] Beta Regression to the Mean	$4.33 + 0.80 \times 5.00 + 0.80 \times 2.1 = 10.01$	+0.71
[3] Forward-looking Equity Risk Premium	$4.33 + 0.80 \times 7.70 + 0.80 \times 2.1 = 12.17$	+2.16
Total	12.17	+3.07

**Table 4. Adjustments to the URCA Mobile ROE Calculation**

	$R_f + (\beta_e \times R_m) + (\beta_e \times ECRP) = CAPM$	$\Delta$
Baseline (URCA Consultation Report)	11.80	
Baseline (BTC Replication)	$4.30 + 1.10 \times 5.00 + 1.10 \times 2.1 = 12.11$	+0.31
[1] Adjusted Risk-Free Rate	$4.33 + 1.10 \times 5.00 + 1.10 \times 2.1 = 12.14$	+0.03
[2] Beta Regression to the Mean	$4.33 + 1.07 \times 5.00 + 1.07 \times 2.1 = 11.90$	-0.24
[3] Forward-looking Equity Risk Premium	$4.33 + 1.07 \times 7.70 + 1.07 \times 2.1 = 14.78$	+2.82
Total	14.78	+2.98

Note:  $R_f$  = Risk-free rate;  $\beta_e$  = equity beta;  $R_m$  = Market Risk Premium; ECRP = Equity Country Risk Premium.

### A. Risk-Free Rate

While the 4.3 percent figure used in the Consultation Paper for the midpoint is not significantly different from the 4.33 percent figure that BTC would recommend, the use of one-year and five-year T-bond rates is problematic. BTC recommends the use of recent 30-year T-bond rates, not an 11-year historical average of one-year, five-year, and 10-20 year T-bond rates, as the Consultation Paper uses for its low, mid, and high ranges, respectively.<sup>13</sup> While this is a minor

<sup>13</sup> The Consultation Report (p. 56) uses 3.5 percent, 4.3 percent, and 5.0 percent as low, mid, and high risk-free rates, respectively. Table 1 of the Consultation Report (p. 23) shows 10-year-average mean yields of 3.4 percent, 4.2 percent, and 4.6-5.2 percent, for one-year, five-year, and 10-20 year T-bonds, respectively.

issue, when the "mid" range of the Consultation Paper Final WACC calculations are considered (on page 56 of that report), this is an important issue in explaining the problems with the "low" end of that report's proposed WACC values.

Equity has an infinite life, and BTC would therefore recommend the use of a long-term U.S. Treasury bond that reflects the character of common equity, such as the 30-year US T-bond, as the risk-free rate. In the published literature, a number of experts recommend a long-term rate and describe how short-term rates are empirically and theoretically inadequate. For example, Professor Morin provides support for using long-term rates:

At the conceptual level, because common stock is a long-term investment and because the cash flows to investors in the form of dividends last indefinitely, the yield on very long-term government bonds, namely, the yield on 30-year Treasury bonds, is the best measure of the risk-free rate for use in the CAPM and Risk Premium methods. The expected common stock return is based on long-term cash flows, regardless of an individual's holding time period. Utility asset investments generally have long-term useful lives and should be correspondingly matched with long-term maturity financing instruments.<sup>14</sup>

Moreover, Professor Diana Harrington has pointed out that because of:

The fact that the Treasury bill rate is heavily influenced by Federal Reserve activity (and is thus not a free market rate), many practitioners suggest the use of a long-term government bond rate or an Aa industrial bond rate as proxy for the risk-free rate, particularly when using the CAPM to look at assets that are clearly long-lived.<sup>15</sup>

The difference between using a short-term rate and a long-term rate can be significant, depending on the relationship between observed short- and long-term government bond interest rates, as well as how the equity risk premium is calculated. That is the case with the rates identified in the Consultation Paper, which range from 3.4 percent for one-year T-bonds to 5.2 percent for 20-year T-bonds. These rates are averages for the period of July 1998 to July 2009 and may not be indicative of the US T-bond rates that are expected in the future.

There are two appropriate ways to set the risk free rate: (1) use T-bond rates for a recent period, with the expectation that current rates are representative of current investor expectations, or (2) use economic forecasts of T-bond rates. In BTC's analysis, the company uses the current 30-year T-bond rate as of September 9, 2009 as BTC's estimate of the risk-free rate. Another approach would be to use economic forecasts of T-bond rates, such as those summarized in the *Value Line Investment Survey* newsletter, which forecasts long-term US Treasury bond rates of 4.6 percent to 5.0 percent for 2010.<sup>16</sup>

<sup>14</sup> Morin, *supra* note 9, pp. 151-152.

<sup>15</sup> Diana R. Harrington, *Modern Portfolio Theory, The Capital Asset Pricing Model, and Arbitrage Pricing Theory: A User's Guide*, 2<sup>nd</sup> ed. (Homewood, IL: Dow Jones-Irwin, 1979), p. 161.

<sup>16</sup> "Value Line Selection & Opinion," *Value Line Investment Survey*, August 28, 2009, p. 3342.



## B. Adjusted Beta

In the CAPM model, the beta coefficient is used as a measure of company-specific volatility relative to the market as a whole. Companies whose stock price is less volatile than the market will have a beta less than unity, while those more volatile will have a beta that is greater than one. The Consultation Paper calculation uses raw betas of 0.7 and 1.10 for fixed and mobile services, respectively.

The Consultation Paper raw betas are not adjusted for the tendency of betas to regress toward market-wide volatility (i.e., one) over time. In terms of methodology used to calculate beta, this is a significant omission. The *Handbook of Modern Finance* explains that "the economic logic is that the underlying riskiness of a firm tends to move toward the riskiness of the average firm."<sup>17</sup> Therefore, due to this regression-to-the-mean tendency, a company's raw unadjusted beta is not the appropriate measure of market risk to use in a CAPM analysis. For example, a finance textbook entitled *Quantitative Methods for Investment Analysis* points out that:

We can use the historical beta from a market model to create an easy estimate of expected returns and their variances and covariances. This estimate, however, depends on the crucial assumption that the historical beta for a particular asset is the best predictor of the future beta for that asset. If beta changes over time, then this assumption is not true. Therefore, we may want to use some other measure instead of historical beta to estimate an asset's future beta. These other forecasts are known by the general term **adjusted beta**. Researchers have shown that adjusted beta is often a better forecast of future beta than is historical beta. As a consequence, practitioners often use adjusted beta.<sup>18</sup>

As Dr. Morin points out in his authoritative textbook on regulatory finance, "the recommended use of adjusted betas is widespread in mainstream investment and corporate finance textbooks."<sup>19</sup> **Appendix A** provides a selection of quotations from leading financial textbooks, which further explain the rationale for the use of adjusted betas.

It does not appear that the Consultation Paper adjusted for beta regression to the mean.<sup>20</sup> This is contrary to the CAPM convention described by Dr. Morin, and creates a significantly different result than if the adjusted beta is used. In the BTC model, the company used a "smoothed" or "forward" beta, which is supported by leading providers of financial data such as Bloomberg and Value Line. This forward-looking beta is estimated by taking a weighted average of the historical company beta estimate (weighted by 2/3) and the market beta of 1.0 (weighted by 1/3). This adjustment algorithm does not directly adjust the data used in calculating the historical beta estimate.

Since the Consultation Paper betas for fixed and wireless telephony are on opposing sides of unity, the smoothing adjustment will have opposite results on the cost of equity calculations for the two

<sup>17</sup> See: T. Daniel Coggin, "Modern Portfolio Analysis," *Handbook of Modern Finance*, 2<sup>nd</sup> ed., Dennis E. Logue, ed. (Boston: Warren, Gorham and Lamont, 1990), pp. 14-21.

<sup>18</sup> Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle, *Quantitative Methods for Investment Analysis* (Charlottesville, VA: Association for Investment Management and Research, 2001), p. 597.

<sup>19</sup> Morin, *supra* note 9, p. 72.

<sup>20</sup> Consultation Report, *supra* note 2, pp. 60-62.

services. Calculating the adjusted betas for fixed operators increases the cost of equity by 71 basis points; adjusting the betas for mobile companies decreases the cost of capital for that group by 24 basis points compared to those we would have obtained using the unadjusted betas.

### C. Equity Risk Premium

The Consultation Paper determination of the market risk premium to be used in the CAPM calculation, which relies on backward-looking historical equity risk premiums, ignores recent events in worldwide equity markets.<sup>21</sup> On the topic of equity market risk premiums, Dr. Morin states that "there are two approaches to estimating the risk premium: retrospective and prospective."<sup>22</sup> Both approaches have their merits (as well as weaknesses). For example, Dr. Morin notes that "historical risk premium data are available and verifiable, but may no longer be applicable if structural shifts have occurred." Given the instability in global equity markets over the past 18 months, precisely this kind of structural shift may have occurred.

The Consultation Paper analysis surveys a wide variety of sources in determining the proper range for the ERP, essentially all of which are either backward-looking or significantly outdated. This range is neither consistent with the significant recent changes taking place in equity markets, nor with the efficient market hypothesis, which asserts that the latest available market information provides a better indication of future performance than does historical data.

Professor Morin suggests that, on balance, "giving equal weight to the historical risk premium and the prospective risk premium forecast represents a compromise between the certainty of the past and its possible irrelevance versus the greater relevance of the forecasts and its possible estimation error."<sup>23</sup> Using an average of the historical and forward-looking risk premiums in the Consultation Paper's calculation (instead of only the historical risk premium) increases the ROE for fixed and mobile services by 112 and 180 basis points, relative to the Consultation Paper's estimates of 9.1 percent and 11.8 percent, respectively.<sup>24</sup>

## III. BTC COST OF EQUITY METHODOLOGY AND RESULTS

### A. Comparable Group

The selection of BTC's peer group involved applying several filters to fixed and mobile telephone operators in order to identify a set of companies most similar to BTC. The company's initial lists of fixed and mobile operators were compiled by taking the Value Line companies classified as "Telecom. Services" and combining them with companies listed in Factiva as "Wired Telecommunications Carriers."<sup>25</sup> First, the 2008 revenue streams for each company were checked to determine whether the company could be classified as a pure-play provider of either fixed or wireless services. In reality, few phone companies derive the entirety of their revenues from one

<sup>21</sup> The Consultation Report describes "forward-looking estimates" of the ERP, but these academic studies all date from the 1999-2002 period. *Id.*, pp. 28-29.

<sup>22</sup> Morin, *supra* note 9, p. 162.

<sup>23</sup> Morin, *supra* note 9, p. 163.

<sup>24</sup> Consultation Report, *supra* note 2, p. 56.

<sup>25</sup> These companies are classified under code 517110 in the North American Industry Classification System.

service or the other. Therefore, BTC set the floor at 60 percent of total revenue needing to be obtained from fixed services to be classified as a fixed provider and also used a wireless-to-total-revenue percentage of 60 percent to identify wireless providers. This allowed for a compromise between having companies in the group that earn the majority of their revenue from a single service, as well as having a sufficiently large sample to conduct a robust analysis.

The second filter imposed on BTC's list of companies was a ceiling total capitalization of US\$15 billion. This criterion was imposed to separate the global telecom giants from the smaller providers, which were more likely to reflect the risk level of BTC. BTC believes this distinction to be important due to the small company risk discount theory, which states that "small companies often have limited access to capital, limited ability to weather a market downturn, limited resources to develop and market new products, and so on."<sup>26</sup> Hence, using the smallest possible companies in the peer group is important in order to capture the additional risk inherent in the operation of a small company. There is a marked contrast between the Consultation Paper groups and those developed by BTC. **Table 5** summarizes the key differences between the peer groups.

**Table 5. Peer Group Comparison**

	BTC Peer Group		URCA Consultation Report	
	Fixed	Mobile	Fixed	Mobile
Revenue Share (%)				
Minimum	61%	65%	2%	14%
Average	77%	90%	46%	82%
Total Capitalization (\$M)				
Maximum	13,971	13,265	29,334	247,818
Average	6,043	4,952	6,585	36,427

Source: Company SEC filings and Annual Reports for 2008.

While the groups of 13 fixed and 13 mobile peers are not exhaustive of all the telecommunications providers in the world that fit the criteria. Those proxy groups—found in **Appendix B** of this report—are sufficiently large to allow the company to perform a robust CAPM analysis. In contrast, the set of 13 companies presented in table 17 of the Consultation Paper are not as consistent. Four of the companies on the Consultation Paper "fixed" list also appear in BTC's group. The remaining nine all have less than half of all revenues from fixed service (with Iliad SA as low as 3.6 percent). The majority of companies the Consultation identifies as fixed service operators are really providers of a variety of services, often including mobile and broadband. The primary point of the cost-of-equity exercise, according to the Consultation Paper, is to establish "fixed-only" and "wireless-only" rates of return, and therefore the diversified telecom providers cannot be considered as constituting a proper peer group.

## B. CAPM

While subject to numerous theoretical and practical complexities, the CAPM formula can be described in a straightforward fashion. Its components are: (1) the risk free rate of return; (2) the beta; (3) the market rate of return.

$$\text{Cost of Equity} = R_f + \text{Beta} (R_M - R_f)$$

where  $R_f$  is the return on the 30-year Treasury Bond, and  $(R_M - R_f)$  is the market risk premium.

To implement the CAPM model, BTC:

- Obtained adjusted betas, using a two-year time period, from Bloomberg.<sup>27</sup>
- Used a risk-free rate of 4.33 percent, which is the yield on 30-year U.S. Treasury bonds on September 9, 2009, as reported on U.S. Treasury's website.
- Calculated a forward-looking market risk premium by subtracting the risk-free rate from estimates of the "top-down" cost of equity capital of the S&P 500. As of September 9, 2009, *First Call* and *Reuters* provide 9.16 percent and 10.29 percent estimated five-year earnings growth rates for the S&P 500, respectively, and S&P provides a 2.10 percent estimate of the dividend yield of the S&P 500 as of September 9, 2009.<sup>28</sup> Combining these inputs using the standard DGM model provides two estimates for a forward-looking, top-down DGM cost of common equity for the S&P 500: 11.45 percent using *First Call* data, and 12.61 percent using *Reuters* data.

Combining BTC's fixed peer group average beta of 0.87, the risk-free rate, and the market premium, BTC's CAPM cost of equity range is from 10.52 percent to 11.52 percent, with a midpoint of 11.02 percent for the fixed peer group. Adding the country risk premium of 1.83 percent<sup>29</sup> to the midpoint yields a total cost of equity of 12.85 percent for BTC's fixed line operation.

For the mobile operation, the average peer group beta is 0.90. Using the same risk-free rate and market premium as the fixed peer group, the company calculated a cost of equity range between 10.71 and 11.74 percent, with a midpoint of 11.22 percent. Adding the country risk premium of 1.88 percent<sup>30</sup> to the midpoint yields a total cost of equity of 13.10 percent for mobile operators.

## C. DGM

The Consultation Paper dismisses the use of the discount cash flow model. Nonetheless, BTC believes that a DGM calculation for the peer group is a useful check on the cost of equity capital resulting from the CAPM model. To perform this analysis, BTC collected dividend yield and growth rate information for comparable companies from Zacks Investment Research. The data necessary

<sup>27</sup> BTC adjusted the raw beta results for regression toward the mean using the equation  $\beta_{adj} = (2/3)\beta_{raw} + (1/3)*1$ . BTC did not perform a re-leveraging adjustment on the equity betas.

<sup>28</sup> From Standard & Poors S&P 500 Earnings and Estimate Report, Accessed September 9, 2009.

<sup>29</sup> ECRP \* beta = 2.1 \* 0.87 = 1.83

<sup>30</sup> ECRP \* beta = 2.1 \* 0.90 = 1.88

to perform this calculation were available for six of 13 fixed operators and only three of 13 wireless companies in our peer groups.

BTC's standard DGM model indicated that comparable fixed carriers have a country-risk adjusted cost of equity capital of 15.22 percent; mobile companies have a 11.33 percent cost of equity, according to the DGM calculation.

BTC also calculated a "yield-plus-growth" estimate for the US telecommunications industry as a whole. This calculation uses an estimated dividend yield for the telecommunications services followed by the *Value Line Investment Survey*, and five-year estimated earnings per share growth rates from First Call and Reuters. The yield-plus-growth method, adjusted for the Bahamian country risk premium, produced results of 12.46 percent for fixed and 12.51 percent for mobile.

#### IV. CAPITAL STRUCTURE, COST OF DEBT, REAL VS. NOMINAL AND WEIGHTED AVERAGE COST OF CAPITAL

The Consultation Paper approach to establishing the "gearing" (i.e., the proportions of debt and equity in the capital structure used to set the weighted average cost of capital) is not unreasonable under the circumstances. BTC currently has less than 10 percent debt in its capital structure.<sup>31</sup> The Consultation Paper uses a "hypothetical" capital structure approach, which assumes, in the "mid" range, that tariffed rates should be set as if BTC had a 20 percent debt ratio. BTC does not regard this as being an unreasonable approach.

In the process of introducing competition (and the sale of a 51 percent share of BTC), BTC's gearing ratios are likely to change over time and the regulatory process would necessarily reflect those changes in the ratemaking process. Standard regulatory practice is to use the regulated company's actual capital structure, so long as the proportions of debt and equity are within a range of reasonableness, e.g., are comparable to the gearing ratios of its peers. For the cost of debt, standard regulatory practice is to use the actual cost of debt; nevertheless, given the impending transition to competition, it is not unreasonable, as a provisional matter, to use a hypothetical cost of debt, such as the debt cost rate used in the Consultation Paper.

Another issue has to do with whether "real" or "nominal" figures are to be used in the WACC calculation: i.e., should the cost of equity and cost of debt "back out" inflation, or not? For the cost of equity, the answer to this question turns on whether an "original cost" rate base or some form of "fair value" (i.e., current cost) rate base is to be used. If an "original cost" rate base is used, the *nominal* cost of equity would be used. If a "fair value" rate base is used, then the *real* cost of equity—i.e., the nominal cost of equity less a measure of annual inflation—because of the necessity to avoid double-counting inflation in the allowable revenues calculation. In any event, the nominal cost of debt would be used—the reason being that standard regulatory practice passes through the actual cost of debt in rates.

In conclusion BTC supports a weighted average cost of capital of 11.90 percent for fixed and 12.11 percent for wireless services, as shown in **Table 6**.

<sup>31</sup> The Consultation Report measures BTC's net debt as total debt less cash. This approach violates standard financial practice.

Table 6. WACC Calculation Summary

	Fixed		Mobile	
	URCA	BTC	URCA	BTC
Risk-free rate	4.30	4.33	4.30	4.33
MRP	5.00	7.70	5.00	7.70
Equity country risk premium	2.10	2.10	2.10	2.10
Equity beta	0.70	0.87	1.10	0.90
<b>Cost of equity</b>	<b>9.10</b>	<b>12.85</b>	<b>11.80</b>	<b>13.10</b>
Risk-free rate	4.30	4.33	4.30	4.33
Debt premium	2.40	2.40	2.40	2.40
Country risk premium on debt	1.40	1.40	1.40	1.40
<b>Cost of debt</b>	<b>8.10</b>	<b>8.13</b>	<b>8.10</b>	<b>8.13</b>
Gearing	20%	20%	20%	20%
<b>Nominal WACC</b>	<b>8.90</b>	<b>11.90</b>	<b>11.06</b>	<b>12.11</b>

Note: The cost of equity assumes that original cost rate base is used. If current cost rate base is used, annual inflation should be netted from the real cost of equity.

## Appendix A. Adjusted Beta Quotes

"Numerous studies have considered the question of the stability of beta and generally reached similar conclusions. ... He [Levy] noted a tendency for the betas to regress toward the mean; high-beta portfolios had a tendency to decline over time toward unity (1.00), while low-beta portfolios tended to increase over time toward unity. ... [Blume] also found a tendency for a regression of the betas toward one."<sup>32</sup>

"Because of this regressive tendency, a company's raw unadjusted beta is not the appropriate measure of market risk to use. Current stock prices reflect expected risk, that is, expected beta, rather than historical risk or historical beta. Historical betas, whether raw or adjusted, are only surrogates for expected beta. The best of the two surrogates is adjusted beta."<sup>33</sup>

"There is a statistical justification for the use of adjusted betas as well. Statistically, beta is estimated with error. High-estimated betas will tend to have positive error (overestimated) and low-estimated betas will tend to have negative error (underestimated). Therefore it is necessary to squash the estimated betas in toward 1.00. ... Value Line, Bloomberg, and Merrill Lynch betas are adjusted for their long-term tendency to regress toward 1.0 by giving approximately 66% weight to the measured beta and approximately 34% weight to the prior value of 1.0 for each stock."<sup>34</sup>

"Most prediction errors tended to be correlated with the beta: for low-beta stocks, the betas overforecast the actual result, whereas for high-beta stocks, the betas were underforecasts."<sup>35</sup>

"Researchers have shown that adjusted beta is often a better forecast of future beta than is historical beta. As a consequence, practitioners often use adjusted beta."<sup>36</sup>

"Adjusted betas are better predictors of future betas than are historical betas because betas are, on average, mean reverting. Therefore, we should use adjusted, rather than historical betas."<sup>37</sup>

"The adjusted beta is computed by a rather sophisticated technique called Vasicek shrinkage. The general idea is that betas with the highest statistical errors are adjusted toward the industry average more than are betas with lower standard errors. Because high-beta stocks also tend to have the highest standard errors in their betas, they tend to be subject to the most adjustment toward their industry average. This is the adjustment used in the Morningstar Beta Book."<sup>38</sup>

<sup>32</sup> Frank K. Reilly, *Investment Analysis and Portfolio Management*, 2<sup>nd</sup> ed. (Chicago, IL: Dryden, 1985), pp. 628-629.

<sup>33</sup> Morin, *supra* note, p. 73.

<sup>34</sup> *Id.*, p. 74.

<sup>35</sup> Harrington, *supra* note 15, p. 127.

<sup>36</sup> DeFusco et al., *supra* note 18, p. 597.

<sup>37</sup> *Id.*, pp. 597-598.

<sup>38</sup> Shannon P. Pratt and Roger J. Grabowski, *Cost of Capital: Applications and Examples* (Hoboken, NJ: Wiley, 2008), p. 131.

**Appendix B. BTC CAPM Peer Group**

**Table 7. Fixed Peer Group**

	<b>Company<sup>39</sup></b>	<b>Country</b>	<b>Ticker</b>	<b>DGM</b>
1	Alaska Communications Systems	USA	ALSK	N
2	Brazil Telecom	BRA	BTM	N
3	CenturyTel Inc.	USA	CTL	Y
4	Consolidated Communications	USA	CNSL	Y
5	Fairpoint Communications	USA	FRP	N
6	Frontier Communications	USA	FTR	Y
7	IDT Corp.	USA	IDT	N
8	Iowa Telecom	USA	IWA	Y
	Telecomunicacoes de Sao Paulo			
9	SA	BRA	TSP	N
10	Telefonos de Mexico	MEX	TMX	Y
11	Telkom SA	ZAF	TLKGY	N
12	Warwick Valley Telephone	USA	WWVY	N
13	Windstream Corp	USA	WIN	Y

**Table 8. Mobile Peer Group**

	<b>Company<sup>40</sup></b>	<b>Country</b>	<b>Ticker</b>	<b>DGM</b>
1	Centennial Communications	USA	CYCL	N
2	LEAP Wireless International	USA	LEAP	N
3	Millicom International Cellular SA	LUX	MICC	N
4	Mobile Telesystems Ojsc	RUS	MBT	Y
5	MobileOne LTD	SGP	SIN:B2F	N
6	Mobistar SA	BEL	EBR:MOBB	N
7	Partner Communications Co.	ISR	PTNR	Y
8	Telemig Celular Participacoes	BRA	TMB	N
9	TIM Participacoes SA	BRA	TSU	N
10	Turkcell Iletisim Hizmet	TUR	TKC	Y
11	U.S. Cellular	USA	USM	N
12	Virgin Mobile	USA	VM	N
13	Vivo Participacoes	BRA	VIV	N

<sup>39</sup> Criteria for company selection: The company is (1) an incumbent exchange carrier, (2) has 60 percent or greater revenue from wireline operations, and (3) has total cap under US\$15 billion.

<sup>40</sup> Criteria for company selection: The company has (1) 60 percent or greater revenue from wireless operations and (2) total cap under US\$15 billion.



## **BTC's RESPONSE TO QUESTIONS IN PUBLIC CONSULTATION PAPER**

BTC has addressed the issues but reserves the right to comment at any time on all issues and states categorically that the decision not to respond to any issue raised in this Consultation in whole or in part does not necessarily represent agreement in whole or in part with URCA's position, nor does any position taken by BTC in this consultation mean a waiver of any of BTC's rights in any way. BTC expressly reserves all its rights.

### **Question 1. Do you agree with URCA's use of the CAPM for the purposes of estimating the cost of equity? Please elaborate.**

The capital asset pricing model (CAPM) is one useful method of measuring the forward-looking cost of equity capital for a company, but it should not be relied upon to the exclusion of other valid methods, such as the dividend growth model ("DGM"). The CAPM begins with the premise that "nonsystematic" or "idiosyncratic" risk can be diversified away, and is therefore irrelevant to the setting of the forward-looking cost of equity capital.

Yet, in the context of competition and privatization in The Bahamas, it is not obvious that this will necessarily be the case. It is likely that potential investors in BTC will be concerned about, and will evaluate the full gamut of business and financial risks facing telecommunications operators in the Bahamas. Business risk can be defined as all of the operating factors that create uncertainty in projections of future operating income.<sup>41</sup> Financial risk has to do with the use of leverage (i.e., gearing) in a carrier's capital structure; debt holders provide capital based on a contract which sets forth terms for the repayment of interest and principal, while equity investors receive the residual that is left after debt holders and other creditors are paid. Note also that the Communications Act of 2009 specifically states that URCA "shall take into account the investment made by the relevant licensee and allow the licensee a reasonable rate of return on capital efficiently employed, taking into account the risks involved."<sup>42</sup>

The DGM (more commonly known as discounted cash flow, or "DCF") model reflects all the business and financial risks of the companies in the peer group, and is therefore a useful and appropriate way to measure the forward-looking cost of capital. As it happens, the CAPM and DGM models supported by BTC produces similar cost-of-equity results, which provides assurance that the results BTC supports are reasonable.

### **Question 2. Do you agree with URCA's use of benchmark and regulatory proceedings data? Please elaborate.**

It is not possible to measure BTC's forward-looking cost of capital directly, as it is not market traded. It is therefore necessary to use proxy groups of comparable companies as benchmarks for the cost of equity of BTC's fixed or mobile operations. Benchmark data on the cost of capital for a comparable group of companies is a necessary part of a cost of equity analysis and data on decisions by regulators in other jurisdictions is a useful "check" on those results. However, this

<sup>41</sup> Regulatory risk, i.e. risk that is related to the regulation of telecommunications carriers' rates and services, is one type of business risk.

<sup>42</sup> Communications Act of 2009, p. 36.

data needs to be used with great care to assure that the "benchmarks" are fully comparable to the situation facing BTC's fixed and mobile operations, respectively.

As a practical matter, the cost of equity for BTC's fixed and mobile operations must be measured with separate groups; most market-traded telecommunications carriers are providers of either primarily fixed or mobile services, with the more diversified companies tending to be very large and to have significant other operations. The proxy group used in URCA's CAPM analysis does not fully meet the necessary standard of comparability. The group of fixed carriers in table 17 of the Consultation consists of companies that are not necessarily "pureplay" fixed providers, with some earning only minimal revenue from the provision of wireline service. While most market-traded telecommunications carriers have undergone intermodal diversification to some extent, a valid and reliable group must consist of companies that provide predominantly fixed or mobile services in order to serve as a useful comparison to BTC's fixed or mobile operations, respectively.

The attached report discusses this issue. For the purposes of providing an alternative estimate of ROE, BTC developed its own peer group, one for fixed and another for mobile companies. Their screening process entailed finding companies that have a high percentage of revenue from a single mode of operations, and screening out highly diversified companies. The process also eliminated large companies that faced different business risks due to the size of their operations.

Data on allowed rates of return from other regulatory proceedings can also be useful but, again, care needs to be taken to assure comparability. If tax rates are different, for example, then the allowed ROE set in another jurisdiction might not be of use in determining the forward-looking cost of equity of BTC.

**Question 3. Do you agree with URCA's use of ranges as a means to deal with uncertainty around parameter estimates?**

Yes, but, again, care needs to be taken in assuring the usefulness and comparability of the results. It is clear that the forward-looking cost of equity cannot be measured with precision and therefore using a range to specify the boundaries of reasonable results is clearly necessary. But, the methods used to produce that range must be based on sound financial theory. That is the case with BTC's range of 12.17 percent to 15.22 percent, with a recommended point estimate of 12.85 percent, based on its CAPM and DGM analyses for its proxy group of fixed telecommunications carriers. That is also the case with BTC's proxy group of mobile carriers, the cost of equity results for which range from 11.33 percent to 14.78 percent, with a recommended point estimate of 13.10 percent. BTC's recommendations are based on its CAPM results, while the company's range is derived from adjustments to the Consultation Report's results and DGM analysis.

As noted in the attachment to these Comments, it is not appropriate, for example, to use various measures of the risk-free rate—the best measure of the forward-looking risk free rate to be used in a cost of equity is the long-term T-bond rate (e.g., 20-30 years), and not some shorter period.

**Question 4. Do you agree with URCA's approach of estimating market-specific costs of capital?**

No, the report attached, sets out BTC's concerns with the Consultation Report's risk-free rate, raw beta, and backward-looking equity risk premium.

**Question 5. Do you agree with URCA's use of US government bond yields to assess the risk-free rate?**

Yes, but BTC objects to the use of one year and five year US Treasury bond results. BTC does not object to the use of 10-20 year US Treasury bonds as a basis of setting the risk-free rate. While The Bahamas Government Bond will provide a higher risk free rate compared to U.S. Government Bonds, Bahamian Bonds are assigned a lower rating of A-, compared to U.S. Government Bonds of AAA.<sup>43</sup>

**Question 6. Do you agree with URCA's estimated range for the risk-free rate?**

No. BTC has identified two problems. The first has to do with the use of one-year and five-year T-bond results. The second problem concerns the use of 11-year averages, rather than a risk-free rate that is up-to-date and/or forward looking in nature.

**Question 7. Do you agree with URCA's estimated range for the MRP?**

No. Backward-looking MRP are problematic, especially given the market break of 2008. Forward-looking data is available.

**Question 8. Do you agree with URCA's application of an equity country risk premium?**

Yes. BTC does not object to the URCA's approach on this issue.

**Question 9. If so, do you agree with the approach used by URCA to estimate the size of this premium? Please elaborate.**

Yes. Given the small economy and the minor capital flow restrictions both equity and debt investors do require a risk premium to compensate for this additional risk.

**Question 10. Do you agree with URCA's approach to gearing for the SMP operators?**

Yes. The Consultation Paper approach to establishing the "gearing" (i.e., the proportions of debt and equity in the capital structure used to set the weighted average cost of capital) is not found to be unreasonable. BTC currently has less than 10 percent debt in its capital structure.<sup>44</sup> The Consultation Paper uses a "hypothetical" capital structure approach, which assumes, in the "mid" range, that tariffed rates should be set as if BTC had a 20 percent debt ratio. BTC does not find this to be an unreasonable approach.

<sup>43</sup> The Bond Ratings for both U.S. Government and The Bahamas Government are based on Standard and Poor's.

<sup>44</sup> The Consultation Report measures BTC's net debt as total debt less cash. This approach violates standard financial practice.

**Question 11. Do you agree with URCA's approach of estimating market-specific betas? Please elaborate.**

No. BTC's primary objection has to do with the Consultation Paper failure to adjust its "raw" beta results for the known phenomena of regression to the mean tendency. As BTC points out this issue is well-known and frequently discussed in leading finance textbooks. Correction for the failure to factor in this adjustment has 71 and 24 basis point effects on the Consultation Paper fixed and mobile CAPM results, respectively.

**Question 12. Do you agree with the equity beta ranges a proposed by URCA?**

No. The URCA calculation uses betas of .70 for fixed and 1.10 for mobile services, while BTC recommends using .87 for fixed and .90 for mobile services. The differences are explained by the chosen proxy group and the adjusted beta calculation, as previously discussed.

**Question 13. Do you agree with URCA's benchmarking of the debt premium to the average premium paid by A- rated companies, as well as past regulatory precedent?**

Yes. BTC has no objection to this approach.

**Question 14. Do you agree with the size of the debt premium proposed by URCA?**

Yes. BTC has no objection to this approach.

**Question 15. Do you agree with the approach used by URCA to estimate a country risk premium on debt?**

Yes. BTC has no objection to this approach.

**Question 16. Do you agree with the size of the country risk premium on debt premium allowed by URCA?**

Yes. The country risk premium on debt in the Consultation Paper reflects the compensation necessary to compensate the lender for supplying capital in The Bahamas. Given the reputability of Professor Damodaran's analysis and the recent data used to compute the risk premium we do not object to the country risk premium on debt used in the Consultation Report.

**Question 17. Do you think that the proposed WACC for each of the SMP markets is appropriate?**

No. BTC's objections have to do with the cost of equity, as discussed in the response. BTC's response primarily objects to several of the inputs in calculating the cost of equity, it does not directly refute the Consultation Report's proposed WACC.

**The Bahamas Telecommunications Company Limited**  
**Results Comparison**

<b>URCA Consultation Report</b>	<b>Fixed</b>		<b>Mobile</b>	
	<b>ROE (%)</b>	<b>Δ (bps)</b>	<b>ROE (%)</b>	<b>Δ (bps)</b>
Baseline (URCA Consultation Report)	9.10		11.80	
Baseline (BTC Replication)	9.27	+0.17	12.11	+0.31
[1] Adjusted Risk-Free Rate	9.30	+0.03	12.14	+0.03
[2] Beta Regression to the Mean	10.01	+0.71	11.90	-0.24
[3] Forward-looking Equity Risk Premium	12.17	+2.16	14.78	+2.88
Total	12.17	+3.07	14.78	+2.98

<b>BTC</b>	<b>Fixed</b>		<b>Mobile</b>	
	<b>ROE (%)</b>	<b>Δ (bps)</b>	<b>ROE (%)</b>	<b>Δ (bps)</b>
<b>BTC CAPM</b>	<b>12.85</b>	<b>+3.75</b>	<b>13.10</b>	<b>+1.30</b>
BTC DGM	15.22	+6.12	11.33	-0.47
Yield + Growth	12.46	+3.36	12.51	+0.71
Average	13.51	+4.41	+12.31	+0.51

**The Bahamas Telecommunications Company Limited**  
**URCA Comparable Group**  
**Fixed Group**

Company	Country	Ticker	Fixed Revenue Share	Total Capitalization <sup>1</sup> (\$ Million)	Equity Ratio	Beta <sup>2</sup>	BTC Peer
1 Sri Lanka Telecom	LKA	SLTL	34%	813	51%	1.00	N
2 Telecom Egypt	EGY	ETEL	50%	5,195	94%	0.49	N
3 Telkom SA Ltd	ZAF	TLKGY	94%	7,471	67%	0.63	Y
4 LG Dacom Corporation	KOR	15940	32%	1,747	69%	0.53	N
5 SK Broadband	KOR	33630	25%	2,622	45%	0.63	N
6 BT Group Plc	GBR	BT	30%	47,509	0%	0.85	N
7 Telefonos de Mexico	MEX	TMX	85%	10,932	27%	0.70	Y
8 Empresa Nacional de Telecomunicaciones SA	CHL	ENTEL	24%	24,380	5%	0.81	N
9 Iowa Telecommunications Services Inc	USA	IWA	74%	860	29%	0.74	Y
10 Telekom Slovenije Dd	SVN	TLSG	40%	2,633	60%	0.84	N
11 Hiad SA	FRA	ILD	36%	3,527	27%	0.56	N
12 Windstream Corporation	USA	WIN	98%	5,635	4%	0.88	Y
13 Coft Telecom	USA	COLT	45%	2,654	52%	0.67	N
Min			24%	813	0%	0.49	
Max			98%	47,509	94%	1.00	
Median			40%	3,527	45%	0.70	
Average			51%	8,921	41%	0.72	

Source:

<sup>1</sup>2008 SEC Filings (10-K & 20-F) and Annual Reports.

<sup>2</sup>URCA Consultation Three-Year Equity Beta

Exchange Rates:

<sup>1</sup> Chile (Peso)	0.00187
<sup>2</sup> Egypt (Pound)	0.18268
<sup>3</sup> Euro	1.47246
<sup>4</sup> Great Britain (Pound)	1.62292
<sup>5</sup> South Africa (Rand)	0.13459
<sup>6</sup> South Korea (Won)	0.0008373
<sup>7</sup> Sri Lanka (Rupee)	0.00872
<sup>8</sup> Mexico (Peso)	0.07466

Source: www.oanda.com, Accessed September 25, 2009.

**The Bahamas Telecommunications Company Limited**  
**URCA Comparable Group**  
**Mobile Group**

Company	Country	Ticker	Mobile Revenue Share	Total Capitalization <sup>1</sup> (\$ Million)	Equity Ratio	Beta <sup>2</sup>	BTC Peer
1 Centennial Communications	USA	CYCL	94%	1,456	0%	0.86	Y
2 China Mobile Ltd	CHN	CHL	100%	82,495	67%	1.16	N
3 Idea Cellular Ltd	IND	IDEA	100%	88,281	26%	1.01	N
4 Mobile Telesystems	RUS	MBT	99%	1,242	38%	0.95	Y
5 Mobistar SA	BEL	EBR:MOBB	94%	5,241	16%	0.24	Y
6 MTN Group Ltd	ZAF	MTN	94%	22,753	47%	1.13	N
7 O2 Plc <sup>A</sup>	ESP	TEF	NA	NA	NA	NA	N
8 Spice Communications <sup>B</sup>	IND	532863	NA	NA	NA	0.65	N
9 Sprint Nextel Corp	USA	S	85%	58,252	34%	1.65	N
10 Taiwan Mobile	TWN	3045	NA	NA	NA	0.38	N
11 TIM Participacoes SA	BRA	TSU	100%	4,473	48%	0.82	Y
12 Japan Communications	JPN	9424	NA	4,787	78%	0.82	N
13 Virgin Mobile	GBR	VM	93%	368	0%	NA	Y
14 Vivo Participacoes	BRA	VIV	65%	8,009	35%	0.80	Y
15 Vodafone Group Plc	GBR	VOD	100%	245,357	59%	0.89	N
16 Millicom International Cellu	LUX	MICC	100%	3,465	32%	1.50	Y
17 U.S. Cellular Corp	USA	USM	93%	5,566	58%	1.03	Y
18 Verizon	USA	VZ	90%	202,352	21%	0.79	N
19 Leap Wireless Intl	USA	LEAP	87%	5,053	32%	1.19	Y
Min			65%	368	0%	0.24	
Max			100%	245,357	78%	1.65	
Median			94%	5,403	35%	0.89	
Average			93%	46,197	37%	0.93	

Source:

<sup>1</sup>2008 SEC Filings (10-K & 20-F) and Annual Reports.

<sup>2</sup>URCA Consultation Three-Year Equity Beta

Notes:

<sup>A</sup> No Longer a Market Traded Entity (Acquired by Telefonica SA)

<sup>B</sup> Idea Cellular holds a 98% stake in Spice

Exchange Rates:

<sup>1</sup> Brazil (Real)	0.55772
<sup>2</sup> China (Yuan)	0.14669
<sup>3</sup> Euro	1.47246
<sup>4</sup> Great Britain (Pound)	1.62292
<sup>5</sup> India (Rupee)	0.02077
<sup>6</sup> South Africa (Rand)	0.13459
<sup>7</sup> Russia (Ruble)	0.0333
<sup>8</sup> Taiwan (Dollar)	0.03087
<sup>9</sup> Japan (Yen)	0.01099

Source: www.oanda.com, Accessed September 25, 2009.

Source:

2008 SEC Filings (10-K & 20-F) and Annual Reports.

**The Bahamas Telecommunications Company Limited**  
**BTC Comparable Group**  
**Fixed Group<sup>A</sup>**

Company	Country	Ticker	Fixed <sup>1</sup> Revenue Share	Total <sup>1</sup> Capitalization (\$ Million)	Equity <sup>1</sup> Ratio	Beta <sup>ii</sup>
1 Alaska Communications Systems	USA	ALSK	63%	757	2%	0.83
2 Brasil Telecom	BRA	BTM	88%	6,082	57%	0.76
3 CenturyTel Inc.	USA	CTL	65%	8,254	49%	0.83
4 Consolidated Communications	USA	CNSL	90%	1,242	7%	1.10
5 Fairpoint Communications	USA	FRP	88%	3,334	1%	1.70
6 Frontier Communications	USA	FTR	100%	6,889	10%	1.07
7 IDT Corp.	USA	IDT	81%	1,003	77%	0.86
8 Iowa Telecom	USA	IWA	74%	860	24%	0.83
9 Telecomunicacoes de Sao Paulo SA	BRA	TSP	67%	7,686	73%	0.42
10 Telefonos de Mexico	MEX	TMX	85%	10,932	27%	0.77
11 Telkom SA	ZAF	TLKGY	94%	7,471	67%	0.67
12 Warwick Valley Telephone	USA	WWVY	83%	55	63%	0.52
13 Windstream Corp	USA	WIN	98%	5,635	4%	0.95
Min			63%	55	1%	0.42
Max			100%	10,932	77%	1.70
Median			85%	5,635	27%	0.83
Average			83%	4,631	36%	0.87

Source:

<sup>1</sup> 2008 SEC Filings (10-K & 20-F) and Annual Reports.

<sup>ii</sup> Bloomberg two-year adjusted betas.

Notes:

<sup>A</sup> Criteria for company selection: The company is (1) an incumbent exchange carrier, (2) has 60% or greater revenue from wireline operations, and (3) has total cap under \$15B (US).

Exchange Rates:

<sup>1</sup> Brazil (Real) 0.55772

<sup>2</sup> Mexico (Peso) 0.07466

<sup>3</sup> South Africa (Rand) 0.13459

Source: www.oanda.com, Accessed September 25, 2009.



**The Bahamas Telecommunications Company Limited**  
**BTC Comparable Group**  
**Mobile Group<sup>A</sup>**

Company	Country	Ticker	Wireless <sup>1</sup> Revenue Share	Total <sup>1</sup> Capitalization (\$ Million)	Equity <sup>1</sup> Ratio	Beta <sup>ii</sup>
1 Centennial Communications	USA	CYCL	94%	1,456	0%	0.88
2 LEAP Wireless International	USA	LEAP	87%	5,053	32%	1.36
3 Millicom International Cellular SA	USA	MICC	100%	3,465	32%	1.48
4 Mobile Telesystems Ojsc	RUS	MBT	99%	1,242	38%	0.76
5 MobileOne LTD	SGP	SIN:B2F	75%	3,334	41%	0.59
6 Mobistar SA	BEL	EBR:MOBB	94%	5,241	16%	0.52
7 Partner Communications Co.	ISR	PTNR	88%	1,003	80%	0.70
8 Telemig Celular Participacoes	BRA	SAO:TMCP3	92%	860	87%	0.16
9 TIM Participacoes SA	BRA	TSU	100%	4,473	48%	0.80
10 Turkcell Iletisim Hizmet	TUR	TKC	97%	6,176	87%	0.72
11 U.S. Cellular	USA	USM	81%	5,566	58%	1.36
12 Virgin Mobile	USA	VM	93%	368	0%	1.44
13 Vivo Participacoes	BRA	VIV	65%	8,009	35%	0.86
Min			65%	368	0%	0.16
Max			100%	8,009	87%	1.48
Median			93%	3,465	38%	0.80
Average			90%	3,557	43%	0.90

Source:

<sup>1</sup> 2008 SEC Filings (10-K & 20-F) and Annual Reports.

<sup>ii</sup> Bloomberg two-year adjusted betas.

Notes:

<sup>A</sup> Criteria for company selection: The company is (1) has 60% or greater revenue from wireline operations, and (2) has total cap under \$15B (US).

Exchange Rates:

<sup>1</sup> Brazil (Real)	0.55772
<sup>2</sup> Euro	1.47246
<sup>3</sup> Israel (Shekel)	0.26769
<sup>4</sup> Russia (Ruble)	0.0333
<sup>5</sup> Singapore (Dollar)	0.70675

Source: www.oanda.com, Accessed September 25, 2009.

**The Bahamas Telecommunications Company Limited**  
**Comparison of URCA and BTC Models**

	BTC		Consultation Report	
	Fixed (Percent)	Wireless (Percent)	Fixed (Percent)	Wireless (Percent)
<b>CAPM<sup>1</sup></b>				
Risk-free rate <sup>2</sup>	4.33	4.33	4.30	4.30
beta * Market Risk Premium				
beta <sup>3</sup>	0.87	0.90	0.70	1.10
Market Risk Premium <sup>4</sup>	7.70	7.70	5.00	5.00
Country Risk Premium <sup>5</sup>	1.83	1.88	1.47	2.31
n	13	13	13	19
<b>ROE</b>	<b>12.85</b>	<b>13.10</b>	<b>9.10</b>	<b>11.80</b>
<b>DGM<sup>6</sup></b>				
Dividend Yield <sup>7</sup>	9.87	4.91		
Growth Rate <sup>8</sup>	3.23	4.33		
Country Risk Premium <sup>5</sup>	1.83	1.88		
n	6	3		
<b>ROE</b>	<b>15.22</b>	<b>11.33</b>	<b>NA</b>	<b>NA</b>
<b>Yield + Growth<sup>9</sup></b>				
Dividend Yield <sup>10</sup>	3.70	3.70		
Growth Rate <sup>11</sup>	6.93	6.93		
Total = Dividend Yield + Growth	10.63	10.63		
Country Risk Premium <sup>5</sup>	1.83	1.88		
<b>ROE</b>	<b>12.46</b>	<b>12.51</b>	<b>NA</b>	<b>NA</b>

<sup>1</sup> CAPM = RF +  $\beta$  (Rm) + CRP

<sup>2</sup> 30 Year US Treasury Bond as of September 9, 2009.

<sup>3</sup> Bloomberg Two-Year Adjusted Beta.

<sup>4</sup> First Call and Reuters S&P Return - Risk-Free Rate

<sup>5</sup> Same as URCA Consultation Report.

<sup>6</sup> DGM = D0 (1 + g) + g + CRP

<sup>7</sup> Estimated Dividend Yield as reported by Zacks in its Full Company Reports. Accessed 9/21/2009.

<sup>8</sup> Estimated Long Term EPS Growth Rate of next 5 yrs as reported by Zacks Growth Rate in its Full Company Reports. Accessed 9/21/2009.

<sup>9</sup> Y+G = Div Yield + Industry Growth Estimate + CRP

<sup>10</sup> Value Line "Telecommunications Services Industry" June 26, 2009.

<sup>11</sup> Reuters Company Research. "Telephone and Data Systems Inc." September 10, 2009, p. 6