



**Supreme Council for Information and Communications
Technology
(ictQATAR)**

Public Consultation

Definition of the relevant cost of capital for
Qtel Qatar (Qtel) Q.S.C.
for the purposes of regulatory accounting

06 June 2011

The closing date for submissions is 09 July 2011.

ICTRA 2011/06/06

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1 EXECUTIVE SUMMARY

This Consultation Document (**CD**) sets out the standards, methodology and process that the Supreme Council of Information and Communication Technology (**ictQATAR**) proposes to adopt for:

- (1) Defining the Weighted Average Cost of Capital (**WACC**)¹ for Qtel Qatar (Qtel) Q.S.C. (**QTel**)
- (2) Applying the WACC to services from QTel, which is designated as having a Dominant Position as a Dominant Service Provider (**DSP**)
- (3) Applying the WACC to Regulatory Accounting Separation (**RAS**).

This Consultation Document is directed towards the SPs² and the interested public for comments. ictQATAR includes within this CD, a set of *questions* (see also Annex I for the complete list of questions).

The need to apply the appropriate WACC is related to the requirements of the Regulatory Accounting System (RAS) Instructions of 8 August 2010 (ICTRA 08/10)³.

The overall process to define the WACC is as follows, from the date of issue of this CD:

4 weeks	Consultation period. Questions can be addressed in writing to ictQATAR.
4 weeks	Review period, where ictQATAR will review the responses. During this period, a meeting to discuss initial findings may be held, subject to ictQATAR agreement and if there is sufficient demand.
	Draft Response Document will be issued by ictQATAR. ictQATAR will also publish the responses
2 weeks	Response period for comments to the draft Response Document. During this period, a meeting may be held, subject to ictQATAR agreement and if there is sufficient demand.
	ictQATAR will publish its findings and it will formally determine the WACC. ictQATAR will also publish the submissions.

Table 1 - Consultation timeline (tentative)

In this process ictQATAR will be supported by Ovum Europe Limited.

This process (and the methodology described below in this CD) reflects international best practice, e.g. in neighbouring countries and in the European Union and it complies with due process defined for ictQATAR.

¹ In this document the terms Cost of Capital (CoC) and WACC may be used interchangeably, however strictly: WACC is one possible approach to the more general question of the appropriate CoC value to use.

² In this document the terms "Service Provider" and "Operator" may be used interchangeably.

³ http://www.ictqatar.qa/sites/default/files/documents/RAS_Instructions_QTel.pdf

The WACC defines the fair profit margin that a SP should obtain from its investment (the capital investment in the business). Services that cover the costs of production and provide sufficient additional revenue to cover the WACC ensure that the business's investment risks are covered and the investor is fairly and reasonably compensated. The investor recovers the investment (network assets can be replaced) with a return (profit) to compensate for the risk taken. The WACC is defined as a percentage of the capital investment and represents the opportunity cost in investing in that firm instead of another with comparable level of risk. If the WACC is based on efficient business and suitable economic factors, then prices that deliver this return reflect those that should occur in a competitive market – as such, a competitive market encourages costs that are efficient. A second proviso is that the level of capital investments and the operational costs also reflect an efficient structure (efficient network design and operations) - as should also occur in a competitive market. This WACC CD is not concerned with the specification of these efficient asset investments, only with the optimal return on that investment.

ictQATAR is required to set regulated prices where competitive forces and negotiation are insufficient. To set the prices, ictQATAR must consider the cost of providing the services and the return on the capital invested to deliver the services (the WACC). The service costing methodology is not considered in this consultation, except where required for illustration. Assuming the service costs are based on efficient network design and efficient operations, when this is combined with the efficient WACC, the total service cost provides a fair price.

A fair price provides the regulated service provider with sufficient funds to cover costs of production and to encourage additional investment. Other service providers who pay this price pay the fair price that should in theory occur in a competitive market. Such a price should not harm the buyer of the service and would encourage buyers to build competitive alternative networks only if they could provide the same service at a lower cost. As a result, pricing services that include fair and efficient costs, including the right WACC, encourage efficient market entry.

Services that are priced to recover *more* than the WACC are deemed to give “super profits” (also termed abnormal profit) which means higher returns are made than are expected in competitive markets. If the WACC is *not* recovered, then the service is deemed value diluting – better value (returns) could have been made by an alternative investment either in a service with higher returns or in an investment that has lower/similar returns but less risk. Either of these outcomes might indicate inefficient/anti-competitive pricing. This subject is not discussed by this CD, but it illustrates the relevance of the WACC to the responsibilities of ictQATAR and the possible impact.

The WACC is therefore a critical measure for evaluations of costs of services in Qatar and may be used to set prices. The value has a wider implication on other SPs as it indicates the expected return in a competitive market, so returns made by other SPs might be expected to tend toward this level depending on the markets and the relative efficiency of the alternative SP.

The WACC does not specify the overall profit margin to be made by DSPs or other SPs, nor does it specify retail prices. This is an important point and is in alignment with the ictQATAR policy of regulating only in areas where required and to minimise regulation where possible and where market forces can provide the most efficient outcome.

This CD sets out:

- The reasons why the WACC is required
- The proposed approach to calculate the WACC
- Key issues to be addressed when defining the parameters used to define the WACC.

Closing date for submissions in response to the CD is 9 July 2011.

2 INTRODUCTION AND BACKGROUND

To maintain an open and transparent regulatory process, ictQATAR is initiating this public consultation to seek views and comments from SPs and interested parties on the value of the WACC for QTel.

On 8 August 2010 ictQATAR issued the Instructions for the Implementation of the Regulatory Accounting System⁴ (ICTRA 08/10) to QTel. The RAS is required to demonstrate compliance with cost-orientation and non-discriminatory obligations for regulated services. The RAS describes a set of systems, processes, policies and procedures that enable a DSP to establish a record keeping regime necessary to meet its regulatory obligations, and which keeps track of revenues, costs, assets and capital employed.

In 2008 and 2010, Market Definition and Dominance Designation (MDDD) processes were carried out. A MDDD process includes determining the markets to be specified as Relevant Markets, conducting a market analysis of the Qatari telecommunications sector, and examining the circumstances and analysis supporting the designation of DSPs in the Relevant Markets. ictQATAR has statutory requirements to regulate access and interconnection in markets where there is dominance. This follows from the requirement to promote efficient competition in the supply of services in Qatar: competitive SPs need access and interconnection in order to deliver their services.

To carry out these tasks, a cost of capital (**CoC**) value is required. In the RAS Instructions the CoC is referred to as the Weighted Average Cost of Capital (**WACC**). This reflects the most usual approach to measure the CoC, which considers the fact that capital employed in a business is a mixture of debt and equity investments. These investments have different associated risks and so debt and equity investors require different rates of return. These two items each have their own costs (required rates of return) that have to be combined using a *weighting* factor to obtain a suitable average value for the whole business.

The WACC value is a crucial value for regulation and it needs to be defined fairly and in alignment with international best practices. The WACC, if set reasonably, encourages investment and allows competition to flourish. This is because this approach is neutral: a fair WACC when used for price setting does not bias prices in favour of the access seeker or the service provider. This approach to price controls and price investigations is acknowledged by other regulatory authorities, which commonly specify:

- Regulatory Account Systems to define the costs of services

⁴ http://www.ictqatar.qa/sites/default/files/documents/RAS_Instructions_QTel.pdf

- Cost analysis to investigate service costs and evaluate prices. When this is done, the cost of capital of the service must be considered along with the operational costs of providing the service.

Both tasks require a value of the WACC. ictQATAR therefore requires a WACC value that will be used in these tasks in order to comply with the national regulatory obligations and to maintain regulation in line with international best practice.

This CD contains a number of questions on the approach to WACC determination. The purpose of the replies is to assist the ictQATAR to define the methodology to use and to define the parameters that defined the WACC.

Views and comments, to the fullest extent possible, on this CD are invited from industry participants, other stakeholders and interested parties. The process and deadline to file comments is explained in sections 1 and 0.

3 THE METHODOLOGY FOR DEFINING THE COST OF CAPITAL

3.1 The Capital Asset Price Model and Weighted Average Cost of Capital

The RAS Instructions noted the need for a WACC and suggests the capital asset price model (CAPM). The result of this consultation is expected to base the final WACC on this approach. This is also the approach already proposed by QTel in its submission to ictQATAR in February 2011 for the methodology pertinent to QTel in Qatar. The calculation of the WACC, based on CAPM, is widely understood and has been extensively discussed and is accepted by regulators, financial investors and economists. In the following section, this approach is explained further in order to set the framework for the rest of the consultation.

The WACC approach considers the (weighted) average annual cost of debt (a percentage), including the different forms of debt held by the DSP that might exist, and the cost of equity as measured by the annual returns (a percentage) that shareholders require in order to invest in the network and to compensate for the associated risks. These two sources of capital (debt and equity) fund the business. Once the cost of debt and the cost of equity are defined, then these can be combined with the value of the debt and equity invested, to obtain a *weighted* average cost of capital (WACC) formula:

$$\text{WACC} = (\text{RE} \times \text{E} + \text{RD} \times \text{D}) / (\text{D} + \text{E})$$

Where:

- RE is the cost of equity (defined as a percentage),
- RD is the cost of debt (defined as a percentage),
- D is the total value of debt, and
- E is the total value of equity.

The WACC formula weighs together the debt and equity costs in the ratio of the debt and equity levels in the business.

The primary questions to be answered when using this formula are:

- Specifying the relative debt and equity values (in the formula above it is only the ratios that matter, as the absolute values are normalised)
- Defining the cost of debt (RD)
- Defining the cost of equity (RE).

To define the cost of equity, the most common approach is the Capital Asset Pricing Model (CAPM). This defines the formula for the cost of equity as:

$$\text{RE} = \text{RF} + \text{betaE} \times (\text{RM} - \text{RF})$$

Where:

- RF is the risk free rate (the return obtained from secure investments such as government bonds)
- betaE is the risk of the equity asset compared to the market (this defines the relative risk – a value of one means the equity acts the same as the rest of the market, larger values imply larger risks), and
- RM is the Return of the Market (the equity returns seen on the stock market).

Therefore $RM - RF$ is the equity risk premium – the additional risks that are (potentially) rewarded by the higher returns from stock investments.

The cost of debt is defined as:

$$RD = RF + RP$$

Where:

- RF is the risk free rate and
- RP is the risk premium that is faced by the business (required to reflect the situation where the business cannot borrow debt at the risk free rate).

An additional factor is required to account for the effect of corporation tax (should it exist). The interest payments on debt are business costs that are incurred before profits are calculated. Tax is only paid on the net profits. Payments to equity holders are not discounted in this way. As a result the effective cost of debt is reduced by the tax rate:

$$RD = (RF + RP) \times (1-t)$$

Where:

- t is the effective corporation tax rate.

We return to the issue of tax again later, when we discuss specific Qatari issues, the discussion here of tax uses the general approach used for including tax in the WACC formula and we do not consider the definition of what is relevant to the value of t.

Combining these factors supplies the WACC based on the CAPM, we obtain:

$$WACC = (RF + RP) \times (1-t) \times D/(D + E) + [RF + \text{beta}E \times (RM - RF)] \times E/(D + E)$$

This defines the cost of capital and should be used for many regulatory purposes. When applied to the capital of the whole business, it shows the operating profit required to finance tax payments, interest payments, and ensuring shareholders obtain their required return on investment.

The same formula is often shown using a reference to the *gearing* (g), where $g = D/(D+E)$, with simple adjustments to the above formula. Highly geared businesses have high levels of debt.

ictQATAR, in line with other regulators, is required to regulate the business on an *ex ante* basis. As a result, the investment costs are analysed in the business before any tax deductions are considered. This means the cost of network and other assets are required before eventual tax payments are made.

A pre-tax WACC is therefore normally used by regulators:

$$\text{WACC (pretax)} = \text{WACC} \times 1/(1-t)$$

The WACC may be considered in current (nominal) or real terms. The real WACC shows the WACC excluding the impact of inflation. As regulation is concerned with current prices and current costs, the nominal values are required – inflation effects may be considered by examining the changing costs of the business or by setting prices that vary with inflation from the base line costs of today. This use of nominal WACC is in line with regulatory practice in other regimes.

Additionally, a number of issues related to the Qatari market specifics should be considered:

- Currently we assume that QTel does not pay Corporation tax (the normal definition of t above).
- Some tax factors may not be relevant today, but they may be relevant in the future. Alternatively they were not used in the past. In that case, an effective tax value for today is required.
- Other taxes may be considered to give the same effect as a corporation tax.
- Each parameter needs to be defined. The values are needed to reflect an efficient business in Qatar, so values from other countries (if used) need to be transposed to the Qatari situation.
- QTel is an integrated business that combines various business segments: mobile, fixed, residential services, data and business services etc. Each business segment may be considered to have their own risks and so if, each business area (or “market”) were to be a notional stand-alone business that is individually regulated, then each *could* have its own WACC. In Qatar, a single WACC value for the *entire* business is most appropriate since separating the assets even to fixed and mobile is overly complex due the common usage of many items. Also QTel will typically borrow on the capital markets for its entire business and not for specific business segments, and certainly not for individually-regulated segments. For the avoidance of doubt, this CD does not consider possible different risks (and WACC values) for future investments in fibre in the loop services (Next

Generation Access – NGA). This will be considered (if deemed appropriate) when ictQATAR regulates such services.

Some additional “tax” payments are not expected to be factored into the WACC value but may be dealt with in a pricing analysis or when the business costs are analysed by ictQATAR and regulatory accountants.

4 Defining the pre-tax WACC

In this section we consider each parameter introduced in the previous section. Before that, we consider the fundamental requirements for calculating the WACC outlined above.

4.1 General requirements

ictQATAR assumes that the essential principle of requiring a cost of capital to be recovered is understood. This CD does not seek responses that discuss whether a WACC is needed or where it is to be applied.

The core approach to the CoC is based on the WACC formula using the CAPM. ictQATAR believes this is the appropriate method and it complies with generally accepted best practices internationally. ictQATAR believes that a pre-tax nominal value should be the basis for its work.

Question 1 Respondents are invited to comment on the application of the WACC calculation and the potential for other approaches to defining the CoC.

Certain general factors must be considered when a value is to be defined. These include:

- The application of the WACC. The WACC will be applied to all services in Qatar supplied by the DSP. It is assumed that fixed, mobile access etc all have the same WACC.
- Timeline. Risks change with time and recent economic factors may have a bearing. As these change, a WACC value will alter. In order to give price certainty and to ensure transparency and reduce risks from varying the regulatory WACC, it is intended that the WACC value determined from this Consultation is used for a couple of years before it is revised.
- The WACC may also be applied to current or retrospective investigations and regulations. It will be used in RAS reports that are under production.

Question 2 Respondents are invited to provide reasoned comments on the proposed application of a single business-wide WACC value.

Question 3 Respondents are invited to provide reasoned comments on the validity of the CoC value.

4.2 Defining the parameters

4.2.1 Debt and equity ratios (gearing)

The WACC requires the relative debt and equity values to be defined. A business can have all equity funding or else have a very high percentage of debt funding (high gearing). As noted by inspection of the WACC formula, debt funding costs are typically reduced by the effects of tax compared to equity funding (“the tax shield”), and this means that CoC may be reduced by having debt funding rather than all equity funding. However business risks increase if a business is heavily debt funded, so the debt risk premium starts to rise if the gearing ratio is large. The cost of debt is therefore a function of gearing. This means there is an optimum debt – equity ratio that in theory should minimise the WACC. ictQATAR promotes competition and fair returns on investment. Efficient competition and fair profits may be optimised if an optimal WACC gearing ration is employed.

Two primary alternatives exist:

- Define the gearing based on the actual debt and equity levels of the SP
- Define the gearing based on optimal gearing levels.

Both methods have merits. Where a business has extremely low or extremely high gearing then it is reasonable to assume this is not optimum and setting price controls on such gearings might, therefore, disadvantage other SPs. An alternative optimal value then has merits.

Using the actual values (assuming not extreme) has the merit that it reflects the actual business and the data is based on verifiable values. It may or may not be close to the optimum. Assuming the actual-value choice is taken, two alternatives exist:

- Book values. These have the debt and equity as defined in the accounts. This is solid and there is no subjective or external effect when specifying the gearing. The method is arguably, more likely to be less optimal.
- Market values. The value of debt and equity can be derived from the book data and the market value of the business on the stock market (equity value is the share price times the number of shares). Debt values can be derived from the book debt levels and current debt values in Qatar. This has merits as potentially more optimal/realistic, but the share price needs to be averaged and the debt valuation is open to diverse opinion. This is returned to below in the discussion on the cost of debt.

Other gearing values can be defined as an optimum value or else a range, within which an optimum probably lies, could be defined. This approach could produce a better value. A number of assumptions and additional information are required to do this.

ictQATAR is minded to use the actual QTel book values for gearing in the calculations as this is: verifiable; is unlikely to be considered extreme; and it is in a range within which optimal gearing is likely to lie.

Question 4 Respondents are invited to comment on the gearing level to apply in the WACC calculation. Alternative approaches should be justified. Respondents are also invited to comment on a reasonable range of gearing. The solidity of the data used to define the optimal levels should be clarified and data should be supplied.

4.2.2 Cost of debt: Risk free return (RF) and debt risk premium (RP)

A baseline input for the analysis is the risk free return rate that is appropriate to Qatar. As it applies to the cost of debt and the cost of equity in the CAPM, it needs significant attention. The cost of debt requires additional risk factors (above the risk free rate) to be considered relating the business and the local market. If preferential rates of borrowing were to be available then the effective risks could be reduced (even negative, *in extremis*).

Risk premiums may be company-specific or country-specific. Additional factors may consider if QTel has relevant additional risk premiums say as a result of the small market (dominated by QTel) or from regulatory interventions and liberalisation.

It is noted that QTel is able to borrow at an international level as part of an international group. This opens up international markets as a legitimate source for the definition of the risk free rate. These must be adjusted to be applicable to QTel in Qatar. Qatari debt rates are also relevant.

ictQATAR remains to be convinced that there are country specific risks that are not already factored into the debt markets. The large size of QTel with respect to the Qatari market does not naturally imply larger risk, unless this was based on an assumption that QTel was more risky as a result of its relative size. In this case the premium should already be included in the company risk premium and current debt rates it can access.

Regulatory risks should be considered as part of the company risk premiums as the existence and potential for regulatory action are not new. Such factors may be already factored in to the equity risk. Liberalisation (competition) risks are similarly not new and the potential for these factors to affect debt may be already within the company debt premiums paid.

ictQATAR appreciates that RF is not the only value required for the WACC and this value is open to differing views. Additional factors need to be considered to define the additional debt risk premium factor (RP).

Question 5 Respondents are invited to comment on the appropriate method and the relevant data to defining the risk free return rate appropriate to QTel. Please explain the logic and the data sources and how they are used.

Question 6 Respondents are invited to define the additional appropriate debt risk factors and how they can be defined. Please explain the logic and the data sources and how they are used. Proof that the factors are not included in other parameters are required.

4.2.3 Cost of equity - market rate of return (R_M)

This factor defines the rate of return of the market. This is typically based on historic data. A variety of methods can be applied to obtain an average that may be used in the CAPM. Geometric and arithmetic averaging methods may be employed, samples can be daily or over other periods. Time related data may need to weight the results by time to ensure undue weight is not given to returns far back in history or conversely too much weight is not given the recent historic returns.

The equity market index is another factor. This could be a Qatari market or else other markets used and their data adjusted to Qatar. As the Qatari market is limited, the data may not be representative and recent returns may give a distorted view and not represent a longer term view. Using other countries requires selecting a foreign market and adjusting for differences in the economies of the local and source country. These differences can relate to the nature and size of the companies, differences in taxation and differences in country risk. This conversion could potentially be complex or unrealistic.

Another issue is that QTel itself composes a significant part of the market. Market returns and company therefore may be closely related – the market return may need the removal of QTel data.

Question 7 Respondents are invited to specify the appropriate market rate of return. Please explain the logic and why that method was chosen over others. The source data in a calculation should be supplied.

4.2.4 Cost of equity – (βE)

Beta is a measure of the risk relative to the market risk. In theory, beta only shows the systematic risk, of the business in question – that which cannot be eliminated by an investor through diversification in other investments.

The value reflects the volatility (larger values show larger variation and hence higher risk). If the business follows the market exactly, then the value is one. The

beta should reflect future risks, but these are (naturally) not readily available so other methods including analysis of historic data must be used. A number of different approaches are possible. Some issues to consider in this process include:

- Size of QTel relative to the Qatari market
- How historic data may be weighted
- Relevance of other market data and how to translate these to realistic Qatari values
- Which calculation method to choose
- If the gearing is altered in the WACC calculation, compared to the gearing used in the source data that is being analysed, then how should the beta be adjusted?

ictQATAR is interested in the views on the approach and the values. As with other aspects of the WACC it is important that both the method and data used are supplied to enable ictQATAR to analyse the options and to calculate the final WACC to use.

Question 8 Respondents are invited to specify the appropriate methodology and the data that defines the beta value correctly.

4.2.5 Effect of tax – (t)

Tax approaches and values are slightly different in different countries. The WACC must be relevant to Qatar. An approach that considers the local taxes has to be considered.

Historic taxes (if applied and different from today) could also impact the analysis of the historic returns and how they are transposed to the current WACC.

ictQATAR seeks views on the approach to taxes in the WACC calculation. This includes clarifications on how they are dealt with (where appropriate) in any other analysis of any of the other parameters.

Question 9 Respondents are invited to specify the appropriate methodology and the relevant data and sources data that define a correct effective tax rate. This includes a justification of a zero value if this is deemed appropriate.

4.2.6 Combining the data and the values

The above discourse sets out the key questions and the key data requirements. ictQATAR appreciates that the WACC formula is simple and both the principles and issues have been extensively discussed. Despite this, there are many

approaches to consider and many alternative views on some matters that can result in a diverse set of views and diverse WACC values.

ictQATAR will consider submissions in the light of these factors and will apply its own analysis and critical review of submissions. This may lead to a range of values – upper and lower levels that define a “reasonable range” within which a fair value should lie.

Submissions should consider these issues in response to this consultation. Furthermore, ictQATAR’s general aims may be noted – to promote competition in supply. There is no inherent desire to bias investment or competition to either service level or at the infrastructure levels. Clearly higher or lower WACC could encourage competition at different levels. In this respect, the approach should be unbiased and consider only the fair WACC of a combined, integrated DSP in Qatar, and *not* the effect of the WACC on the resulting investment outcomes and types of competitive market entry that might result (biased say to retail-service or to infrastructure-supply competition).

Clear upper and lower boundaries for any parameters and the solidity of certain values will need to be assessed. Please note that ictQATAR must define one WACC value and ictQATAR requests that respondents provide the best data and a single value for each parameter, wherever possible. Respondents are requested to explain the reasoning for some values to have greater (or lesser) solidity and the logic why some values might form an upper or lower boundary. This may lead to at least two calculations of WACC, each with parameters that are on the respective limit of reasonableness:

- Upper boundary
- Lower boundary.

A danger that ictQATAR wishes to avoid, is that the two values are far apart and a simple average is no more justifiable than one close to either boundary.

ictQATAR intends to conduct its own review of submissions and use its own data, to ensure an accurate and representative analysis is carried out. Respondents are requested to comment on the options to combine or average data and to identify ranges for parameters’ values that are deemed most creditable.

Question 10 Respondents are invited to comment on the overall approach for combining values and obtaining a single result for use for regulatory decisions. This includes additional commentary on each parameter and the related analysis-data that is submitted.

5 INSTRUCTIONS FOR RESPONDING TO THIS CONSULTATION

5.1 Consultation Procedures

All interested parties are invited to submit responses to the questions specifically identified in this document and to provide their views on any other relevant aspects. Comments should reference the number of the question being addressed or the specific section of this document if not responding to a particular question.

ictQATAR asks that, to the extent possible, submissions be supported by examples and relevant evidence including the source data [which should be traceable where ever possible]. Any submissions received in response to this consultation will be considered by ictQATAR.

Nothing included in this consultation document is final or binding. ictQATAR is under no obligation to adopt or implement any comments or proposals submitted.

Communications with ictQATAR concerning this consultation must be submitted in writing by no later than 3:00 p.m. (local time in the State of Qatar) **on 09 July 2011**. Comments should be submitted by email to rschnepfleitner@ict.gov.qa. The subject reference in the email should be stated as "Cost of capital definition 2011". It is not necessary to provide a hard copy in addition to the soft copy sent by email.

5.2 Publication of Comments

In the interests of transparency and public accountability, ictQATAR intends to publish the submissions to this consultation on its website at www.ictqatar.qa. All submissions will be processed and treated as non-confidential unless confidential treatment of all or parts of a response has been requested. If confidentiality is claimed respondent is obliged to submit a non-confidential version of the submission as well.

While ictQATAR will endeavor to respect the wishes of respondents, in all instances the decision to publish responses in full, in part or not at all remains at the sole discretion of ictQATAR. By making submissions to ictQATAR in this consultation, respondents will be deemed to have waived all copyright that may apply to intellectual property contained therein.

For more clarification concerning the consultation process, please contact Dr. Rainer Schnepfleitner, Manager Policy and Regulatory Affairs, rschnepfleitner@ict.gov.qa.

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**Comments on
ictQATAR's "Definition of the relevant cost of capital for Qtel Qatar (Qtel) Q.S.C.
for the purposes of regulatory accounting"**

Dated 6 June 2011

Qatar Telecom (Qtel) Q.S.C.

20 July 2011

REDACTED VERSION FOR PUBLIC DOMAIN

Executive Summary

Qtel makes the following salient comments with regard to the definition of the relevant cost of capital for 'Qtel Qatar' [Qatar Telecom (Qtel) Q.S.C.] for regulatory accounting purposes:

- **More than one cost of capital is appropriate, relevant and practical**

Qtel notes that there are several reasons why it is more appropriate to derive and apply more than one cost of capital value to distinct segments of its business in Qatar. Such cost of capital differentiation is increasingly applied by 'best practice' regulators. In particular, regulators have sought to apply diverse COC values for fixed-line vs. mobile business and fixed-line Access vs. fixed-line network core. Additionally, regulatory authorities and the industry generally have sought to adjust the cost of capital applicable to next generation access developments so that they might be appropriately incentivized and prioritized.

Qtel has proposed a pragmatic means by which differentiated cost of capital values might be derived expediently and cost-effectively.

- **A minimum rate of return – not rate of return regulation**

Qtel emphasizes that a derived cost of capital theoretically represents the minimum rate of return that is necessary in order to meet the reasonable expectations of its debt and equity holders.

While Qtel agrees that it may be appropriate to apply the cost of capital to the derivation of wholesale interconnection and access prices, it is unwise to determine retail price constraints in such a manner. The consultation paper appears to suggest that any derived cost of capital value(s) may be applied as regulated rate of return regulation without appropriately incentivizing efficient behaviour by Qtel. Qtel notes that such an approach cannot be regarded as 'best practice regulation'.

Qtel is also disappointed that the proposed approach to deriving the cost of capital, and thereby the underlying rate of return on assets, misses an opportunity to appropriately encourage investment in infrastructure. Providing an incentive to Next Generation Access deployment has been a major consideration of best practice regulation in recent years.

- **Important to reflect actual market and operator circumstances**

Qtel notes that it is essential that any cost of capital value(s) appropriately reflect the actual circumstances of the entity and market to which they are intended to be applied. Wherever possible, actual market and company data should be used in the derivation of cost of capital parameters, rather than benchmarked information that may lack credibility or robustness.

- **The opinions of all ‘stakeholders’ are not equivalent**

Qtel observes that potential respondents to the consultation are not in equivalent market position which may distort their response comments.

At present, the only total telecommunications service provider in Qatar is Qtel. As a result, while Qtel might seek to secure a higher cost of capital in order to enhance its rate of return from capital investment, such efforts are inevitably constrained by the need to ensure retail price competitiveness against cost-based pricing floors.

By contrast, a new market entrant seeking to minimize its costs will invariably seek a lower cost of capital determination for the incumbent operator from which it purchases cost-based access and/or interconnection services.

In view of such disparate motives, it is important that ictQATAR recognizes that it may be inappropriate to simply average the views of respondent parties when determining appropriate cost of capital parameter values.

Qtel additionally notes that the consultation does not appear to have been provided to the Qatar Ministry of Finance for comment. As the Qatar Government is both a major shareholder in Qtel and presumably a beneficiary of licensing fee revenues from all profitable operators in the Qatar market, it would seem appropriate that their view of a minimum rate of return might be relevant to the consultation.

- **A return on operating costs committed**

The cost base of many telecommunications services is comprised of an increasing proportion of operating costs. Qtel notes that the cost of capital approach makes no allowance for a profitable margin on such significant ‘opex’ commitments.

The proposed methodology only seeks to provide a minimal level of return to debt and equity holders without seeking to reward entrepreneurial investment over and above the level of operating costs incurred and risk taken. This is arguably a flaw with the cost of capital approach generally and should be a worthy consideration when deriving the rate of return that an incumbent operator is permitted to make on its retail and wholesale services.

- **Commercial confidentiality**

Qtel has provided ictQATAR with extensive comments, supported where necessary by underlying data, in response to all the questions posed by the Consultation. While Qtel has no objection to providing such information to ictQATAR and its advisors in commercial confidence, it is understandably reluctant to have such market price-sensitive information placed in the public domain via ictQATAR’s website. As a result, and in accordance with the Consultation instructions, Qtel has submitted a redacted version of its response comments to ictQATAR and trusts that its request for commercial confidentiality will be observed. For simplicity, the redacted version is limited to the comments contained within this Executive Summary.



Dr. Rainer Schnepfleitner
Regulatory Authority
ictQATAR
P.O. Box 23264
Doha, Qatar

21 July 2011

Dear Dr. Schnepfleitner

RE: 2011 WACC Consultation Document. Public Consultation—Definition of the relevant cost of capital for Qtel Qatar (Qtel) Q.S.C. for the purposes of regulatory accounting

I refer to the above. By way of response from Vodafone Qatar, please see the attached.

Yours faithfully

A handwritten signature in blue ink, appearing to read "M. Osborne".

Matthew Osborne
Head of Legal
Vodafone Qatar Q.S.C.
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+974 5555 5071



Vodafone Qatar Q.S.C
Response to ictQATAR Public Consultation Document
"Definition of the relevant cost of capital for Qtel Qatar (Qtel) Q.S.C
for the purposes of regulatory accounting"

21 July 2011

We refer to the public consultation document titled "Definition of the relevant cost of capital for Qtel Qatar (Qtel) Q.S.C for the purposes of regulatory accounting" dated 6 June 2011 (the "**Consultation Document**"). Vodafone Qatar Q.S.C ("**VQ**") appreciates the opportunity to comment on the Consultation Document. VQ agrees with ictQATAR that the weighted average cost of capital ("**WACC**") is a critical measure for evaluating the cost of services and is, accordingly, a key element of the regulatory process.

Given the stage of development of competition in the State of Qatar, particularly in the fixed line market, ictQATAR's support for the development of competition should prevent the Dominant Service Provider (as defined in the Consultation Document) from over-recovering costs.

A regulatory WACC should balance the need for operators to earn a fair return on investments already made, with incentives to continue investing in the development of the telecommunications sector. VQ recognizes ictQATAR's careful consideration for the health of the telecommunications industry as a whole, thereby taking into account surpluses beneficial to both providers and consumers, expressed as the need to define the WACC "fairly and in line with international practices". VQ believes that the agreed upon WACC should produce efficient prices for regulated products, ultimately maximizing value for consumers.

VQ understands that in its first instance, the WACC will be utilized to determine Qtel's Regulatory Accounting System (RAS), and thereafter for setting the prices of Qtel's regulated services. The regulatory process should balance the need to adequately reflect the concept of an 'efficient operator', which may be considered a static concept, with the need to respond to fundamental changes in circumstances, such as the separation of Qtel's domestic and international activities. In the first instance, the WACC should be determined with reference to objective and verifiable data concerning Qtel's operations. As the WACC will be used for future price setting, it is important to establish the WACC methodology and calculation in a way that will allow for the calculation to be updated periodically. Above all, the process should create confidence for all parties as to the cost of capital figure on which regulatory decisions will be based. For this reason, VQ urges ictQATAR to create a robust and transparent process for determining the WACC, with an appropriate period between any revisions.

As this is the first occasion when ictQATAR has attempted to evaluate Qtel's cost of capital, using data which may not have been hitherto used or tested, VQ agrees that it is appropriate for ictQATAR to refer also to international benchmarks, such as those cited in Annex A, as cross-check against the reasonableness or otherwise of the calculated result.

VQ therefore presents three scenarios for a WACC calculation:

- (a) a first scenario which uses unadjusted calculations based on Qtel data as sourced directly from Bloomberg and Qtel's financial statements;
- (b) a second scenario which makes use of certain adjustments to estimate a WACC for a Qatar-only operator rather than one that operates within a wider group; and
- (c) a benchmark of WACC figures, derived by regulators in a number of countries which is presented to confirm that the two estimates of WACC lie within the range observed from international precedents.

All data presented in this response has been sourced from reliable, objective sources:

- (a) Bloomberg (on 28 June 2011, subscription site);
- (b) Qtel Group financial statements for the year ended 31/12/2010;
- (c) Damodaran website (www.damodaran.com);
- (d) Cullen International (www.cullen-international.com – suscription site)

VQ's comments on specific questions in the WACC consultation document:

Question 1 Respondents are invited to comment on the application of the WACC calculation and the potential for other approaches to defining the CoC

VQ agrees that a pre-tax nominal WACC based on the CAPM methodology should be used. The pre-tax nominal WACC based on the CAPM methodology conforms to international best practice and relies on inputs that are all available for Qatar and Qtel.

Question 2 Respondents are invited to provide reasoned comments on the proposed application of a single business-wide WACC value.

VQ agrees with a single WACC value because:

- (a) currently there is limited separation between Qtel's domestic and international business, and between Qtel's retail and network service offerings within Qatar;
- (b) development of the wholesale market will still be largely contained within the network operator community (i.e. VQ and Qtel); and
- (c) though investment in access networks sometimes pose less risk than investment in core networks, this distinction is less likely to apply to Qatar where a significant roll-out of access infrastructure is still required.

Question 3 Respondents are invited to provide reasoned comments on the validity of the CoC value.

VQ cannot comment on the validity of the cost of capital, since ictQATAR has yet to propose a value. However, the correct application of the Capital Asset Pricing Model to objective and verifiable data should result in a valid figure for the cost of capital. Vodafone presents calculations which support a cost of capital value in the range of 8% to 10%. A figure in this range would also be consistent with the cost of capital that has been calculated for regulated operators in other markets.

Question 4 Respondents are invited to comment on the gearing level to apply in the WACC calculation. Alternative approaches should be justified. Respondents are also invited to comment on a reasonable range of gearing. The solidity of the data used to define the optimal levels should be clarified and data should be supplied.

VQ recommends that gearing levels be obtained from Qtel's financial statements since these figures represent the most reliable, objective source of data for Qtel's domestic operations. As these published accounts describe the Qtel's consolidated operations, any debt that Qtel has issued to fund Qtel's overseas acquisitions and network expansions should therefore be removed from the calculation of its gearing ratio. VQ also recommends that gearing levels assumed in WACC calculations by other regulatory authorities be used as a sense-check to ensure that Qtel's gearing lies within a reasonable range.

Gearing based on Qtel data (net debt at 31/12/2010)

Net debt	QAR million
Cash and cash equivalents (1)	25,576
Short term borrowings (2)	5,410
Long term borrowings (3)	43,743
Net debt (2 + 3 – 1)	23,577
Equity	
Qtel market capitalisation	26,576
Gearing (Net debt / Net debt + Equity)	47%

Current, publicly available data indicates that Qtel's gearing ratio is 47%. As noted above, VQ reiterates the need to recognize that Qtel's regulated, domestic operations are part of a wider international group, therefore a portion of the financial position indicated by these figures will relate to Qtel's operations outside Qatar. Using only publicly available data, it is currently not possible to split Qtel's financial position between Qatar and overseas operations. For the alternative scenario, VQ proposes a lower gearing ratio of 30% which is regarded as a reasonable benchmark based on other regulatory decisions, reflected in Ofcom's most recent cost of capital estimates¹.

Question 5 Respondents are invited to comment on the appropriate method and the relevant data to defining the risk free return rate appropriate to Qtel. Please explain the logic and the data sources and how they are used.

VQ recommends that the risk-free rate should be sourced from the most recent debt issued by the Qatari government. Ideally, the debt should be of similar duration to the assets under consideration, which implies a bond maturity of 10 to 20 years from now. The yield on Qatar Government bonds with a 2020 maturity is 4.32%. VQ therefore recommends that this figure be used as the risk-free rate.

Question 6 Respondents are invited to define the additional appropriate debt risk factors and how they can be defined. Please explain the logic and the data sources and how they are used. Proof that the factors are not included in other parameters are required.

The consultation document describes the Capital Asset Pricing Model and its use for calculating a WACC. VQ is not aware of any specific additional debt risk factors required for the purpose of the WACC consultation. VQ therefore makes use of a combination of the risk-free rate and the rates on existing Qtel loans to estimate the forward-looking debt risk premium for a telecoms operator in Qatar.

The yield on Qtel's debt with a 2021 maturity is 5.048%, which VQ recommends to use as a starting point for assessing Qtel's cost of debt. This yield gives an implied company debt risk premium of 0.73%.

For the alternative calculation scenario, VQ proposes a company debt risk premium of 1.5% to reflect a stand-alone Qatari telecoms operator. This results in a cost of debt of 5.82%.

Question 7 Respondents are invited to specify the appropriate market rate of return. Please explain the logic and why that method was chosen over others. The source data in a calculation should be supplied.

VQ recommends that the market rate of return be a forward looking estimate of returns expected for the Qatari stock market. International studies on equity market risk premium ("EMRP") have typically concluded that there is a range of 4%-8% EMRP based on stock market returns over many decades. At present there is no such equivalent dataset for the Qatari stock market. Any estimate of the EMRP in Qatar is therefore subject to a degree of uncertainty.

VQ has analyzed the historic returns of the Qatari stock market as per the table below:

Year	2011 (June)	2010	2009	2008	2007	2006	2005	2004	2003	2002
Market index	8,290	8,682	6,959	6,886	9,580	7,133	11,053	6,494	3,947	2,324
Annualised growth	-2%	25%	1%	-28%	34%	-35%	70%	65%	70%	

CAGR for 2002-2011 16%
 Weighted average 10%
 CAGR for 2004-2011 4%
 CAGR for 2008-2011 8%

¹ see paragraph A8.157 for the final calculation http://stakeholders.ofcom.org.uk/binaries/consultations/mtr/statement/MCT_statement_Annex_6-10.pdf

The calculation of the compound annual growth rate ("CAGR") is heavily influenced by the starting point for the calculation. In the table above, there are three alternative CAGR values in the range of 4% to 16%. Given this range, VQ believes that an Equity Market Risk Premium of **8%** is reasonable, given that it is at the top end of the range based on international studies.

In the alternative scenario, VQ considers an EMRP of **10%** to reflect an additional premium required by investors in Qatari companies. This fits in the middle of the 4%-16% range and is also consistent with the weighted averaged of the annual growth in the market index from beginning 2002 to June 2011 (with a higher weight being placed on the most recent years).

Question 8 Respondents are invited to specify the appropriate methodology and the data that defines the beta value correctly.

The most up-to-date beta estimate for Qtel is 0.78, sourced from Bloomberg. VQ notes that the R^2 for this beta estimate is only 0.30. VQ does not view this beta estimate as sufficiently reliable, since it is based on a single estimate. However, a beta estimate of 0.78 is broadly consistent with other telecoms stocks. According to the latest data from Damodaran (www.damodaran.com), the median beta for all European telecom service companies is 0.7. As such, VQ believes that a beta of 0.78 for Qtel is reasonable.

Question 9 Respondents are invited to specify the appropriate methodology and the relevant data and sources data that define a correct effective tax rate. This includes a justification of a zero value if this is deemed appropriate.

Given the absence of a corporation tax regime, VQ believes that a 0% tax rate assumption should be used. There are some quasi-taxes such as the industry fee which could be treated as tax for the purposes of the WACC calculation to the extent that the method for calculating the fee is likely to remain stable going forward. VQ is of the position that any possible future industry fee changes should not be treated as tax. Instead, calculations of profitability and service costs would need to include an allocation of the industry fee. VQ's calculation set out below assumes a 0% tax rate.

Question 10 Respondents are invited to comment on the overall approach for combining values and obtaining a single result for use for regulatory decisions. This includes additional commentary on each parameter and the related analysis-data that is submitted.

VQ agrees that a range can be calculated within which the adopted WACC should lie. VQ also agrees that the range should not be too wide as to prevent a conclusion on WACC being reached. The table below sets out a combination of all the parameters detailed above for both WACC scenarios that we have considered.

	Objective scenario	Alternative scenario
Cost of debt calculation		
Risk-free rate of return	4.3%	4.3%
Company risk premium	0.7%	1.5%
Company cost of debt	5.0%	5.8%
Pre-tax cost of equity calculation		
Risk-free rate of return	4.3%	4.3%
Equity risk premium	8%	10%
Market rate of return	12.3%	14.3%
Equity beta	0.78	0.78
Effective tax rate	0%	0%
Company cost of equity	10.6%	12.1%
Net debt	26,576	
Equity	23,577	
Gearing ratio	47%	30%
Company cost of debt	5.0%	5.8%
Company cost of equity	10.6%	12.1%
Weighted average cost of capital	7.97%	10.23%

VQ concludes that the appropriate pre-tax nominal WACC for Qtel lies in the range of **8% to 10.2%**. The appropriate WACC for a Qatari telecoms operator is likely to be closer to the top end of the range than the bottom. This WACC makes no adjustment for tax and as noted above, to the extent that this WACC is used to set regulated prices the quasi-tax payments such as industry fees should be included separately.

Annex A
International benchmarks

Country Benchmark	Pre-tax nominal WACC	
Austria_F	10.48%	
Belgium_F	9.61%	
Belgium_M	10.05%	
Denmark_F	6.90%	
Denmark_M	8.51%	
Finland_F	9.6%	Mid-point of range
Finland_M	13.3%	Mid-point of range
France_F	10.40%	
France_M	11.78%	
Greece_F	10.40%	
Greece_M	14.81%	
Ireland_F	10.21%	
Italy_F	9.36%	
Italy_M	10.40%	
Norway_F	10.20%	
Norway_M	13.50%	
Portugal_F	10.30%	
Spain_F	9.74%	
Spain_M	10.87%	Average of 3 operators
Switzerland_F	5.40%	
UK_F	8.95%	Average of Openreach/Rest of BT
UK_M	8.90%	
Croatia_F	13.17%	
Cyprus_F	8.78%	
Cyprus_M	11.74%	
Czech Republic_F	11.50%	
Czech Republic_M	11.50%	
Estonia_F	12%	
Hungary_F	12.10%	Average of 2 operators
Hungary_M	14.80%	
Latvia_M	11.72%	
Macedonia_F	13.40%	
Macedonia_M	14%	
Malta_F	12.56%	
Malta_M	13.73%	
Poland_F	10.13%	
Average	10.97%	
Median	10.44%	
Average W Europe	10.17%	
Median W Europe	10.21%	

Source: Cullen International



**Supreme Council of Information and
Communication Technology**
(ictQATAR)

Definition of the relevant Cost of Capital for
Qatar Telecom(Qtel) Q.S.C.
for the purposes of regulatory accounting

Response Document
Consultation – Second Stage

06 December 2012
ICTRA 2012/12/06

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1. Executive Summary

This Response Document takes into account the submission of the parties in first consultation document (ICTRA 2011/06/06). It analyses the submissions of the parties and gives ictQATAR's analysis and preliminary conclusions.

It also serves as a Consultation Document (CD) in a second round to define the Weighted Average Cost of Capital (**WACC**)¹ values and calculations that the Supreme Council of Information and Communication Technology (ictQATAR) proposes to adopt for:

- Applying to services from Qatar Telecom (QTel) Q.S.C. (**QTel**), which is designated as having a Dominant Position as a Dominant Service Provider (DSP);
- Applying to Regulatory Accounting Separation (RAS) reporting and analysis.

The first consultation set out the general methodology and principles. It also set out the need for the WACC and the process. Following the publication of the consultation, ictQATAR has received replies from QTel and Vodafone Qatar Q.S.C. (**Vodafone**).

This process engaged by ictQATAR, and the methodology described below in this CD, reflects international best practice, e.g. in neighbouring countries and in the European Union.

In this Response Document:

- The responses to the first CD are summarised;
- The key issue areas, as raised by the questions on the first CD, are examined - with due consideration to the respondents' views, and with ictQATAR's response;
- ictQATAR sets out the method and values relevant to defining the WACC rate.

ictQATAR proposes to set a pre-tax nominal WACC within the range of 8.4%-9.6% for both fixed and mobile telecommunications services regulated in Qatar.

These values are based on the following key findings and considerations:

- Estimation and equal consideration of Qtel Group's WACC and a 'Qatari' WACC taking into account the ability of the Qtel Group's support for capital financing;
- A single business-wide WACC reflecting technological convergence;
- A reference market for EMRP (Equity Risk Market Premium) and Beta estimations covering the MENA region;
- Consideration of data series over the last two to three years in order to derive stable and more robust estimates;
- A risk free rate RF of 4.7% based on averaged yields on the 2020 Qatari bond adjusted to a constant 10-year maturity;

¹ In this document the terms Cost of Capital (CoC) and WACC may be used interchangeably, however strictly: WACC is one possible approach to the more general question of the appropriate CoC value to use.

² The numbering relates the Vodafone point to the QTel point with the same number. In this case there were no significant points that relate to QTel items 2 & 3. Note that this numbering is not precise as each operator's submission does not exactly match the other submission

³ VQ did not make directly such a statement. This is ictQATAR's understanding of VQ's position on this issue.

⁴ Including in long company reports, WACC rates used for DCF valuation are barely mentioned (at best with some ictQATAR WACC consultation Response Document page 3/70

- A MENA EMRP of 6.3%-6.8% adding to a US EMRP of 5.5%-6%, a weighted-average MENA region risk premium 0.8% above Qatar's country risk premium;
- A forward-looking gearing (with marginal impact on the WACC rate) of 45% for the group against around 20% in the 'Qatari' variant, which is between Vodafone's current ratio (6%) and QTel's proposal (██████);
- A group's RP (Risk Premium) of 0.7% estimated from the average yields of its 2021 bond and adjusted as RF; and a smaller 'Qatari' RP of 0.5% because of its lower financial leverage;
- A re-levered equity Beta of 0.82 for the group, and of 0.69-0.75 for the 'Qatari' operator: a range derived from the asset Betas of Omantel, Vodafone, QTel, STC and Batelco in order of relevance (estimates based on time-averaged and Blume-adjusted 2-year weekly Betas);
- And finally, a tax rate of 2.5% in the 'Qatari' variant (due to new permanent obligations in favour of Daam) against an effective rate of 21% for Qtel Group.

2. Consultation procedure

2.1 Background and process

To maintain an open and transparent regulatory process, ictQATAR is initiating this second round of consultation on the calculation of the Cost of Capital.

The first version of was issued on 6 June 2011 (ICTRA 2011/06/06), under the title “Definition of the relevant cost of capital for QTel Qatar (Qtel) Q.S.C. for the purposes of regulatory accounting”.

Since then, the RAS 2009 has been completed and the work on RAS 2010/11/12 has recently begun. New service providers have also entered the Qatari market. The second stage of the consultation with a WACC value was not previously issued for comment.

In keeping with an open and transparent process ictQATAR would welcome contributions from all service providers to the WACC process. In light of the elapsed time of over a year, QTel or Vodafone may also wish to update or replace their previous submissions on the 2011 Consultation paper.

Views and comments, on the fullest extent possible, on this CD are invited from industry participants, other stakeholders and interested parties.

We would ask to provide views and comments on this CD on the following questions:

Question 1	Respondents are invited to comment on the questions raised in the first consultation document (ICTRA 2011/06/06). For your convenience the Annex 3 of this document contains the questions.
Question 2	Have respondent any general questions to this CD?
Question 3	How long should the WACC have validity?

2.2 Consultation Procedures

All interested parties are invited to submit responses to the questions specifically identified in this document and to provide their views on any other relevant aspects. Comments should reference the number of the question being addressed or the specific section of this document if not responding to a particular question.

ictQATAR asks that, to the extent possible, submissions be supported by examples or relevant evidence. Any submissions received in response to this consultation will be carefully considered by ictQATAR when progressing in the Instruction. Nothing included in this consultation document is final or binding. However, ictQATAR is under no obligation to adopt or implement any comments or proposals submitted.

Comments should be submitted by email to rschnepfleitner@ict.gov.qa by **28 January 2013** at the latest. The subject reference in the email should be stated as “WACC consultation

second stage". It is not necessary to provide a hard copy in addition to the soft copy sent by email.

2.3 Publication of Comments

In the interests of transparency and public accountability, ictQATAR intends to publish the submissions to this consultation on its website at www.ictqatar.qa. All submissions will be processed and treated as non-confidential unless confidential treatment of all or parts of a response has been requested.

In order to claim confidentiality for information in submissions that stakeholders regard as business secrets or otherwise confidential, stakeholders must provide a non-confidential version of such documents in which the information considered confidential is blacked out. From the non-confidential version it has to be clear where information has been deleted. To understand where redactions have been made, stakeholders must add indications such as "business secret", "confidential" or "confidential information."

In the confidential version the information to be treated as confidential should be square bracketed so that we know what is being redacted. A comprehensive justification must be provided for each and every part of the submission required to be treated as confidential. Furthermore, confidentiality cannot be claimed for the entire or whole sections of the document as it is normally possible to protect confidential information with only limited redactions.

For more clarification concerning the consultation process, please contact Dr. Rainer Schnepfleitner, Manager Economics and Licensing, rschnepfleitner@ict.gov.qa.

3. Analysis of Responses to the first CD and ictQATAR's new proposals

The first CD set out the aims and the proposed approach for determining the cost of capital. That CD described how Weighted Average Cost of Capital (WACC) is normally used and that the WACC can be determined using the Capital Asset Price Model (CAPM). The CAPM approach is the most common approach to define the regulatory cost of capital and the CD noted that ictQATAR proposed that approach. The CD then set out the input data required to calculate the cost of capital using the CAPM.

The formula to be used in the CAPM calculation was defined in the CD and each of the parameters were explained. Some of the issues that affect how some of the parameters are defined were identified and ictQATAR also noted some approaches that were preferred. The CD did not define values but sought comments and values from industry respondents. The CD did not specify the details of the calculations in full, in order to allow respondents to give their inputs without replying to any rigidly preconceived approach in the CD.

Following the same structure of the first CD, this section:

- Considers the responses from QTel and Vodafone;
- Provides ictQATAR's analysis on these responses;
- Presents ictQATAR's preferred approaches and estimates.

Wherever possible the respondents' comments have been ordered to fit with the structure of the first CD. Some points raised were not directly related to the CD questions, but these are also included in this section. Beside preliminary remarks addressed in 3.3 3.4, two such particular points are:

- The question of the separation of QTel's domestic and international activities. This was introduced by Vodafone as a preamble and was also addressed by QTel through its developments regarding the appropriate gearing ratio and the need for some specific premiums. This issue is discussed within the general theme of Q1 of the earlier CD.
- Various comments made by QTel such as those regarding the definition of the cost of debt, inflation and the use of a nominal rate, and efficiency assumptions. Though they were stated in response to the first CD's Q3, these are also addressed in Q1.

For each question, the numerated ictQATAR's comments refer to the respective operators' considerations (identical comment numbers for QTel and Vodafone when they address the same sub-topic).

Regarding the first CD's Q3 (*Respondents are invited to provide reasoned comments on the validity of the CoC value*): since no estimate was proposed by ictQATAR at that stage of the consultation process, responses to this question have been combined to those addressing the last question Q10 or, as mentioned, to those addressing Q1's preliminary issues about WACC definition.

After analysing the operators' responses to the first CD, ictQATAR has identified other issues which were not explicitly raised by respondents and should preferably be addressed before estimating individual parameters. Addressed in Section 3.6, these issues relate to:

- The estimation period for calculations that is necessarily based on historical data;
- The definition of the reference market for the typical active investor in the operator under consideration.

3.1 Resume of the responses to the first CD

A response was obtained each from QTel and Vodafone. ictQATAR wishes to thank these operators for their contributions to the first CD. Relevant sections of the submissions marked as confidential have been blackened (████████)

This section presents their main comments and findings. A few additional points were raised in relation to the general CoC principles and process. They are addressed in Section 3.2 and 3.3. All other considerations are discussed in the subsequent sub-sections.

QTel's submission

QTel determined a base WACC rate (before disaggregation by business segments) of ██████████ according to the following estimations.

- A gearing ratio of ██████████ deemed relatively high, based on Qtel Group's 2010 long-term debt net of the cash reserves aimed at potential international acquisitions;
- A risk free rate of ██████████ mean of two approaches adding to the UK RF a country risk premium for Qatar;
- A group company RP of ██████████ to which is added, for QTel's Qatari operations, a 'single-industry' RP of ██████████ (because of Qatar's undiversified economy), and a 'market liberalization' RP, also proposed at ██████████
- An EMRP of ██████████ calculated on the DSM over the last ten years, and considered to appropriately reflect Qatar's buoyant economy compared to slow-growth markets from which are usually derived much lower EMRP;
- A 6-year monthly equity Beta of ██████████ based on QTel shares and DSM20, ██████████ ██████████;
- A tax rate of ██████████ to take into account a new permanent form of taxation (for the Qatar social and sports activities support fund);
- And an additional allowance for the expected annual inflation rate ██████████

QTel also considered that legacy fixed line access, fixed line core network, mobile network and next generation access (NGA) have markedly different risk characteristics, and should be granted distinct WACC rates. The proposed values, assessed from the previous base WACC rate, varied between ██████████ through typical WACC differentiation exhibited in other regulatory determination.

QTel also raised discussions on price setting and how the WACC value is to be used. These were noted by ictQATAR, but are not relevant to this CD and are not discussed further.

Vodafone's submission

Supporting the principle of a single WACC value, Vodafone considered two scenarios for its determination:

- A first scenario based on Qtel Group entailing a pre-tax nominal rate of 8%;
- A second scenario referring to a Qatari operator taken in isolation for which a WACC rate closer to 10.2% is deemed more appropriate.

Both scenarios have in common:

- A risk free rate of 4.2% sourced from the most recent Qatari government bond yield with a 2020 maturity;
- An EMRP of 8%, balancing the wide range of market risk premiums derived from Qatar's DSM (4%-16%) with typical results from international studies (4%-8%);
- An equity Beta of 0.78, based on QTel's share prices, but broadly consistent with the median Beta of European operators;
- And a statutory tax rate of 0% for Qatar.

As far as the other parameters are concerned, Vodafone proposed to use:

- QTel's 2010 gearing ratio (47%) and actual RP (0.7%) in the first scenario;
- A lower gearing ratio (35%) sourced from another regulator and a higher RP (1.5%) for a stand-alone Qatari operator.

3.2 Analysis of general points made in the submissions

QTel's submission

QTel considered that the opinions of all stakeholders are not equivalent as that there could be "disparate motives" in the submissions due to the distinct market positions of each player that may distort their response comments. It may be therefore inappropriate to simply average these views.

Vodafone's submission

Vodafone simply stated that, in order to create confidence for all parties, WACC determination must follow a robust and transparent approach.

ictQATAR's analysis

ictQATAR has obligations to meet and ensure no bias. While ictQATAR welcomes contributions from all stakeholders, it is aware that they naturally tend to reflect each respondent's best interests. All presented arguments have hence been carefully considered.

The ensuing analysis is the outcome of the fair appraisal, in light of ictQATAR's objectives, of the relevance of these arguments, international best practice and its own judgment of associated risks (respondents may note that ictQATAR applies also this consideration to itself by adjusting some previous statements).

Since all estimates are to be determined on a forward-looking basis, ictQATAR recognizes that there is no absolute or "true" answer to any WACC parameter. They are all potentially subject to endless disputes and investigations. In reference to Vodafone's comment, ictQATAR's balanced approach in determining the most robust methods is consistent with:

- The application of reasonable amounts of time and resources;

- The need for a transparent process, allowing stakeholders to better understand ictQATAR's choices on that matter and anticipate future WACC assessments.

3.3 Principles for CoC determination

The general principles for the CoC determination were defined in the first CD. Due to some concerns expressed by the respondents (QTel in particular), which are summarised below. This section gives additional explanations of the key requirements adopted by ictQATAR.

International best practice and use of benchmarks

QTel's submission

QTel stated that it is essential that any CoC value appropriately reflects the actual circumstances of the entity and market to which they are intended to be applied. Wherever possible, actual market and company data should be used rather than benchmarked information that may lack credibility or robustness.

Vodafone's submission

Vodafone stated on its side that WACC rates decided by other regulators can be considered for cross-checking.

ictQATAR's analysis

The process and methodology used in these CoC consultation documents reflect international best practice in CoC determination, e.g. in neighbouring countries and in the European Union. This ensures that general methodologies and empirical techniques used by other jurisdictions and industry observers are considered.

They are analysed in light of the aforementioned objectives, but their outcomes are not necessarily used directly. ictQATAR remains cautious over the use of international WACC rates per se.

Rates previously determined by regulators, notably European ones quoted by Vodafone, should be adjusted for:

- The significantly distinct corporate tax regime, implying in the hypothetical case of a company having operations only in Qatar a WACC at least 40% lower than European WACC;
- The appropriate risk free rate, country risk and possibly other premiums, entailing generally an opposite effect for an implied Qatari WACC;
- Other local factors or differences in estimation periods, including (or not) recent turmoil on financial markets.

Nevertheless, some regulatory precedents are still worthy of consideration at some stages of this analysis:

- Differentiated WACC rates by business segments are interesting inputs to avoid complex, time-consuming and eventually hazardous calculations. But, this is only applicable if one considers that the fundamental rationale for such differentiations

remains valid for the Qatari market in a forward-looking basis, and appropriate (Section 3.5);

- The choice of the maturity of the government bond considered for RF may be inspired by regulatory precedents (Section 3.8);
- Beside any specific country risk premium, EMRP is a typical generic parameter (Section 3.10).

Also, according to the choice of the operator's financial basis, benchmarking of comparable regional operators' Betas and gearings may also be relevant, provided that they are estimated with the same techniques considered by ictQATAR for QTel Group (see respectively 3.7 and 3.11).

On the other hand, WACC used by equity analysts does not pursue the same objectives as ictQATAR, and contrary to many non-specialists' expectations, they are often not thought through in the same way as rates determined by regulators. As direct inputs, equity analysts' WACC may not be considered as appropriate for regulatory determination.

For the purpose of sum-of-the-parts (SOTP) valuations, some equity analysts use differentiated WACC rates according to QTel's geographical markets.

3.4 Application of the WACC/CAPM framework

Question 1: Respondents are invited to comment on the application of the WACC calculation and the potential for other approaches to defining the CoC.

QTel' submission

In general, QTel agreed with the proposed overall approach of using the WACC and CAPM formulae to derive an overall cost of capital value. However QTel stated:

1. With the proposed approach, it may be appropriate to amend the CAPM and WACC formulae by introducing additional variables or by appropriately adjusting the standard variables and parameter values:
 - If ictQATAR departs from robust and measurable country and company-specific data, then consideration of the Dividend Growth Model (DGM) and the Fama-French 3 Factor model may be necessary. By reflecting the greater perceived risk associated with smaller companies and markets, the latter is likely to prove more relevant to QTel's operations in Qatar.
 - The proposed methodology makes no allowance for a profitable margin on significant 'Opex' commitment typically incurred by telecom operators, to reward entrepreneurial investment.
2. The proposed formulae outlined for the pre-tax WACC is slightly unconventional. It would be simpler to merely gross-up the cost of equity to a pre-tax level and then compute the overall WACC on a pre-tax basis.
3. While CoC regulatory determinations are commonly based upon nominal rates of return, a margin for inflation should be permitted in deriving an overall WACC rate to ensure that

any prices set can keep 'apace' with a conservative estimate of inflation over the expected duration of the regulatory period. The overall CoC value should therefore be uplifted by the expected annual inflation rate of [REDACTED]

4. While the CoC should reflect the costs of an efficient business, it is equally important that assumptions about efficiency remain reasonable and achievable in the Qatari market.

Vodafone's submission

1. Vodafone agreed with the use of a pre-tax nominal CoC rate base on the WACC/CAPM methodology, in line with international best practice and with publicly available inputs.
4. In addition Vodafone noted²:
 - WACC utilized to determine QTel's RAS should be "*determined with reference to objective and verifiable data concerning QTel's operations.*"
 - For setting the prices of its domestic regulated services, the WACC rate should regard a Qatar-only telecom operator rather than one that operates within a wider group³. This requires consideration of unadjusted calculations based on Qtel Group data and then adjustments for a Qatar-only operator (in addition to international WACC from regulators for cross-checking).

ictQATAR's analysis of alternative models for the estimation of the cost of equity (RE)

ictQATAR notes the general support for the key method, considering that QTel's proposals are eventually still consistent with the general WACC/CAPM framework. The numbering below ties the discussions to the above numbered items from QTel and Vodafone.

1. Regarding alternative models for the estimation of the cost of equity (RE), ictQATAR remains of the view they have no any greater validity than the CAPM or are unlikely to offer additional reliable insights.
 - The DGM analysis might be applied when the analysed entity matches a listed company, i.e. Qtel Group in the present situation). But even in this case, such an analysis requires cash-flow forecasts typically sourced from equity analysts' research and its logical outcome is simply the WACC rate used by those same analysts (in average), with the extra, strong assumption that the stock under consideration is fairly priced by the market. As already mentioned, these analysts' WACC values are much less investigated⁴ than regulators' WACC. The reason for this is that the added value of equity research relates chiefly to qualitative strategy and management analysis and to cash flow forecasts, an area where analysts enjoy much more flexibility than regulators with respect to the determination of their regulated asset bases. The DGM approach is relevant though when applied to the

² The numbering relates the Vodafone point to the QTel point with the same number. In this case there were no significant points that relate to QTel items 2 & 3. Note that this numbering is not precise as each operator's submission does not exactly match the other submission

³ VQ did not make directly such a statement. This is ictQATAR's understanding of VQ's position on this issue.

⁴ Including in long company reports, WACC rates used for DCF valuation are barely mentioned (at best with some of their individual parameters); in all cases, never motivated.

whole market's stocks, instead of a single one, in order to infer RM, the market's cost of equity, thus the implied EMRP (Section 3.10).

- The Fama French 3 Factor empirical model adds new terms to the CAPM which may be regarded as contradicting modern portfolio theory. Those factors reflect the effects on RE of company size and disparate book to market ratios. While there is some rationale for doing so, this approach is not widely used in its pure form. In particular, it is not used by regulators because of the extra complexity and controversies it involves. Furthermore, implementation of this model usually requires data from proprietary data providers (which, in addition, might not be available for the MENA markets).
- The theme of this CD being the cost of capital, the notion of a return on Opex is not relevant to the WACC discussion and would relate to price setting discussions (i.e. it is not part of this CD).

ictQATAR's analysis of combining pre and post tax values

2. As intermediary outputs, it is actually more common to consider post-tax RE and pre-tax RD. This is what QTel has appeared to have done in its submitted WACC table (Vodafone applied a 0% tax rate making its submitted RE and RD neutral on this issue). Hence, the revised definition for $RD=RF+RP$ presented in 2.2.2.

ictQATAR's analysis of risk free rate and inflation

3. When RF is determined in nominal terms, there is absolutely no reason to double-count inflation. If RF were to be initially sourced from a real rate (such as a long-term RF), then this real rate should be adjusted for the expected inflation rate during the period of analysis.

ictQATAR's analysis of the operator profile

This point #4 of the service providers' discussions above (regarding Qatar-only telecom operator or not), relates to the appropriate definition of the operator's profile. This question may be split into three topics, although they are interrelated:

- The reference geographical scale of operations for capital financing.
- Efficiency assumptions.
- Differentiation, or not, by business segments.

In all circumstances, the WACC rate should refer to the CoC incurred by an efficient operator providing a range of telecommunications services similar to those of QTel in Qatar.

However, this objective does not necessarily imply that this notional operator may not have activities beyond its domestic market. As a matter of fact, the WACC rate can be determined according to the following scenarios:

- A telecommunications company with operations only in Qatar (Domestic Scenario),
- A telecommunications company operating within a wider group (Wider Group Scenario).

In that respect, ictQATAR notes that:

- Vodafone, who explicitly raised this issue, presented estimates according to both scenarios but seems to consider that the first one (the Domestic Scenario) is more appropriate.
- QTel seems generally to favour the second scenario, albeit mixing both of them in practice with the proposal of additional Qatari specific premiums (in RP).

This issue of Domestic versus Group scenarios, is arguably the most sensitive one in this CD, and has been overlooked by regulators in Europe, probably for practical reasons. Also it could be ignored because, for a long time, incumbent operators had a relatively small fraction of the business that is based upon in foreign-market sales⁵ that are in countries that have significantly different market profiles/risks compared to the domestic market.

European regulatory WACCs are determined only through group-wide stock data. In the GCC, the same approach applies to local incumbent operators in spite of the generally higher shares of foreign sales (see the Table 1 below).

But compared to these countries, the geographical scale issue is more acute for Qatar because of QTel's relatively small share of domestic business within the Qtel Group.

⁵ Even a smaller one in terms of Enterprise Value, the appropriate level to assess relative weights of operations.

Table 1 Operators' shares of domestic operations

European operators: shares of domestic revenues in 2009*					
UK	Vodafone	14%	Netherland	KPN	72%
Norway	Telenor	25%	Greece	OTE	75%
Sweden	Tele2	30%	Italy	TI	77%
Spain	TEF	36%	UK	BT	83%
Germany	DT	47%	Switzerland	Swisscom	87%
Sweden	Telia	50%	Belgium	Mobistar	97%
Portugal	PT	50%	Belgium	Belgacom	100%
France	FT	53%	Belgium	Telenet	100%
Austria	Austria T	66%	France	Iliad	100%
GCC operators: dates of WACC decisions and shares of domestic revenues					
Bahrain	Batelco	TRA 2009	66% sales and 88% Ebitda in 2008		
UAE	Etisalat	TRA 2009	Around 50% sales (incl. non telecoms)		
KSA	STC	CITC 2008	80% revenues (under 60% in 2010)		
Qtel Group	Customers	Revenues	Ebitda	Capex	
Qtel Qatar	3%	20%	23%	19%	
2010					
Qtel Qatar	38% April11 (RBS), 33% Oct. 2009 (HC), 47% Feb. 2008 (HSBC)				
EV					

Source: Operator's annual reports (except Qatar EV), ictQATAR consultant's calculations. Note that in many cases the non-domestic fraction is mostly within EU so the impact of this difference is not excessive

*European Regulators mostly relied on average 2009 figures for their latest WACC determination.

Domestic Scenario

For the purpose of a WACC determination, a Qatari operator that is assumed to have only domestic operations with, in addition, a business profile similar to Qtel Qatar, is rather hypothetical.

Qtel-Qatar-only is not independently listed: data cannot be sourced from this operator, in particular to derive Beta, the key specific WACC parameter. As far as gearing is concerned, its estimation is prevented not by the non-existence of relevant data⁶ but because this information is not available in the public domain.

⁶ Although Qtel Qatar is not listed, the market value of its equity can still be approximated through different valuation techniques.

Vodafone is certainly a listed Qatari domestic operator. But the present determination may not rely only on estimates derived from this operator's data for the following reasons:

- Although its scope of services gets closer to QTel's in Qatar, the business profile of this operator, which entered the market only recently, remains today distinct.
- Vodafone does not fit fully the criteria of the domestic scenario (at least in its purest form): with a large ownership by Vodafone Group of around 45%, any WACC rate estimated through Vodafone's financial data should probably be adjusted for the cost of capital finance provided by Vodafone, implying eventually an approach similar to the wider group case⁷.
- In practical terms, estimates based on this recently listed and fast growing operator may also lack of robustness (with high frequency Betas, monthly estimates being irrelevant for just 2 years of quotation).

With the domestic-only scenario, estimations of company-specific parameters (Beta, g, RP) would therefore require the estimation of normative values inferred from:

- Data from additional operators. These comparable operators would be preferably GCC companies whose international exposure may be assumed to remain marginal (QTel Group's data would have a remote relevance in this scenario).
- Regulatory precedents, especially regarding the above operators. Compared to the previous direct estimates, the WACC rates determined by other regulators may incorporate efficiency assumptions and other adjustments.

Also as a matter of interest in this scenario, some practitioners consider that it is appropriate to make an upward adjustment to the WACC/CAPM for small companies by adding a size premium⁸. But the quantification of this premium is disputable because most data on this topic relate to the US market (when they are publicly available).

Wider-Group Scenario

The wider-group scenario assumes that an efficient Qatari operator facing market liberalization is bound to diversify internationally, given the very small size of the Qatari market⁹.

More precisely, when the WACC rate is based on QTel Group financial data, this approach assumes that this particular group profile is arguably a reasonable outcome.

This scenario comprises actually two variants:

- A first variant (the "**Qatari**" variant) would consider that it is fair to transfer to the clients of the Qatari operator all the benefits or penalties of a capital finance raised at the group level because of such required business developments.

In this case, possible efficiency adjustments may regard only the gearing ratio, as the sole WACC parameter which is at least partially under management's control

⁷ Without mentioning the substantial experience and market clout provided by Vodafone.

⁸ Empirical studies show that these companies tend to earn returns in excess of their cost of capital.

⁹ Although finance theory suggests that investors rather diversify themselves their investment portfolio. But, the majority shareholder (State of Qatar) in the incumbent operator may not enjoy the same flexibility as private investors; this operator may also be regarded as an investment vehicle for foreign acquisitions.

(beside the choice of the targeted foreign markets). In contrast to the domestic-only scenario, Betas of comparable operators may be ignored if the measurement of the group's Beta is deemed robust enough.

- A second variant (the “**Group**” variant”) would seek to estimate the WACC rate for the Qatari operations within the wider group. This rate would differ from the group's WACC rate through fundamental business risk profiles rates, all other things being equal. Business risk profile differences relate mainly to asset Betas and possibly gearings if the theoretical determination for QTel Qatar assumes also a different capital structure (although debt financing and its proceeds are managed on a group basis).

The determination of this rate would exhibit the following differences with the determination of a WACC rate in the domestic-only scenario:

- A reference market for the marginal investor as wide as that for QTel Group, i.e. not limited to only Qatar or GCC countries as it would be arguably more appropriate to assume for a small Qatari-only operator;
- As a consequence, an EMRP based on the wider reference market rather than a GCC or Qatar market index.
- Similarly, a benchmark of regional operator's Betas measured against this wider reference market rather than GCC or local market indexes. In this variant, consideration of Vodafone parameters would be more relevant to the extent that Vodafone is also a domestic operator integrated (at least partially) in an international group.
- A gearing ratio and RP taking into the group's ease to access capital markets for (cheaper) debt financing, compared to a small and lonely domestic operator
- And more generally, no size premium.

Compared to the first variant, the second variant is more suitable for regulatory purposes, because it more realistically mirrors what can be achieved in Qatar and it does not seem reasonable to apply group-wide benefits to a national business and in theory the WACC would not then change if the group were to split. But, in addition to imprecise assumptions for QTel Qatar's capital structure (though with little impact on the WACC rate), its implementation still relies more on Betas of a few comparable operators than on QTel Group's Beta. Betas of these smaller operators with few or no foreign operations are more likely than QTel to suffer from various estimation issues, especially when they are measured against the appropriate wider market index (alternative Betas measured against local indices are not directly relevant, unless they are adjusted by the Betas of the local indices against the wider index).

ictQATAR's conclusions

ictQATAR considers that the general WACC/CAPM approach stated in the first CD, with the minor adjustment to the definition of the cost of debt (which has no impact on the WACC rate), is appropriate. In particular, no additional allowance for inflation should be included to the pre-tax nominal WACC formula.

Regarding the operator's reference scale for its capital financing, ictQATAR recognizes that there is no perfect answer. However, ictQATAR considers that:

- The aforementioned Domestic Scenario is too remote from the reality of QTel Qatar with respect to its supply of capital finance (it would also bring additional controversies regarding the application or not and the quantification of a size premium). Also it is perhaps unrealistic to expect any domestic operator to remain isolated and not to develop a wider group business.
- The Wider Group Scenario taking into account QTel's international developments is more realistic and also incorporates a reasonable efficiency assumption for a Qatari operator.

Within this framework, the WACC rate of QTel's Qatari operations (hereafter the 'Qatari' variant WACC) may be more desirable than the 'group' variant WACC. But both variants of the wider-group scenario have merits and ictQATAR is minded to consider them equally in this first WACC determination.

ictQATAR intends to use the Wider Group Scenario and to consider both variants within that option. This reflects a more realistic outcome – an operator would probably never remain domestic only. Results are shown later for the WACC using both variant approaches in order to show the relative impacts of each.

3.5 Application of a single business-wide WACC rate

Question 2: Respondents are invited to provide reasoned comments on the proposed application of a single business-wide WACC value.

QTel's submission

QTel claimed that distinct WACC rates are appropriate for its three main segments: legacy fixed-line 'copper' access network, mobile network and fixed-line network core (incorporating Next Generation switching and transmission investments), and fibre-based Next Generation Access (NGA):

1. Various segments of the business have markedly different risk characteristics.
 - Being largely a 'utilitarian' infrastructure business, copper access may be considered less risky.
 - Recent and rapid technological upgrade required for mobile and core fixed-line networks result in a higher risk of technological redundancy.
 - NGA or FTTx (fibre in the loop) future deployments are widely acknowledged as being expensive and relatively risky, not least because of demand uncertainties, service pricing ramifications and technological alternatives.
2. Differentiated WACC are increasingly applied by regulatory authorities.
 - While the spread between mobile and fixed-line WACC has often narrowed in recent years, the fact remains that mobile network investment has typically been associated with a higher risk.
 - Regulators generally have sought to adjust the CoC applicable to NGA developments so that they might be appropriately incentivized and prioritized.

3. There is a pragmatic means by which differentiated WACC might be derived expediently and cost-effectively.
 - While some WACC determinations have sought to evaluate individual parameters associated to each business segment, such an approach is likely to be cumbersome, expensive and time-consuming.
 - In order to avoid this, an overall WACC derived in the manner proposed by the CD may be adjusted to reflect the typical WACC spreads between business segments as exhibited in determinations by foreign regulators (cf Table 2). To use this would require relative asset value weightings between copper and other infrastructures, but such information is readily available from the existing RAS.

Table 2 Regulators' WACC by segments, as quoted by QTel

	Regulator	In basis pts	% differentiation
Access vs. other fixed	Ofcom (UK) 2005	-1.4	-12%
NGA vs. copper access	EC 2008 recommendation		+15%
Mobile vs. fixed-line	Arcep (Fr) 2008	+1.4	+13%
	CMT (Sp) 2008	+1.2	+11%

Vodafone's submission

1. Vodafone agreed with a single WACC value. The reasons included:
 - A limited separation both between QTel's domestic and international businesses, and between QTel's retail and network service offerings in Qatar;
 - A wholesale market not well developed and to be still largely shared by Vodafone and QTel;
 - A distinction between investment in core networks and those (sometimes less risky) in access network less likely to apply to Qatar because of the requirement of a still significant roll-out of access infrastructure.

In the annex of its response, Vodafone quoted WACC decided by European regulators generally showing distinct rates for mobile and fixed business (unfortunately, without dates of the decision).

ictQATAR's analysis

The consideration of multiple WACC rates is not consistent with the logic of the 'group' approach. Beside, with around 75 million mobile customers against 1 million fixed-line customers (including wireless broadband), QTel Group appears rather as a wireless telecoms group than an integrated operator. Therefore, the following comments may apply only to the 'Qatari' approach.

1. Fundamental reasons for the use of a single rate or multiple ones

The main source of possible WACC differentiation between business segments lies in the asset Beta, i.e. the Beta stripped from any financial leverage (as for gearing, the ability of a company to take up more or less debt is closely related to this measure of its risk profile). Asset Beta reflects the sensitivity of a business's returns to systematic risks, i.e. risks¹⁰ that tend to affect all investments simultaneously (GDP growth, interest rates, currencies, inflation rate, price of oil, etc.) and cannot be 'diversified away' by investors. This key parameter is affected by:

- Business cyclicity (demand elasticity) which is affecting revenues,
- Operational leverage, i.e. the proportion of fixed versus variable costs. Fixed costs magnify the effect of revenue cyclicity at the relevant level for Beta: earnings.

Mobile versus fixed-line

With the above definition, one may understand why:

- Historically, both in developed and frontier markets, the mobile business has been deemed to have a higher exposure to systematic risk than the fixed-line business.
- This difference has tended to erode over the last few years and will probably vanish everywhere in the short to medium term.

As noted TRA for Batelco in Bahrain (2009), from the consumer perspective, convergence implies greater substitutability between services provided over fixed-line and mobile networks. Furthermore, as these services increasingly compete with each other, fixed-line operators are looking to more risky areas for additional revenue and are adopting new commercial policies. Therefore, in terms of revenue variance, there is no longer any clear qualitative argument to differentiate these activities.

As far as operational leverage is concerned, technological convergence further complicates these distinctions:

- A single IP core router is often used for fixed services, mobile voice and data: the router asset is neither fixed nor mobile, etc. Theoretically, asset allocations are possible, but their rationale remains questionable in a fully integrated technical network.
- ictQATAR notes the claims of technical redundancy risk. This seems to confuse business risk with technical changes – the cost of which are included in the asset base and the depreciation write-downs (which lower the operational leverage). With a move to sound Current Cost Accounting practices, the effects of such change are even better considered in RAS reports. Financial Capital Maintenance methods ensure all rapidly depreciating assets do not cause under-recovery of costs, so long as the changes were efficiently incurred.

NGA/NGN investments

As far as NGA/NGN investments are concerned, it is possible that they exhibit a higher systematic risk than other activities:

¹⁰ In finance, risk means variability about an average: it does not refer simply to the possibility of downside movements.

- Their revenue variance is probably higher. If the economy takes a dive, consumers would rather trim their very high speed internet subscription plans paid at a premium price rather than reduce their standard fixed-line or mobile consumption.
- CAPEX intensity, which increases operational leverage, may also be higher in general.

In valuation, analysts can take into account a perceived higher risk at the cash-flow level through probability-weighted scenarios. Regulators do not enjoy a similar ability with respect to their Regulatory Asset Base.

However, relevance and implementation of a differentiated WACC rate for NGA/NGN remains questionable.

- First, an access business will typically have both copper and fiber within it, often combined in hybrid fibre-copper deployment. In this case, an application of a differentiated rate for NGA (if defined) becomes less clear.
- Second, any NGA/NGN premium added to an operator's WACC would double-count this risk if its Beta is measured over a relatively short period of time. Contrary to monthly Betas, daily or weekly Betas do not require 5-year long data series and should therefore incorporate possible recent changes in the perception by investors of the stock's exposure to systematic risk because of NG investments.

2. Regulatory precedent

Mobile versus fixed-line

The evidence submitted by QTel (and by Vodafone in the annex to its response) shows that different fixed and mobile WACC values are still sometimes applied in Europe. This is also the case in MENA markets close to Europe: Algeria (albeit with a higher rate for fixed-line), Egypt and Jordan.

Yet, ictQATAR notes that regulators in neighbouring countries - Bahrain, Oman and UAE- do not depart from a single WACC rate¹¹.

As observed by QTel, differences in WACC values observed in European regulatory determinations have generally reduced over time. In addition to the above fundamental justifications, reasons for the reduction of this spread include logically new estimation difficulties:

- Market concentration has resulted in the disappearance of many listed pure-players (domestic or regional-only): these are needed as statistical regression analyses strongly relies on these players.
- Traditional fixed-line versus mobile business segmentation becomes more and more indistinguishable in the retail market (throughout typical consumer and professional divisions), impeding estimations of each business' weight for the same statistical analyses.

¹¹ Source: Cullen International August 2010.

Fixed core versus access and NGA/NGN investments

Within fixed-line telecommunications, differentiated fixed core and access WACC are much less common, though examples are acknowledged. This is the case in particular of Ofcom in the UK which has the opportunity to regulate the activities of one of the few (if not only) European incumbent pure fixed-line players.

Risk differentials for new property developments are also less common than those occurring between mobile and fixed-line activities, and the related premiums are not generally agreed on.

Whereas differences between mobile and fixed activities could be motivated by quantitative analysis, in addition to forward-looking qualitative considerations, it is almost impossible to estimate a premium for NGA/NGN investments.

Decided figures are rather the outcome of discretionary policy choices from local regulators¹². This results in investment incentives that depend on various local circumstances which may not apply to the Qatari market.

Additionally, it may be noted that the WACC spreads of copper access versus other fixed-line on one side and copper access versus NGA on the other, as they are suggested by QTel, have a similar magnitude. Overall, this entails an alignment of WACC values for NGA and fixed core.

3. Practical considerations for the determination of multiple WACC rates:

As mentioned above, direct calculations to disaggregate Betas and gearings are based on regression analyses on minimum 15/20 benchmarked operators with clear and consistent business segmentation according to the desired dimensions (preferably with an indication of each segment's EBITDA).

Assuming these conditions are met with regional operators, ictQATAR agrees with QTel that such calculations would be complex and time-consuming. They would be also hazardous because of the convergence of business risk profiles and the statistical 'noise' caused by the operators' international exposures. Eventually, the relevance of these calculations' outputs is likely to be too weak to be deemed acceptable by ictQATAR.

The indirect approach proposed by QTel is therefore the only one which can be implemented efficiently to differentiate WACC rates.

However, this approach assumes that the rationale, if not the magnitude, of some WACC differentiation decided previously by European regulators is relevant to the Qatari market conditions on a forward-looking basis. This is not the judgment of ictQATAR.

ictQATAR's conclusion

Based on the above analysis, ictQATAR remains of the view that the determination of a single WACC rate is more appropriate for the forthcoming regulatory period.

ictQATAR considers that technological convergence is already a reality, both at the revenue and investment levels, and that there is no sound case to allow in Qatar today specific rates of return according to traditional business lines.

¹² Some of them, like IBPT in Belgium, have preferred not to alter their base WACC rates, but have granted NGA/NGN investments incentives at the price-setting level.

ictQATAR notes also that any impact of possibly higher NGA/NGN investments systematic risks should be ‘priced’ in asset Betas measured over a relatively recent period of time for operators comparable to QTel in Qatar. In this respect, most GCC integrated operators may be relevant comparators.

Nonetheless, ictQATAR considers that, if there is a need to allow a higher return when prices are defined, say due to uncertain consumer take up, then this can be considered in a price setting process –which is not part of this CD.

3.6 Additional considerations

Reference Market

It is generally recommended to estimate RE, the cost of equity, with the perspective of the company’s marginal investor: in practice, its average active investor. Such an investor can be profiled in the company’s free float.

Table 3 shows that, beside QTel’s strategic shareholder (the Government of Qatar), all or most of its first 40 investors are globally diversified institutional investors, in accordance with corporate finance theory. This theory stipulates that investors can diversify exposure to idiosyncratic risks by investing in a global portfolio of securities to reduce risk. As a consequence, over time, these investors tend to take over shares of individual investors who are less diversified.

Table 3 QTel’s key investors

Porteur	Fonds	Source	Titres détenus	% circ	Variation	Enreg.
1) GOVERNMENT OF QATAR	n/a	Co File	96,800,024	55.00	0	6/30/10
2) FRANKLIN RESOURCES I	Multiple Portfolios	MF-AGG	840,638	0.48	167,032	6/30/11
3) LOMBARD ODIER DARIER	Multiple Portfolios	MF-AGG	166,046	0.09	0	6/30/11
4) EATON VANCE MANAGEME	Multiple Portfolios	MF-AGG	161,460	0.09	0	7/31/11
5) NOMURA ASSET MANAGE	Multiple Portfolios	MF-AGG	59,400	0.03	0	10/18/10
6) T ROWE PRICE ASSOCIA	Multiple Portfolios	MF-AGG	55,289	0.03	17,113	6/30/11
7) SCHRODER INVESTMENT	Multiple Portfolios	MF-AGG	54,463	0.03	-5,718	12/31/10
8) FRANKFURT TRUST	Multiple Portfolios	MF-AGG	53,216	0.03	3,000	4/29/11
9) MORGAN STANLEY & CO	Multiple Portfolios	MF-AGG	48,480	0.03	0	6/30/11
10) PRUDENTIAL FINANCIAL	Multiple Portfolios	MF-AGG	36,780	0.02	0	7/29/11
11) EATON VANCE ADVISORS	Multiple Portfolios	MF-AGG	29,112	0.02	7,500	3/31/11
12) INVESTEC ASSET MANAG	Multiple Portfolios	MF-AGG	28,321	0.02	0	4/30/11
13) BANK OF NEW YORK MEL	Multiple Portfolios	MF-AGG	19,007	0.01	0	9/22/11
14) VAN ECK ASSOCIATES CO	Multiple Portfolios	MF-AGG	17,395	0.01	0	9/22/11
15) JP MORGAN ASSET MAN	Multiple Portfolios	MF-AGG	16,726	0.01	0	6/30/11
16) PICTET CONSEIL EN INV	Multiple Portfolios	MF-AGG	13,657	0.01	0	6/30/11
17) UNION INVESTMENT LUX	Multiple Portfolios	MF-AGG	10,800	0.01	-2,400	3/31/11
26) Variation	27) Historique				% circ. (page)	55.92

	Porteur	Fonds	Source	Titres détenus	% circ	Variation	Enreg.
1)	KB ASSET MANAGEMENT	Multiple Portfolios	MF-AGG	8,220	0.00	0	6/30/11
2)	RODNEY SQUARE MANAG	Multiple Portfolios	MF-AGG	7,854	0.00	-2	4/29/11
3)	CREDIT SUISSE ASSET M	Multiple Portfolios	MF-AGG	7,800	0.00	0	2/28/11
4)	BLACKROCK ASSET MANA	Multiple Portfolios	MF-AGG	7,570	0.00	-590	8/31/11
5)	MESIROW FIN INV MGMT	MESIROW FIN INV M	13F	7,062	0.00	0	6/30/11
6)	LHV	Multiple Portfolios	MF-AGG	5,650	0.00	-3,250	8/31/11
7)	INVESCO LTD	Multiple Portfolios	MF-AGG	4,632	0.00	0	9/23/11
8)	MACKENZIE FINANCIAL C	Multiple Portfolios	MF-AGG	4,529	0.00	0	5/31/11
9)	CARNEGIE FONDER AB/S	Multiple Portfolios	MF-AGG	2,754	0.00	0	7/29/11
10)	WORLD INVEST OPPORT	Multiple Portfolios	MF-AGG	1,500	0.00	0	8/31/11
11)	SAMSUNG INVESTMENT T	Multiple Portfolios	MF-AGG	660	0.00	-60	6/30/11
12)	MIRAE ASSET INVESTME	Multiple Portfolios	MF-AGG	469	0.00	0	6/30/11
13)	SHINHAN BNP PARIBAS	Multiple Portfolios	MF-AGG	395	0.00	-73	6/30/11

26) Variation 27) Historique % circ. (page) 0.03

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2011 Bloomberg Finance L.P.
SN 230731 CEST GMT+2:00 H253-700-2 26-Sep-2011 18:48:30

Source: Bloomberg, September 2011

These tables show also that QTel's free float is highly fragmented: the first 40 investors, beside the Government of Qatar, represent only 1% or less of its shareholding.

For this reason, QTel's active investors may also comprise institutions or individual exhibiting a 'home' bias, i.e. a preference for either regional or domestic equities.

Given the very international profile of QTel and its stated objective of reaching the telecoms' global top 20, it is however doubtful that investors whose portfolios are forcibly limited to the small Qatari market have ever represented or still account for a significant share of QTel's free float (long after the IPO).

Between a global approach and one considering that the average active investor's portfolio is still limited to the Gulf Cooperation Council countries, a reference market covering the MENA region seems a reasonable assumption.

ictQATAR's analysis

ictQATAR proposes to refer to the MENA market for the determination of the cost of equity RE.

This involves the choice of:

- An EMRP based on the MENA market
- A Beta measured against a MENA market index,

The proposed market index is Dow Jones MENA Index, which covers Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia and the United Arab Emirates. Like other MENA indexes, it has been launched recently (beginning of 2009) but its data series remains long enough to calculate daily and weekly Betas.

Contrary to standard practice in corporate finance, WACC determined for regulatory purposes should not rely only on the latest market data (as the best estimate for the market's

expectations). Some parameters require some averaging of data in order to obtain more robust and stable estimates, especially if the WACC is not frequently updated

The consideration of a particular time series to infer or average a particular parameter entails implicitly the assumption that financial market conditions (in terms of variations, volatilities, etc.) for this parameter and the coming few years will be similar, on average, to those prevailing over the duration of that time series. This may seem a strong assumption, but there is generally no clear argument for choosing an alternative scenario.

Calculation and averaging periods should also show some consistency between parameters.

In particular:

- The period of estimation for the current equity Beta, EMRP and gearing should be consistent between each other¹³. This current gearing ratio is used to de-lever current equity Beta to derive an asset Beta related to the operator business profile and not its financial structure. However, forward-looking (target or normative) gearing ratio eventually applied to re-lever the equity Beta may be estimated from more recent ratios.

Ideally, it can also be sourced from the company itself through its stated strategic guidance, equity and credit analysts, regulators or comparable operators¹⁴.

- Period of analysis for EMRP and RP, both of them being spreads over RF, should preferably be similar (but not in an absolute necessity).
- On its side, the relationship between the cycle of the government bond market and corporate bond market is weaker¹⁵. For RF, some regulators still consider that spot yields reflect all the relevant, current information and expectations, but then, they allow some 'headroom' over these observed government yields¹⁶. In order to obtain more stable estimates, just averaging yields remains probably more appropriate, as long as they are based on a constant maturity. In the current situation of declining yields, this has the same effect than the above uplift.

ictQATAR's position

ictQATAR generally considers that it is appropriate to derive estimates through data series over the last two or three years where possible (with the exception of base long-term estimates for historical EMRP), a duration equivalent to the forthcoming regulatory period.

Practical consequences for each parameter are developed in the subsequent sections.

¹³ EMRP sourced from long time series, as opposed to implied EMRP and those sourced from various surveys, may be considered as an exception, though a more appropriate approach would consist in adjusting them to current market volatility (in the same manner, a long-term RF risk free rate should be estimated on real terms and then adjusted to expected inflation rate).

¹⁴ Current asset Beta should also theoretically be adjusted on a forward-looking basis. But since this parameter cannot be controlled by the company's management, such an adjustment may actually be applied rather on a normative approach, i.e. through benchmarks.

¹⁵ Though nowadays, at least in Europe, both suffer from similar distrust by investors.

¹⁶ Partly to err on the side of caution to avoid inadvertently allowing too low a rate of return.

3.7 Gearing

Question 4: Respondents are invited to comment on the gearing level to apply in the WACC calculation. Alternative approaches should be justified. Respondents are also invited to comment on a reasonable range of gearing. The solidity of the data used to define the optimal levels should be clarified and data should be supplied.

QTel's submission

QTel proposed a gearing of [REDACTED] for QTel Group, relatively high in its view since it considered that the appropriate gearing should lie between [REDACTED] and [REDACTED]:

1. It is preferable to consider QTel Group's gearing rather than that of the standalone Qatar-based subsidiary operation.
 - The internationally financed group is more likely to have an 'optimal' gearing level rather than a subsidiary operation focused on an individual geographic market and subject to specific capital structure constraints.
 - The group is required to minimize its CoC finance: any sub-optimal gearing is likely to persist only if there are practical obstacles preventing QTel from amending this ratio.
2. It is more appropriate to base these calculations on recent average values of debt and equity than on historic, nominal capital originally contributed.
 - Calculations are based upon average monthly balances and market values of QTel Group debt and equity throughout 2010.
 - They should refer to QTel's long-term debt net of cash reserves. Cash funds were placed on deposit awaiting possible deployment in respect of a potential international acquisition during 2011. It is therefore inappropriate to include such funds in a measure of QTel Qatar net debt.
3. Peer group of EMEA operators have typically [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] (weighted mean and median). However, such a level sourced via benchmarking is unlikely to be truly representative of QTel's specific market circumstances in Qatar.

Vodafone' submission

On its side, Vodafone expressed the view that:

1. As far as the international group is concerned, QTel had a market gearing ratio of 47% by the end 2010. Since it is not possible to split QTel's financial position between Qatar and overseas operations by using only publicly available data, a lower gearing of 30% according to other regulatory decisions (such as Ofcom in the UK) appears reasonable.

ictQATAR's analysis

ictQATAR notes that respondents reached similar values for the gearing ratio when, for Vodafone, the Domestic Scenario is retained. ictQATAR would like to make also the following remarks:

1. The first point addressed both by Vodafone and QTel refers to the operator's scale discussed in Section 3.4. As mentioned in that section, ictQATAR considers that the WACC rate should preferably be determined according to the 'Qatari' variant of the wider-group scenario.

The gearing ratio for such an operator - which can take advantage of the group's ease to access capital markets - should differ from the gearing ratio of a stand-alone Qatari operator.

In the latter scenario, Vodafone based its proposal on a decision by Ofcom (UK) actually related to the determination of a Mobile Termination Rate. This may be relevant only to (UK) mobile business, whereas QTel's business profile in Qatar is closer to an integrated operator than a mobile pure-player. Although ictQATAR believes that such a distinction between business profiles is no longer relevant for Qatar on a forward-looking basis, this was not the assessment made by Ofcom for the British market at the time of its price control review. Ofcom's equivalent estimate for fixed-line services (BT) was a gearing ratio of 50%¹⁷.

2. Regarding the calculation method used for the gearing ratio, ictQATAR considers that it is more appropriate and standard practice to average gearings rather than to compute a ratio based on averaged net debt and averaged equity.

For the 'Qatari' variant, it is fair to eliminate reserves dedicated to potential international acquisitions (but initially, all debt should be taken into account, not only the long-term debt).

As far as the 'group' variant is concerned, only the net debt position perceived by providers of financial capital matters, and in that respect, there is no reason to adjust downward the level of net debt stated in annual reports¹⁸.

3. Regarding the benchmarked gearings submitted by QTel, ictQATAR agrees with QTel that such average gearings may not be truly representative of QTel's specific market circumstances in Qatar, due possibly to much lower share of fixed line services and/or less mature markets, both implying typically a lower reliance on debt finance (at least on less advanced markets).

However, ictQATAR recognizes the difficulty of gathering a large number of operators which can arguably be compared to QTel Qatar (ictQATAR would have appreciated the benchmarked operators to be named, though).

ictQATAR's conclusion

Gearings used to de-lever equity Betas

As mentioned in 3.7, the averaging period for the gearing ratios used to de-lever equity Betas should be consistent with the period over which these equity Betas are measured and

¹⁷ <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/summary/condoc.pdf>, p105.

¹⁸ Rather the contrary, according to Damadoran who recommends taking into account operating leases and other fixed off-balance sheet commitments.

averaged. This period starts from January 2009 (launch date of DJ MENA Index) until September 2011, the time of writing of this CD.

Forward-looking gearings

In contrast, whatever the company or scenario under consideration, more weight should be put on the latest measurements for the forward-looking gearing ratio used to re-lever the asset Beta and average the components of the cost of capital. Since this parameter is (partially) under management’s control, this information can be complemented by strategic guidance provided the operators themselves, their observers (credit and equity analysts), and regulators (for a normative determination).

In Table 4 , only Batelco, Omantel and, to a lesser extent, STC may actually be considered to have both a relatively small international exposure (cf. Table 1 for operators’ geographical scales), and a business mix comparable to QTel’s in Qatar.

But if the size criteria (in terms of the operator’s EV and market size) is deemed arguably more important than the previous second criteria (business mix), the comparable group rather comprises Batelco, Omantel and Vodafone¹⁹.

Table 4 Regional operators’ profiles and gearing ratios

Country/Scale	Operator	Profile	EV	EV/Ebitda	Gearing D/(D+E)	
			(\$bn)	Avg.*	Avg*	H1 2011
International	QTel	More mobile	17.01	5.3	53%	45%
Mainly Bahrain	Batelco	Integrated	2.04	5.2	-8%	-16%
Oman	Omantel	Integrated	2.45	4.5	-3%	-4%
KSA/International	STC	Integrated	31.82	5.9	22%	26%
Qatar	Vodafone	Mobile	1.99	n/a	8%	6%
International/UAE	Etisalat	Mainly mobile	20.25	8.0	-10%	-5%
International	Zain	Mainly mobile	18.80	6.9	13%	1%

Source: Bloomberg, ictQATAR’s consultant’s calculations: averages computed with half-year gearings or EV/EBITDA between end 2008 and H1 2011, except for Vodafone listed after mid-2009.

Yet, while Batelco and Omantel’s gearing ratios could be relevant for the forward-looking estimate in the domestic-only scenario, they are less likely to be a reliable indicator for the ‘Qatari’ variant of the more realistic wider-group scenario:

- As mentioned in 3.1, QTel Qatar’s access to debt financing is facilitated by the group’s own flexibility to do so at an inexpensive cost, thanks to an excellent single A credit rating.

¹⁹ Unless it is extended to operators in Central Europe and North Africa.

- Batelco and Omantel, on their side, are still to be rated by any credit rating agency.

Among regional regulators, TRA in UAE opted for a gearing ratio of 4%-10%., and in Bahrain, TRA decided on a 0% gearing ratio for Batelco for the following reasons:

- Bahrain being Batelco's primary location, the company's actual capital structure may be a good proxy for the optimal capital structure of a notional telecommunications company operating in this country.
- There is no corporate taxation in Bahrain, thus limited incentive to raise debt (no tax shield).

These observations are also more relevant to the domestic-only scenario. They nonetheless point to a 'Qatari' ratio possibly lower than the group's gearing.

Otherwise, from the initial group of 4 operators, those having an ease to tap debt markets which is comparable to QTel's are limited to:

- STC: single A rating like QTel, (latest gearing 26%);
- and Vodafone: indirectly and to a lesser extent given Vodafone's less favourable BBB+ rating (latest gearing 6%).

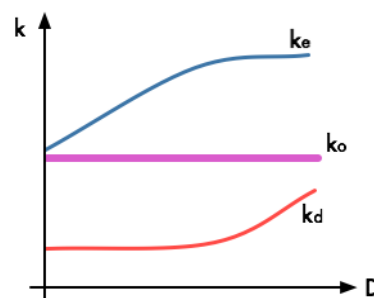
An appropriate 'Qatari' ratio should lie somewhere between Vodafone's gearing and the value proposed by QTel [REDACTED]. On average: **around 20% for the 'Qatari' scenario.**

For the 'group' scenario, ictQATAR is minded to consider QTel's latest gearing of **45%** for the forward-looking ratio, unless respondents provide publicly available orientations suggesting distinct ratios.

Remark

The determination for the 'Qatari' gearing is clearly approximate, but this parameter is of secondary importance in the WACC rate given the proposed estimates for its other parameters (in the quasi-absence of taxation).

When gearing between 6% and 37%, the WACC rate changes of only 15 basis points, and less if RP is adjusted accordingly. Even without adhering to the well-known Modigliani-Miller theory which stipulates the irrelevance of the capital structure (cf. graph) and tend to over-simplify the firms' valuation, this parameter allows a much higher margin of error than the other ones, as long as Beta (and RP) are adjusted accordingly.



3.8 Risk free rate

Question 5: Respondents are invited to comment on the appropriate method and the data relevant to defining the risk free return rate appropriate to QTel. Please explain the logic and the data sources and how they are used.

QTel's submission

QTel opted for a RF of [REDACTED] the simple mean of two approaches adding to the UK RF a country risk premium for Qatar.

1. RF is commonly calculated by reference to Government-issued debt where the risk of default is considered to be negligible. With a relatively strong country credit rating of AA2, Qatari government debt may be regarded as a 'safe-haven'
3. RF is most appropriately assessed over a reasonably lengthy period of time so as to avoid short-term distortions. For example, currently low yields on Qatari government debt (4.5%) are likely to be transitory and are therefore an unrealistic estimate of the medium to long-term RF rate.
4. A first approach [not upheld eventually by QTel] consists of considering the coupon rate of 2020 Qatar Government bond issues: 5.25%. It represents a reasonable expectation of the level of yield that might arise over a timeframe during which market fluctuations have been eliminated.
5. A second approach considers RF for the UK market (midpoint estimate of 4.50% in April 2011, to which is added the country risk premium for Qatar (currently [REDACTED]) leading overall to a Qatari RF estimate of [REDACTED]

A third approach considers the implied RF for Qatar and other Middle Eastern states with similar sovereign credit ratings based upon:

- Yields on UK sovereign bond with a 20-year maturity which have remained relatively stable over recent years at around 4.4%, rather than those on 10 or 30-year bonds. Recent market conditions have led to significant volatility in 10 year bond yields, while high demand and low supply have depressed yields on 30 year bonds, rendering both of them less appropriate for use.
- Adjustments for the relevant country risk premiums, for the 5 year period from June 2006 to 2011: [REDACTED] in average for Qatar, leading to a Qatari implied RF of [REDACTED]

Vodafone's submission

Vodafone defined an RF of 4.32% based on the Qatari government bond with a 2020 maturity.

1. RF should be sourced from the debt issued by the Qatari government.
2. Ideally, this debt should be of similar duration to the assets under consideration: 10 to 20 years.
3. RF should be based on the most recent government bond yield.

ictQATAR's analysis

1. ictQATAR agrees with both respondents that RF should preferably be based on Qatar government bonds:
 - Assets under consideration being denominated in QAR, it is more straightforward to estimate RF on these bonds' yields.

- On September 5th 2011, Bloomberg released an article stating: “Qatar’s sovereign bonds were the best performers in the Middle East in August as investors sought refuge from a slowing U.S. economy and a worsening debt crisis in Europe”²⁰. While Qatar government bonds still exhibit a spread over equivalent bonds from AAA rated countries, they can be considered as relevant proxies for risk free assets, though not meeting their strict definition: their yields are rather the combination of a (truly) RF and a country risk premium.
 - Although Qatar is a small country, the market for its AA rated government bonds is likely to be liquid enough to allow robust RF estimates based on their yields.
2. It is standard practice among corporate finance experts and regulators to consider a maturity of around 10 years for such bonds, matching the typical useful economic lives of assets under review.

ictQATAR notes that some regulators have opted for shorter maturities:

- For instance, after determining that the weighted average remaining asset life for the regulated companies is approximately 7 years, TRA in Bahrain (2009) decided to consider bonds with maturities up to this duration²¹.
- Historically, Ofcom considered a maturity matching the period of the charge controls under review (5 years). This is a less common alternative to the “asset’s economic lives” approach because companies’ financing and investment decisions do not always match this duration and investors may face residual value risk beyond this period. But Ofcom’s preference for a 5-year maturity stemmed also from observed distortions in 10-year gilt yields at that time. In its most recent analysis, the British regulator decided to consider 10-year gilt yields as well.

Notwithstanding these observations, ictQATAR intends to follow a conservative approach with a maturity of around 10 years, in any case not longer.

3. As mentioned in Section 3.3, ictQATAR favours averaged yields rather than most recent spot yields in order to avoid typical pitfalls such as those stressed by QTel.

As a side note, ictQATAR would prefer that respondents submit evidence of claims such as “currently low yields are likely to be transitory”. Aforementioned Bloomberg’s article certainly mentions a “fly-to-quality” phenomenon in favour of Qatari bonds, depressing their yields in return. But it is unclear whether this phenomenon is temporary given the persisting turmoil on financial markets in Europe and the US (long considered as safe havens for risk free assets).

4. If the coupon rate was a good measure for the LT yield, then LT RF would be zero since the most relevant proxy for the risk free asset is a zero coupon govt bond. And the same

²⁰ “Four of the five best-performing securities among the 32 that make up the HSBC/NASDAQ Dubai Middle East Conventional Sovereign Bond Index were from Qatar. The fifth was from Abu Dhabi. “Because Qatar and Abu Dhabi are the highest quality names in the region they’re the most sensitive to interest rate changes like U.S. Treasury yields,” said the CEO of Mashreq Capital DIFC Ltd. in Dubai. “You also had investors exiting higher yielding names like Dubai to get into safe-haven trades like the Qatar sovereigns.”

²¹ The acceleration of technological change, as stressed by QTel in 3.2, is another argument for a maturity slightly shorter than the conventional 10 years.

would apply to QTel's bonds: its LT yield would be 4.75%, i.e lower than actual Qatar's RF.²².

5. QTel's approaches based on UK RF suffer from several shortcomings:

- The first variant adds to a UK RF (with undefined maturity and averaging technique) a 'current' country risk premium, estimated actually over a US treasury bond rate²³.

Figure 1 : 10-year zero-coupon US Treasury Bond's yields



Source: Bloomberg (ticker: F08210Y Index). Mobile averages over 52, 104 and 156 weeks.

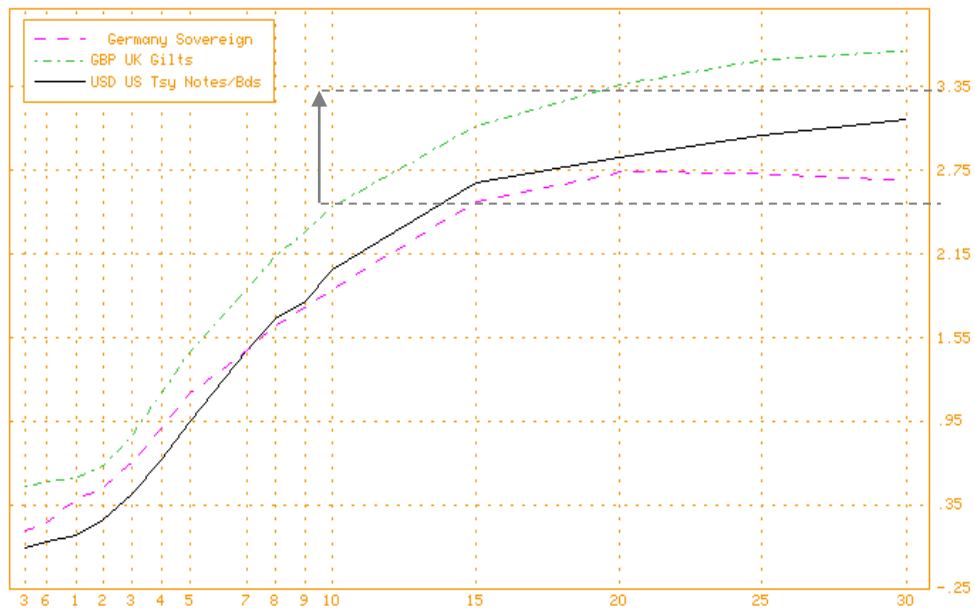
A more consistent approach would therefore consist in considering a US RF: 3.4% for the 10-year zero-coupon T-bond in average over the last 2 or 3 year (cf. Figure 1). With QTel's proposal for Qatar's country risk premium, this would entail RF=4.3%.

- The choice of the maturity is not neutral. The figure below shows spot yields for government bonds according to their maturity. As of September 27th 2011, yield for the 30-year UK government bond were 0.8/0.9 basis points above the yield of the 10-year equivalent bond.

²² Damodaran: "A risk free asset is defined as the one where the investor knows the expected returns with certainty. Consequently, there can be no uncertainty about reinvestment rates, which implies that there are no intermediate cash flows. With a zero coupon bond, the total compounded interest earned are paid only upon redemption."

²³ The source considered by QTel in its annex can be traced here: <http://pages.stern.nyu.edu/~adamodar/>. The value chosen for Qatar's country risk premium is on the January 2010 spreadsheet, not the January 2011 one (July 2011 estimates have been released after QTel's reply to the first CD).

Figure 2 : UK, US and Germany government bonds' Fair Market Curves



Source: Bloomberg, September 27th 2011

This spread might have been historically lower or higher in average, but this curve remains typical for this type of securities which incorporate a time premium.

Eventually, these indirect approaches are not necessary to produce robust estimates for RF in Qatar, contrary to its determination in some other countries whose government bonds are not frequently traded (for instance, Bahrain, as noted by the local regulator).

ictQATAR's analysis

Government bond and average yield

For the reasons set out above, ictQATAR proposes to determine RF on the yields of the Qatar government bonds with a (conservative) maturity of 10 years.

In practice, Bloomberg does not propose Qatari bond indexes with a constant maturity period in the manner of its composite indexes for the US, UK or German government bonds (with frequent new issues allowing yields interpolation).

In terms of maturity, the most relevant available security for Qatar is the 2020 government bond, issued at the end of 2009.

Figure 3 : Yields of the Qatar government's 2020 bond



Source: Bloomberg, September 2011

Since its issue (96 weeks), its average yield is 4.43%. As mentioned in Section 3.6, the relationship between the cycle of government bonds market and the cycles of other securities markets is weak: it is not required to consider the same period of analysis for RF than for other parameters. Yields averaged over a bit less 2 years are acceptable, considering that some regulators rely on shorter averages.

Adjustment to a constant 10-year maturity

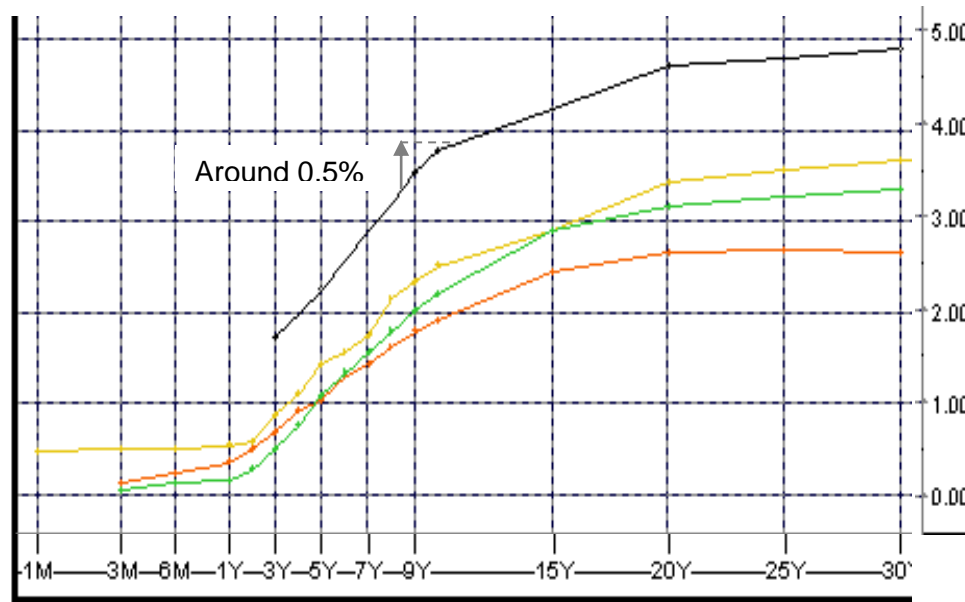
However, this average is not based on a constant maturity period: in September 2011, the implied maturity was 8 years and a quarter. It is unlikely that this factor is the sole explanation for the yield's decline from 5.2% when the bond was issued to around 3.5% currently.

As interpolated by Bloomberg (cf. Figure 4), the spread between 10-year and 8-year maturities is around 0.5%. This implies an uplift of the previous yield of 0.25% in average for the period of measurement.

ictQATAR's conclusion

Therefore, ictQATAR proposes to set the risk free rate at **RF at 4.7%**. In comparison, the equivalent current yield is around 4.1% = 3.58 + 0.5%.

Figure 4 : Fair Market Curve of the Qatar government bonds



Source: Bloomberg, September 27th 2011. Qatar government bond's FMC on the top line.

3.9 Debt premium

Question 6: Respondents are requested to define the additional appropriate debt risk factors and how they can be defined. Please explain the logic and the data sources and how they are used. Proof that the factors are not included in other parameters are required.

QTel's submission

QTel considered that extra premiums should be added to the company-specific debt risk premium.

1. QTel's company RP is approximately [REDACTED]
 - QTel Group's weighted average cost of debt is [REDACTED] representing a premium to the current yield on recently issued long-term Qatar Government debt of just less than [REDACTED].
 - This is an appropriate estimate of the typical company RP despite that both the weighted average cost of QTel's long-term debt and the yield on Qatar Government bonds are unrepresentatively low and likely to increase over the medium to long term.
2. To reflect the borrowing cost of QTel's operations in Qatar instead of a diversified international group, a single-industry RP of [REDACTED] should be added to the cost of debt to cover the additional risk warranted by Qatar's reliance upon an undiversified economy which is heavily tied to the petrochemicals sector.

- It is not possible to prove definitively that such a risk premium is not already subsumed within other cost of capital parameters. However, smaller nations which are reliant on a single industry tend to have marginally greater risk premiums.
- In view of this trend, it would be prudent to allow a modest [REDACTED] premium for Qatar's predominant industry dependency when deriving the relevant range of appropriate overall CoC values.
- If gearing is adjusted from the actual ratio to some higher and apparently more efficient level, upward adjustments to the cost of debt should not be omitted.

Additional market liberalization RP of [REDACTED] should also be included in the cost of debt and equity. While unquantifiable, this is a relatively modest adjustment when compared with previous proposals by incumbent operators faced with comparable levels of uncertainty. In essence, this is a safeguard against an overall CoC lower than that reasonably expected by QTel's finance providers.

Vodafone's submission

In accordance with its two perimeter scenarios, Vodafone proposed the following debt premiums:

1. RP=0.73% for the group, the yield on QTel's debt with a 2021 maturity being 5.05%.
2. RP= 1.5% for a stand-alone Qatari operator.

ictQATAR's analysis

1. Company RP submitted by QTel and Vodafone are broadly consistent with each other. ictQATAR would have however welcomed QTel's justifications for stating that its cost of debt (and the risk free rate) is likely to increase over the medium-long term.
2. For this point, respondents refer to what has been characterized in Section 3.4 as the domestic-only scenario. ictQATAR is on the view that this framework does not reflect appropriately the reality of QTel Qatar in terms of capital financing.

Responses from operators call other remarks.

- In the domestic-only scenario, the Qatari operator would probably have a higher RP for a same net debt level as QTel Group.
- QTel's proposed premiums relate to the cost of equity, or the WACC as a whole. Considering them simply in addition to RP seems inconsistent (to the detriment of QTel). As explained in 3.4, a size premium on the WACC rate or RE might be relevant in the domestic-only scenario. However, even if this approach was deemed appropriate, the quantification of such a premium would remain arbitrary (with data only for the US market). In addition, ictQATAR is not aware of any regulator having accepted such a premium, including for the smallest regulated operators.
- Justification for the last 'market liberalization RP' is weak, even though the proposed adjustment is modest. There is no reason to consider that this information (market liberalization) has not already been priced one way or another by investors, and for quite some time.

ictQATAR's conclusion

QTel's 2021 bond is the most relevant one since it has a 10-year maturity.

Figure 5 : Yields of QTel's 2021 bond



Source: Bloomberg, September 2011

Its last available yield is 4.55% versus $3.58\% + 0.5\% = 4.1\%$ for the equivalent 10-year government bond (cf. previous section about RF).

For the last year, the average yield of QTel's 2011 bond is equal to 5.1% versus $4.2\% + \text{around } 0.2\% = 4.4\%$ for RF to take into account the spreads in maturities within each bond. So, the spread between comparable bonds in terms of maturity appears to lie around 0.7% over the recent period.

The reason for such a low spread stems naturally from QTel's strong backup funding source (government of Qatar). This has clearly a positive impact on the group's credit rating and therefore its cost of debt. QTel is rated A2 in Moody's classification, A in S&P's, and A+ in Fitch's, above average rating for integrated global telecom service providers (Baa2 with Moody's).

Therefore, ictQATAR proposes to set the risk premium at **RP at 0.7% for the group**. In the 'Qatari' variant, the proposed level of debt is lower than for the group: 20% instead of 45%. But RP is not linearly proportional to the gearing (otherwise credit rating agencies would be totally useless). ictQATAR proposes therefore to set **RP at 0.5% for the 'Qatari' variant** which assumes an ease to access debt markets similar to the group's.

3.10 Market rate of return

Question 7: Respondents are requested to specify the appropriate market rate of return. Please explain the logic and why that method was chosen over others. The source data in a calculation should be supplied.

QTel's submission

QTel calculated Qatar's average market returns over the last ten years (25.04%), and considered that it appropriately reflects the expectations of shareholders in an unusually buoyant economy.

1. It is appropriate to derive RM by reference to the long-term returns trend of the Doha Securities Market (DSM).
 - DSM is also the securities market in which QTel's quoted shares have been traded for many years and in which QTel has raised equity capital historically. As a result, it is representative of the reasonable expectations of the vast majority of QTel's current equity investors which remain predominantly Qatari institutions and individuals.
 - A departure from the use of actual Qatari RM while retaining a Beta value whose computation is dependent on such RM would undermine the CoC derivation process.
2. DSM data is available for a period of just over 10 years, thereby making it possible to compute an average (arithmetic mean) annual RM without bias from short-term market fluctuations.
 - The use of monthly data is preferable to daily or weekly data as results are less likely to be obscured by 'noise' within the sample data (RM=29% with daily market index values, but their use would be inconsistent with a Beta calculated with a monthly frequency).
 - An alternative 'straight line' CAGR method of calculation over an equivalent period would yield a lower average market RM of 19.70% (or EMRP=14.3%), but this approach is less likely to be appropriate: it ignores historic trends in market fluctuations.
 - It is possible to generate almost any apparent RM rate by selectively adopting specific, unrepresentative time periods (for example, computing from January 2006 to December 2008 yields a negative RM). In view of the potential for selective data bias, it is appropriate to reflect all relevant long-term market data that is available and to adopt a calculation approach that reasonably reflects patterns of upturn and downturn in the market.
3. The proposed EMRP of [REDACTED] may be regarded as particularly high, in particular when compared to typical European values. But:
 - The particularly strong RM average rate on the DSM during the last decade is a reflection of the growth experienced by Qatar.
 - Despite periodic market corrections, there is no reason to assume that such market RM will prove to be unsustainable or that Qatari investors will not continue to expect them to occur.
 - Relatively low RM are typically associated with the more sedate, developed economies of Europe where retail price inflation has typically remained below an average rate of 5% for much of the past decade. While EMRP rates of 8% or more are commonplace, such markets do not reflect the growth rates experienced in

Qatar and are a wholly unsuitable data set from which to derive a relevant CoC for QTel's operations in Qatar.

Vodafone's submission

For Vodafone; an EMRP of 8%, at the top of usual international estimates, is reasonable:

1. The suitable forward-looking EMRP should be based on the DSM.
2. In Qatar, annualized growth rates vary between 4%-16%, depending on the starting point of the calculation (2002, 2004 or 2008).
3. For this market, there is no dataset equivalent to those available on the international stage for which studies have typically concluded an EMRP within a range of 4%-8%.

ictQATAR's analysis

1. This point which has already been addressed in Section 3.6 about the appropriate reference market. In all circumstances, the EMRP should not be derived (only) from the DSM. IctQATAR does not question the fact that the majority of QTel's current equity investors are predominantly Qatari institutions and individuals: the State of Qatar already holds by itself a majority of the shares. But it is questionable to assume that this characterization also applies to QTel's actual active investors which can be found in its free float. And it is even more doubtful to assume that shareholdings of these active investors are limited to the DSM.
2. As it is documented at length in the corporate finance literature, historical EMRP may not be calculated on such short periods of time. Hence, the generation of almost any possible RM rate according to the starting point of the calculation.

For instance, in "Applied Corporate Finance", Damodaran (quoted by Vodafone), explains that: "in order to get reasonable standard errors, we need very long time periods of historical returns. Conversely, the standard errors from ten-year and twenty-year estimates are likely to be almost as large, or larger, than the actual risk premium estimated. This cost of using shorter time periods seems, in our view, to overwhelm any advantages associated with getting a more updated premium".

For this type of EMRP, half a century of data is rather a minimum requirement to obtain an acceptable level of 'noise' (a typical standard error still around 3% according to Damodaran). Even if an EMRP specific to Qatar were appropriate in the present case, a robust estimation of a relevant historical rate is therefore not possible on the DSM.

On side notes:

- Data frequencies for historical EMRP calculations (based typically on annual returns) and Beta calculations (daily to monthly price returns) do not have to be the same.
 - QTel's 'CAGR' remark refers actually to the arithmetic versus geometric dilemma. This is briefly addressed in the following proposal.
3. As a matter of fact, international EMRP levels are in the range indicated by Vodafone: 4%-8% (cf. the following proposal).

When the EMRP is used to come up with a cost of capital, which in turn determines the long-term investments of the company, it is more prudent to build in a long-term average (historical or implied) premium.

Even if RM were to be based on the Qatari market, ictQATAR could not reasonably accept the value of █████ proposed by QTel as a central assumption for the long-term RM required by investors.

ictQATAR's analysis

For this market rate parameter, as for Qatar, there is no dataset for the MENA market as a whole equivalent to those available on mature markets, such as the US.

ictQATAR initially considered an approach recommended by Ibbotson Associate. In the present case, it consisted in multiplying an EMRP that has been measured for the US (or the world) by the Beta of the MENA market to the US (or the world) index. But results turned out to be unreasonable with Betas between 0.2 and 0.3 - implying an EMRP lower than 2%- and very low squared correlation coefficients (R^2).

In a paper for the Quarterly Journal of Finance and Accounting ²⁴, Bley noted that: "The stock markets of the MENA region in general, and of the booming GCC region in particular, have developed a return behaviour that is unaffected by US or UK stock market movements (...) MENA stock markets have become more sensitive to intraregional shocks and less sensitive to interregional shocks". This feature has probably been enhanced with the recent regional turmoil affecting either the MENA markets (Arab revolutions) or the Western world more than the rest of the globe (sovereign debt crisis).

ictQATAR's proposed approach and analysis

ictQATAR proposes to adopt the following alternative approach to determine an appropriate MENA EMRP.

- Considering the Country Risk Premiums (CRP) calculated by Damodaran for each country in the MENA index, spreads over Qatar's CRP are calculated during the January 2009 - July 2011 period. The reason for this is that RF is derived from a Qatar government bond which already incorporates a CRP for the domestic market.
- Then, a weighted-average MENA RP above Qatar's CRP is calculated for the period with MENA countries' market capitalizations.
- Eventually, this average MENA/Qatar RP spread is added to the US long-term EMRP because the previous CRP have been estimated in the perspective of a US investor.

MENA RP spread over Qatar's

Not surprisingly given Qatar's credit rating, all other MENA countries exhibit a CRP higher or equal to Qatar's, which is 1% in average for the period.

²⁴ "How Homogeneous are the MENA Stock Markets?" (2007)

Table 5 MENA average Country Risk premium over Qatar's

	January 2009	January 2010	January 2011	July 2011	Average	Market Cap	Total
Egypt	3.0%	2.9%	2.9%	4.1%	3.2%	6%	0.18%
Morocco	3.0%	2.9%	2.9%	2.9%	2.9%	7%	0.21%
Tunisia	1.9%	1.8%	1.9%	2.3%	2.0%	1%	0.02%
Bahrain	0.9%	0.7%	1.0%	1.5%	1.0%	2%	0.02%
Jordan	2.4%	2.1%	2.3%	3.4%	2.5%	3%	0.07%
Kuwait						12%	
Lebanon	12.0%	7.4%	5.3%	5.3%	7.5%	1%	0.11%
Oman	0.9%	0.7%	0.5%	0.5%	0.7%	2%	0.01%
Qatar						13%	
K.S.A.	0.6%	0.5%	0.3%	0.3%	0.4%	36%	0.15%
U.A.E.						17%	

Source: Damoradan (NYU Stern), Zawya.com.

Relative weights based on market capitalizations in US dollars, as of October 10th 2011.

On average, the MENA/Qatar risk premium spread appears to lie around 0.8% according to Damodaran.

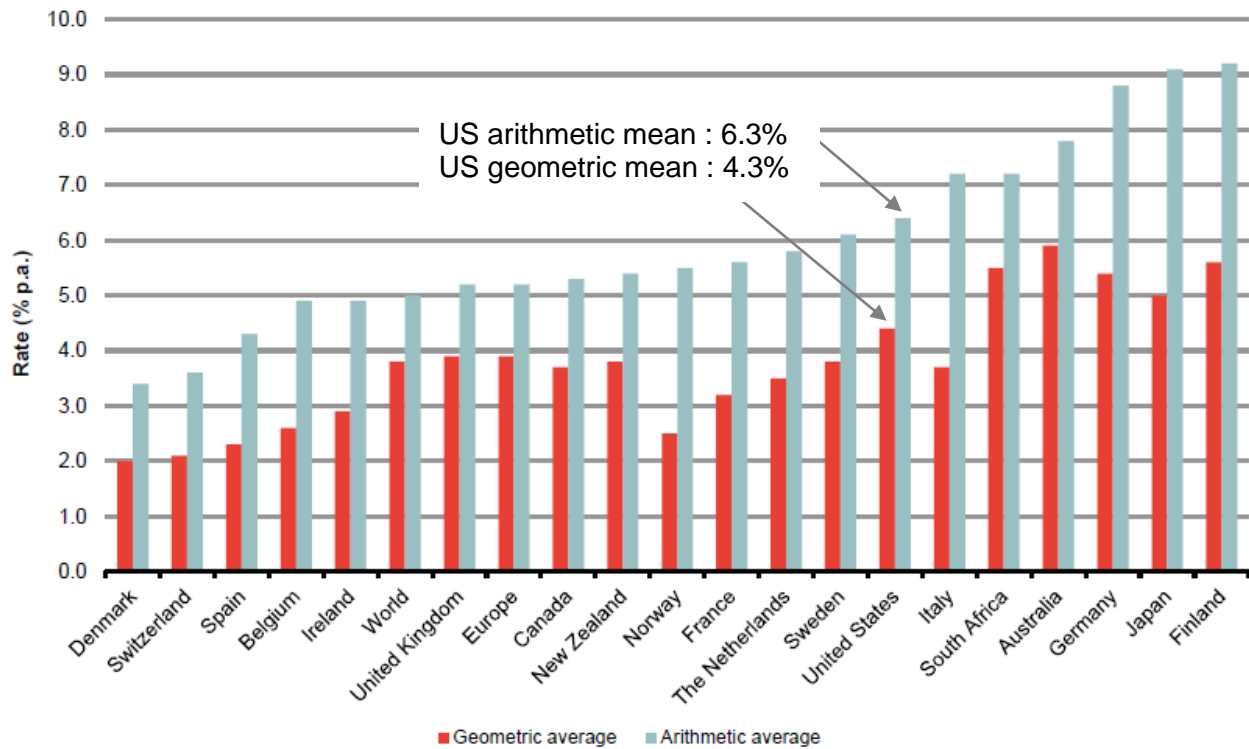
US EMRP

There is a wide range of evidence available to assess an appropriate value for the US EMRP.

For regulatory purposes, historic evidence on the EMRP are generally considered more appropriate than other types of EMRP. The most common sources for historic EMRP are:

- Damodaran who examines US stock returns and Treasury bond yields over the period 1928 to 2010. In its latest paper, it calculated the average historic premium to be between 4.31% (geometric) and 6.03% (arithmetic).
- Morningstar who publishes annually the Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook. It calculated the average US historic risk premium (over a medium horizon) to be between 6.3% and 7.0%
- Dimson, Marsh and Staunton, which are very appreciated also outside the US because their dataset is the most comprehensive in terms of the number of countries covered. For the US, their geometric and arithmetic estimates are respectively 4.3% and 6.3%.

Figure 6 : DMS's average historic EMRP 1900-2010



Source: Dimson, Marsh, Staunton, Credit Suisse Global Investment Returns Sourcebook 2011

Regarding the geometric and arithmetic means, various academic studies show that, as the relevant investment period increases beyond a period of one year, the appropriate expected return declines. This observation leads generally regulators and other practitioners to consider that the appropriate return should lie between the annual arithmetic mean and the geometric mean.

In this case, the above evidence may be centred around 5% (Damodaran), 6.7% (Ibbotson/Morningstar), 5.3% (DMS), 5,7% in average.

But some professors such as Wright Mason & Miles (2003) recommend to take into consideration the current market volatility and add $\sigma^2 (RM_t)/2$ to the geometric mean in order to obtain a more relevant EMRP.

Figure 7 : US market volatility



Source: Bloomberg, September 2011

Since the beginning of 2009, the market volatility in the US lies around 20%, implying a desired EMRP 2% above the geometric mean, that is the typically the arithmetic mean. In this case, the average from the previous sources is 6.4%.

Yet, because this above is not universally accepted, ictQATAR is minded to retain an US EMRP of around 6% from these sources.

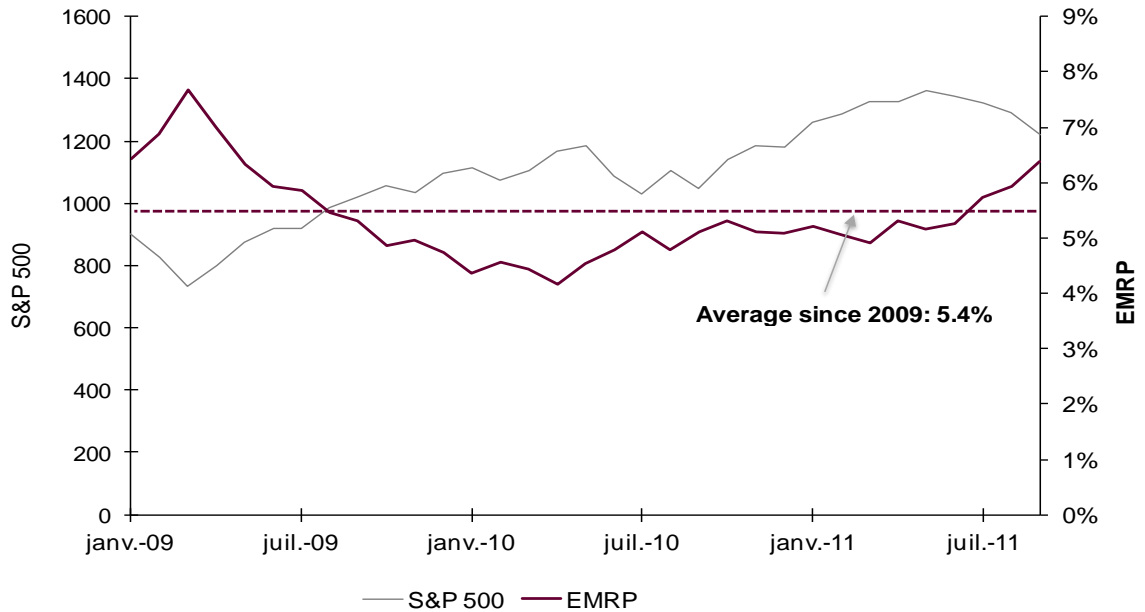
ictQATAR proposes also to consider the following sources, albeit many of them tend actually to refer to the previous works.

- The US implied EMRP, which is the required equity premium that arises from assuming that the market price is correct. Over the period starting from January 2009, it is equal to 5.4% (cf. Figure 8).
- Surveys such as those of Fernandez et al are carried out every year. In the current edition for the US, they provide the insights mentioned in Table 6 .

Without entering the debate of the relevance or possible bias of each source, they suggest preference for a US EMRP of around 5.5% in 2011 on average (whether it is weighted by the number of answers or not).

- This average was the same in 2010. It was higher in 2009 (5.8%) which could seem logical in the aftermath of the 2008/2009 financial crisis. But this is rather part of a pattern of declining EMRP over at least the last decade (see **Figure 5 : Yields of QTel's 2021 bond**Figure 9).

Figure 8 : Implied EMRP and S&P 500 (US) since January 2009



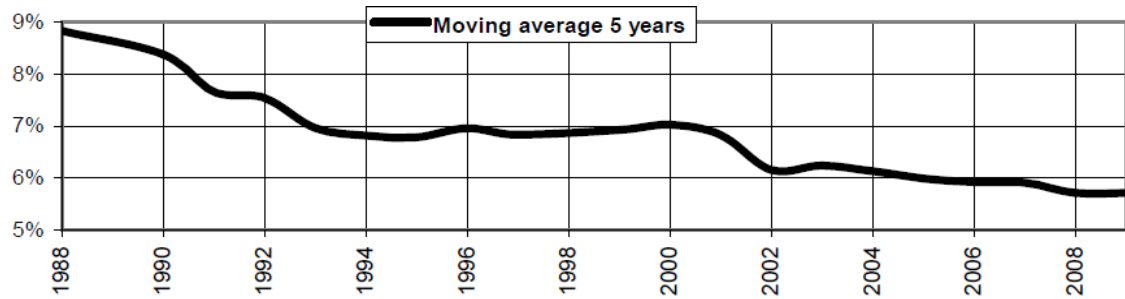
Source: Damodaran NYU Sten, consultant's analysis

Table 6 EMRP used in the US in 2011

	Professors		Analyst		Companies	
(%)	2011	2010	2011	2010	2011	2010
Average	5,7	6.0	5,0	5.1	5,6	5.3
St. Dev.	1,6	1.7	1,1	1.1	2,0	1.8
MAX	15,0	12.0	10,0	10.0	15,0	11.2
Median	5,5	6.0	5,0	5.0	5,2	5.0
min	2,0	2.0	2,0	2.5	1,5	1.9
Number of answers	514	462	311	104	613	205

Source: EMRP used in 2011 for the USA, Fernandez et al

Figure 9 : Required EMRP used or recommended in 150 finance textbooks



Source: Fernandez et al (2009).

The main reason for this decrease in US EMRP is that several studies, in particular from DMS and Fama & French, have demonstrated that a downward adjustment should be applied to the traditional historical EMRP in order to derive an appropriate forward-looking EMRP²⁵. Entailing a convergence a adjusted historical EMRP toward typically lower implied EMRP²⁶, this consideration has progressively gain acceptance among practitioners.

- EMRP chosen by regulators in the region: Bahrain (5.1%-6.1%), Egypt (4.5%), UAE (4.52 %– 6.49%) though these EMRP may be as well US based as adjusted to the local or conversely the world market.

ictQATAR's conclusion

Overall, ictQATAR is minded to retain a US EMRP in the range of 5.5%–6% and propose therefore to set the appropriate MENA EMRP between 6.3% and 6.8%, through the MENA/Qatar RP spread of around 0.8%

3.11 Beta

Question 8: Respondents are requested to specify the appropriate methodology and the data that defines the Beta value correctly.

²⁵ A first objection is that ex post historical experience is unlikely to have reflected investor expectations at the time. Bonds produced poorer returns and were riskier than expected ex-ante because of inflation in the 20th century while equities were less affected. A second objection is that, given the dividends growth, the observed change in valuation ratios is better explained by the fact that investors actually demanded a lower risk premium.

²⁶ Damodaran give the following explanation for the apparent contradiction between historical and implied EMRP: "When stock prices enter an extended phase of upward (downward) movement, the historical risk premium will climb (drop) to reflect past returns. Implied premiums will tend to move in the opposite direction, since higher (lower) stock prices generally translate into lower (higher) premiums [cf. Figure 8]. In 1999, for instance, after the technology induced stock price boom of the 1990s, the implied premium was 2% but the historical risk premium was almost 6%." In that respect, booming share prices in Qatar may imply that investors *require* a relatively low risk premium for buying stocks in this market.

QTel's submission

QTel proposed an equity Beta of █████ deemed to be relatively low:

1. QTel's monthly Beta calculated by reference to the DSM20 market index for a six year period (over which both data sets are available concurrently) is robust and reasonable.
 - Equity Beta should be derived from the same market data used for RM/EMRP. While significant, QTel's equity value is only █████ of the DSM and therefore does not represent a dominant or market-influencing share.
 - PwC considered that in overall terms, monthly estimates are more reliable than weekly or daily estimates. Weekly estimates provide more observations relative to monthly data and less noise (short-term factors that have little to do with systematic risk) relative to daily data.

However, weekly estimates suffer from the problem of different results depending upon the day of the week chosen as the basis for the regressions. Daily and weekly Betas are naturally less stable than monthly Betas. With typically lower standard errors, the latter are more likely to be representative of underlying systematic risk.

2. Betas for MENA operators are around 0.8 on average, and recent Beta of STC in Saudi Arabia and Etisalat in UAE - QTel's most direct regional competitors - are 0.94 and 0.91 respectively.
3. There may be merit in increasing this Beta value as a consequence of the additional risk (i.e. volatility) associated with market liberalization. As BT plc observed when responding to similar initiatives to those now proposed for QTel and Qatar, "regulated firms are not able to adjust prices to changes in the market in the way that unregulated firms are, and this lack of flexibility may increase the Beta of such companies."

Vodafone's submission

For Vodafone, a Beta of 0.78 seemed reasonable:

1. The most up-to-date Beta estimate for QTel is 0.78, sourced from Bloomberg, with a R² only of 0.30.
2. A single estimate is not sufficiently reliable, but this value is broadly consistent with other telecom stocks: 0.70 for the median Beta of European operators, according to Damodaran.

ictQATAR's analysis

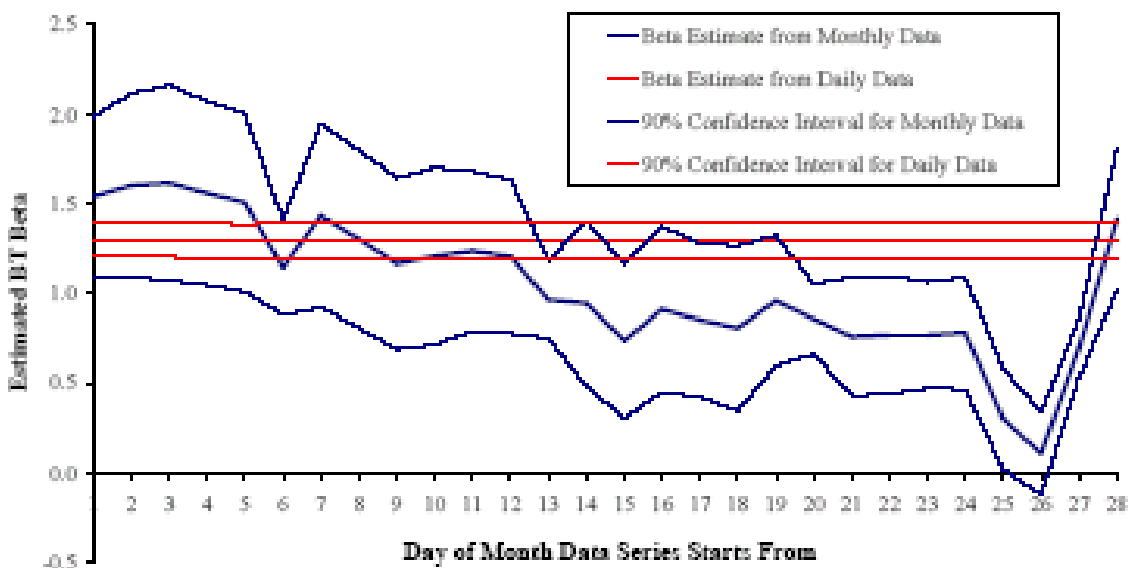
1. Monthly Betas require at least 5 years of monthly price returns (60 points). In that respect, data series from available MENA index²⁷ are not long enough to compute monthly Betas. But they allow calculations of weekly Betas (typically over 2 years -104 points) and daily Betas.

Weekly Betas vary according to the day of the week chosen. These discrepancies of a few basis points still remain within standard error. Generally, this is not the case for monthly Betas whose variations according to the day of the month can be spectacular (cf. Figure 10).

²⁷ Whether it be from Dow Jones, S&P or MSCI (which exclude Saudi Arabia for its lack of foreign investability).

As mentioned in 3.2, higher frequency Betas allow also to fully capture the company's current degree of exposure to systematic risks, including the possible impacts of recently deployed NG investments. In contrast, prices used to calculate QTel's monthly Beta (against the DSM20) span from the era when QTel was a small and chiefly domestic operator to the present time, a period during which the geographic scale and scope and QTel's activities have changed dramatically.

Figure 10 : Variation of BT's monthly Betas according to the starting day



Source: The Brattle Group (2004)

In Europe, regulatory reports which thoroughly investigate operators' Betas²⁸ rely primarily on daily frequencies. One may note though that their analysis stocks of companies which are usually larger than GCC operators, at least those having a relatively little international exposure. In general, these European stocks with higher market capitalizations and listed in more liquid and transparent markets are less likely to be subject of thin and nonsynchronous trading, autocorrelation and other statistical issues possibly affecting Beta or standard error estimates.

The ensuing proposal take into account these factors in order to strengthen Beta estimates for QTel and peer operators.

ictQATAR wishes to make some other remarks:

- Contrary to what QTel stated, standards errors generally decrease with the data frequency for the simple reason that is related to the number of observations used for these regression analysis. With monthly Betas calculated over 5 years of data the standard error remains high: above 20% in general.

²⁸ Smithers & co, Wright Mason Miles, the Brattle Group, Frontier Economics, Marpij, Nera, Professor Ian Cooper and also PwC.

- ictQATAR would have preferred that Vodafone elaborate on the parameters used to build its Beta estimate, even though ictQATAR is aware that Bloomberg's standard setting is 2-year weekly Beta against the local index (but Bloomberg's screens mention both raw and Blume-adjusted values: which one has been chosen?).
 - R^2 indicates the share of stock fluctuation explained by systematic risk, thus $1-R^2$ by specific risks. This squared coefficient of correlation can be higher with monthly Betas, but this does not mean that the main outcome of the calculation, that is Beta, the slope of the linear regression, is more accurate. R^2 is less an issue for companies' Betas as long as it is not too close to zero. This issue becomes more sensitive when one seeks to estimate a local market index Beta against another index in order to derive an EMRP estimate for this local (or regional) market.
2. This point is addressed through ictQATAR's own estimates for benchmarked operators in the following proposal.
 3. QTel's argument regarding the risk associated with market liberalization is probably better placed here than in addition to RP. Nevertheless, it remains irrelevant with weekly or daily Betas.

For Betas measured over a period as long as 6 years, investors at the beginning of the period might not have been aware of or anticipated this particular 'risk'. Assuming that ictQATAR's type of regulation (not discussed in this CD) did increase the regulated activities' exposure to systematic risk, the desired additional component to the operator's Beta would still be impossible to quantify.

ictQATAR's proposal

General approach

As mentioned previously; the conventional procedure to estimate a forward-looking equity beta consists in:

- Measuring and possibly adjusting the current equity Beta;
- Then de-levering this Beta to infer an asset Beta (ensuring also like-for-like comparisons between operators);
- And finally, re-levering the 'Qatari' or 'group' asset Beta with the relevant forward-looking or normative financial structure.

Equity Betas measurement and adjustments

Regarding the first step, ictQATAR considers that weekly measurements are an appropriate frequency.

- Even if the length of data series had allowed the use of monthly Betas, problems entailed by this frequency in general, with in particular the requirement of a very long period, seems too severe in the context of fast-growing operators.
- Consideration of daily Betas may be less appropriate as a primary evidence for relatively small companies in the MENA/GGC region. Several observers noted that their financial markets are often less liquid than mature markets, still highly dependent on individual investors, and prone to infrequent trading.

ictQATAR believes this is more a concern for some benchmarked operators than for QTel, given its size and its international profile in terms of operations as well of listings. Smaller operators such as Batelco and Omantel are on their side more likely to exhibit thin trading²⁹.

In order to derive more robust and stable estimates, ictQATAR proposes to adopt conventional 2-year weekly Betas then average them, rather than to just calculate single weekly Betas over the whole period (January 2009 – September 2011).

Taking into account that the average firm in the market place has a Beta of one, these 'raw' betas are then brought closer to this value through a Bayesian adjustment: adjusted Beta = $1.x + \text{Raw Beta} \cdot (1-x)$. As equity Betas for network companies are often lower than one, this adjustment tend to produce larger and hence more conservative Beta estimates. Some practitioners consider that the well-known Blume variant of the Bayesian adjustment with $x=33\%$ is based on an obsolete analysis³⁰ and overstate the amplitude of the suitable adjustment. For instance, the aforementioned European regulatory reports either refrain from applying any adjustment on daily betas or concede a small one (x around 10%) for weekly betas.

But given the above characterization of the MENA/GCC financial markets, ictQATAR is minded to keep the Blume adjustment as a cautious measure. ictQATAR believes that such an uplift remains reasonably conservative in the present context.

Also, as noted QTel, weekly Betas vary according to the starting day (though generally much less than their monthly equivalents). ictQATAR focused its calculations on 'mid-week' Betas in order to avoid possible distortions in price returns in opening and closing weekdays.

Eventually 'Wednesdays' Betas with the highest number of trading days have been retained. Compared to 'Tuesdays' Betas, they produce estimates larger of 1 or 2 basis points, except for QTel (+0.04) and Vodafone (-0.09)³¹.

Asset Betas

For the second step, most regulators and financial textbooks use now the following simple de-levering formula: $\beta_A = (1-g) \cdot \beta_E + g \cdot \beta_D$ with debt Beta β_D assumed to be equal to zero. With this assumption, this relationship can be also formulated as: $\beta_A = \beta_E / (1+D/E)$ ³².

²⁹ Historical prices show for these companies much more non-trading days than for other operators. Cf. also Bahrain's TRA observations about Batelco in its 2009 WACC report.

³⁰ Based on shares prices between 1926 and 1961.

³¹ Whose 'Wednesday' Beta also matches the daily estimates. Both are actually averages over the available data period which is shorter for VQ.

³² Some practitioners still rely on a formula decreasing the financial leverage through the tax shield: $\beta_A = \beta_E / (1+(1-t) \cdot D/E)$. When the asset Beta is re-levered with a higher leverage, the choice of this formula leads to a forward-looking equity Beta slightly below the value obtained with the more common approach (when the effective tax rate is not close to zero, naturally).
Regarding the debt Beta, some assume it is rather equal to 0.1 for a typical network operator. But this has no impact on the final equity Beta unless gearing (thus β_D) is significantly increased.

The table below summarizes these findings for the most relevant comparators (Etisalat, considered by QTel as one of its closest competitor with STC, is simply added for information).

Table 7 Operators' equity and asset Betas

	QTel	Batelco	Omantel	STC	Vodafone	Etisalat
Avg. Raw Beta	0.75	0.22	0.33	0.87	0.51	0.38
Avg. Std Error ³³	0.14	0.12	0.10	0.11	0.09	0.11
Avg. R ²	0.23	0.04	0.10	0.38	0.24	0.12
Adjusted Beta	0.83	0.48	0.55	0.91	0.67	0.59
Gearing	53%	-8%	-3%	22%	6%	-10%
Avg. Asset Beta	0.39	0.51	0.57	0.71	0.63	0.64

Source: Bloomberg, consultant's calculations. Raw beta based on 2-year weekly (Wednesday) Betas averaged over 2011 until September 26th, except Vodafone: between end July and end September 2011.

Blume adjustment. Average gearings calculated for the end 2008-H1 2009 period, except Vodafone: average of gearings available since its IPO.

For the purpose of estimating an appropriate 'Qatari' asset Beta, one can always find reasons for rejecting each of these previous asset betas. But some remain more relevant than others.

Table 8 Analysis of benchmarked asset Betas

	Pros	Cons
QTel (0.39)	Incorporate the 'Qatari' asset Beta May also incorporate efficiency gain thanks to QTel's management	... But to a small extent, given the weight of its Qatari operations ... in addition to the benefits of internationally diversified revenue streams lowering their cyclacility
Batelco (0.51)	Mainly domestic operator Size and business profile similar to QTel's in Qatar	Thinly traded stock Unreasonably low R ²

³³ The standard error for each average Beta is actually lower than the average of each Beta's standard error.

	Pros	Cons
Omantel (0.57)	Mainly domestic operator Size and business profile similar to QTel's in Qatar	Similar to Batelco, though less prevalent
STC (0.71)	Robust estimate (unchanged with the daily Beta) Business profile similar to QTel's in Qatar	International diversification not marginal Might be biased toward 1 because of the weight of the KSA economy (40%) in the MENA index
Vodafone (0.63)	Qatari operator R ² within typical values	Profile (business mix, recent market entry) still distinct from QTel Qatar ...but still important variation according to the starting weekday

Other asset Betas which can be taken into consideration (though with different market indexes and techniques) include:

- From Damodaran: 0.47 for telecom services and 0.53 for wireless telecom (in the world)
- From respondents: 0.41 (group) - 0.55 (domestic) for Vodafone, 0.45 for QTel with their proposed gearing ratios, though their equity Betas should rather be de-levered with gearings consistent with the periods considered in their Betas estimation.
- From regulators in GCC: 0.65 - 0.80 in Bahrain, around 0.5 in UAE.

ictQATAR's conclusion

As far as QTel's asset Beta is concerned, the calculated value (0.39) is low in comparison with the previous other evidence. For this reason, ictQATAR proposes a small uplift on this value and to adopt **an asset Beta of 0.45 for the group**.

For the 'Qatari' variant, ictQATAR is minded to consider **an asset Beta of 0.55-0.60**.

- The highest value is an average of Vodafone's and Omantel's asset Betas, arguably the most relevant ones in this case.
- The lowest value adds to the previous average the above QTel's asset Beta in order to take into account at the level of its Qatari branch some possible group's efficiencies.
- If STC's asset Beta is slightly reduced at 0.65 because of its likely upward bias, most combinations of values Table 8 lie in the 0.55-0.60 range.

This implies a forward-looking equity Beta of 0.82 for the group and 0.69-0.75 for the 'Qatari' operator.

3.12 Tax rate

Question 9: Respondents are requested to specify the appropriate methodology and the relevant data and sources data that define a correct effective tax rate. This includes a justification of a zero value if this is deemed appropriate.

QTel's submission

QTel stated that:

1. In revision of its previous view, license and industry fees payable are more appropriately treated as direct costs of conducting telecommunications business.
2. While many former quasi-taxes may no longer be applicable, a new form of taxation has recently been applied to corporate net profit: 2.5% of listed companies' annual net profits to Daam (the Qatar social and sports activities support fund) which is to be a permanent, on-going obligation.

Vodafone's submission

1. Vodafone reached the same conclusion regarding quasi-taxes such as industry fee: they should be allocated to calculations of service costs and profitability rather than treated as tax in WACC determination.
2. But Vodafone did not refer to the new obligation identified by QTel: given the absence of a corporation tax regime, a 0% tax rate assumption should be used.

ictQATAR's analysis

1. ictQATAR notes that QTel and Vodafone are in agreement on the characterization of license and industry fees.
2. ictQATAR considers that the point made by QTel regarding the new obligation for listed companies is valid, as far as the domestic-only but also the 'Qatari' approach are concerned.

For the 'group' approach, it is acceptable to apply its effective income tax rate rather than attempting a country-weighted average of marginal tax rates (whose relevance would remain questionable).

ictQATAR's proposal

ictQATAR proposes to set the tax rate at **t=2.5%** in the 'Qatari' variant.

For the alternative 'group' variant, the effective income tax rate incurred by QTel was 21% in 2010 according to its annual report (23% in 2009).

This difference in taxation has a significant impact on the pre-tax WACC rate according to the chosen approach. In the 'Qatari' variant, the cost of equity RE is uplifted by only 2.5% whereas, in the 'group' approach, it is increased by 27%.

3.13 WACC rate

Question 10: Respondents are requested to comment on the overall approach for combining values and obtaining a single result for use for regulatory decisions. This includes additional commentary on each parameter and the related analysis-data that is submitted.

QTel's submission

1. QTel considered that it is not appropriate to consider a range of potential parameter values when deriving an overall CoC value.
 - In most instances, measurable parameter values 'are what they are' and there is no reasonable basis to depart from such actual, robust country and company-specific data.
 - A probable outcome of the proposed approach is that a large spread will emerge between upper and lower boundary values to the resultant CoC, a potential pitfall the CD appears to partially acknowledge.
2. QTel defined a WACC rate of [REDACTED] as a central estimate before differentiation by business segments.

Vodafone's submission

Vodafone considered on its side that:

1. A not too wide range of WACC rates should be first estimated.
2. The appropriate pre-tax nominal WACC for QTel lies in the range of 8%-10.2.
3. This range is also consistent with the values observed from international precedents.

Comparative table

The following table recapitulates the WACC rates and parameters proposed by the operators.

Table 9 Vodafone's and QTel's WACC estimates

	Vodafone		QTel
	Group	Domestic	
Risk-free rate RF	4.3%	4.3%	██████
Equity market risk premium EMRP	8%	10%	██████
Market return $RM = RF + EMRP$	12.3%	14.3%	██████
Tax rate t	0%	0%	██████
Gearing $g = D/(D+E)$	47%	30%	██████
Company debt risk premium	0.7%	1.5%	██████
<i>Single industry dependent market RP</i>			██████
<i>Market liberalization RP</i>			██████
Debt premium RP	0.7%	1.5%	██████
Cost of debt $RD = RF + RP$	5%	5.8%	██████
Equity Beta βE	0.78	0.78	██████
Cost of equity $RE = Rf + \beta E \cdot EMRP$	10.6%	12.1%	██████
WACC pre-tax $= g \cdot RD + (1-g) \cdot RE / (1-t)$	7.97%	10.23%	██████
<i>With allowance of CPI inflation estimated at $i=2.3%$: $WACC \cdot (1+i)$</i>			██████

QTel suggested an approach to derive differentiated CoC values by business segment but did not proposed directly distinct estimates. Overall, this should not alter its central proposal.

Comments

1. Actual, robust country and company-specific data exists. But these data never give absolute country or company-specific WACC parameters, which are forward-looking, thus unobservable by definition (not mentioning other complications as those exposed in this CD).

Before reaching its final decision, ictQATAR believes it is appropriate to consider narrow ranges for the key and least certain parameters:

- EMRP, with a magnitude of 0.5%
- Beta, with a magnitude of 0.1 maximum.

2. ictQATAR notes that the main differences between QTel's and Vodafone estimates are:
 - The EMRP which, in the case of QTel's submission, is not reasonable;
 - To a lesser extent: RF, market liberalization RP (and the irrelevant extra allowance for inflation).

3. The direct consideration of WACC rates decided by other regulators has been commented in several sections of this CD, in particular in section 2.3.1 in response to this point made by Vodafone. These international WACC would require multiples adjustments to suit the context of this CD.

The next section summarises ictQATAR's preliminary considerations, parameters estimates, motivations and methods of calculation proposed by ictQATAR to derive an appropriate range of WACC rates.

4. Conclusion

4.1 General framework

A cost of capital determined according to the standard WACC and CAPM methodologies

ictQATAR considers that the general WACC/CAPM approach stated in the first CD is appropriate. In particular, no additional allowance for inflation should be included to the pre-tax nominal WACC formula:

$$\text{WACC} = g.RD + (1-g).RE/(1-t) = g.(RF+RP) + (1-g).(RF+\beta E.EMRP)/(1-t)$$

With the minor adjustment to the definition of the cost of debt $RD=RF+RP$ (which has eventually no impact on the WACC rate).

Estimation and equal consideration of QTel Group's WACC and a 'Qatari' WACC taking into account a wider-group's support for capital financing

Regarding the operator's reference scale for its capital financing, ictQATAR considers that:

- A domestic-only scenario is too remote from the reality of QTel Qatar with respect to its supply of capital finance.
- A general wider-group scenario taking into account QTel's international developments is realistic and incorporates also a reasonable efficiency assumption for a Qatari operator (required to diversify international given the size and maturity of the Qatari market).

Within the second scenario of a telecommunications company operating in a wider group, the WACC rate of QTel's Qatari operations ('Qatari' WACC) may be more desirable than the WACC determined for the entire group ('group' WACC).

But both variants of this wider-group scenario have merits and ictQATAR is minded to consider them equally in this first WACC determination.

A single business-wide WACC reflecting technological convergence

ictQATAR remains of the view that the determination of a single WACC rate is also more appropriate for the forthcoming regulatory period.

ictQATAR considers that technological convergence is already a reality, both at the revenues and investments levels, and that there is no sound case to allow today in Qatar specific rates of return according to traditional business lines.

ictQATAR notes also that any impact of possibly higher NGA/NGN investments systematic risks should be 'priced' in asset Betas measured over a relatively recent period of time for operators comparable to QTel in Qatar.

A reference market for EMRP and Beta estimations covering the MENA region

ictQATAR considers that a reference market covering the MENA region is an appropriate compromise between, on one side, a global reference market, and on the other, an approach

assuming that the portfolio of QTel's average active investor (i.e. excluding the State of Qatar) is limited to the Qatari or even the GCC market.

Therefore, ictQATAR proposes to determine an EMRP based on the MENA market and to measure Betas against a MENA market index, in this CD, the Dow Jones MENA Index.

Consideration of data series over the last 2/3 years in order to derive stable and more robust estimates

ictQATAR proposes to derive estimates through data series over the last two or three years where possible (with the exception of base long-term estimates for historical EMRP), a duration equivalent to the forthcoming regulatory period.

This is also a reasonable compromise in order to capture recent market information while inferring robust and stable estimates between regulatory reviews.

This determination also ensures that consistency requirements between some measurements are respected. In particular, current equity Beta and gearing ratio used to derive an asset Beta have to be calculated on the same period of time. This asset Betas is then re-levered with a forward-looking financial structure which may be based on latest market information.

4.2 Parameters' estimation

A risk free rate RF of 4.7% based on averaged yields on the 2020 Qatari bond adjusted to a constant 10-year maturity

ictQATAR proposes to determine RF through the yields of the Qatar government bonds (considered liquid enough), with a 10-year maturity as it is standard practice among regulators.

The most relevant available security is the 2020 government bond issued at the end of 2009, thus, with a declining maturity period (contrary to composite indexes offering a constant maturity for the world's most traded government bonds).

Observing a spread of 0.5% between 10-year and 8-year maturities, as interpolated by Bloomberg, ictQATAR proposes to increase the yield averaged over the last 2 years (4.43%) by half of the above spread: RF=4.7% versus around 4.1% today.

A MENA EMRP of 6.3%-6.8% adding to a US EMRP of 5.5%-6% a weighted-average MENA region risk premium 0.8% above Qatar's country risk premium

For this parameter, as for Qatar, there is no dataset for the MENA market as a whole equivalent to those available on mature markets, such as the US.

As a result, ictQATAR considers the Country Risk Premiums (CRP) calculated by Damodaran for each country in the MENA index from January 2009 until July 2011. Since RF is derived from a Qatar government bond which already incorporates a CRP for the domestic market, spreads over Qatar's CRP are calculated and averaged by each country's market capitalizations. This results in a MENA RP 0.8% above Qatar's CRP (1%) in average.

Then, a US EMRP is considered because the previous CRP have been estimated in the perspective of a US investor.

This US EMRP is estimated essentially by the consideration of historical long-term evidence from reference sources such as Damodaran, Ibbotson and DMS, as well as the average US implied EMRP since 2009 and surveys of professors, analysts and companies.

A forward-looking gearing (with marginal impact on the WACC rate) of 45% for the group against around 20% in the 'Qatari' variant, between Vodafone's current ratio (6%) and QTel's proposal [REDACTED]

As far as the gearing ratios used to de-lever equity Betas are concerned, they are estimated by averaging ratios on the period over which these equity Betas are measured and averaged.

For the forward-looking gearing ratio used to re-lever the asset Beta in the 'Qatari' scenario, ictQATAR privileges evidences submitted by QTel (which discounts in the group's net debt reserves dedicated to potential international acquisitions) as well as current gearing ratios of Vodafone (6%) and STC (26%). Both operators have no or a relatively small international exposure. More importantly, both of them benefit from an ease to tap debt markets comparable to QTel's. This is not the case of Batelco and Omantel, the other domestic operators in GCC initially considered.

ictQATAR notes that, in the quasi-absence of taxation, this parameter is of secondary importance in the WACC rate given the proposed estimates for its other parameters. When gearing between 6% and 37%, the WACC rate changes of only 15 basis points, even less if RP is adjusted accordingly.

For the 'group' scenario, ictQATAR is minded to consider QTel's latest gearing of 45% for the forward-looking ratio (unless respondents provide publicly available orientations suggesting otherwise).

A group's RP of 0.7% estimated from the average yields of its 2021 bond and adjusted as RF; a smaller 'Qatari' RP of 0.5% because of its lower financial leverage

QTel's 2021 bond is the most relevant one since it has a 10-year maturity.

Since its issue one year ago, its average yield is equal to 5.1%. This should be compared to the average relevant RF on the same period which is $4.4\% = 4.2\% +$ around 0.2% to take into account the spreads in maturities within each bond.

The spread between comparable bonds in terms of maturity appears therefore to lie around 0.7% over the recent period.

As far as the 'Qatari' variant is concerned, ictQATAR proposes to set RP at 0.5% given the combined assumption of a lower debt level and an ease to access debt markets similar to the group's.

A re-levered equity Beta of 0.82 for the group, and of 0.69-0.75 for the 'Qatari' operator: a range derived from the asset Betas of Omantel, Vodafone, QTel, STC and Batelco in order of relevance (estimates based on time-averaged and Blume-adjusted 2-year weekly Betas)

ictQATAR considers that weekly Betas, calculated typically over 2 years, are more appropriate in the present context than monthly measurement (which are not possible to estimate with recently released MENA indexes) or daily Betas (which are likely to be more exposed to various statistical issues for some thinly traded GCC markets or operators).

In order to derive more robust and stable estimates, ictQATAR proposes also to average these 2-year weekly Betas over the remaining period of time (that is from the beginning of 2011) and to apply in a conservative manner the Blume variant of the Bayesian adjustment. Asset Betas are then calculated with the de-levering formula $\beta_A = \beta_E / (1 + D/E)$.

For QTel's asset Beta, the calculated value (0.39) appears relatively low in light of various international evidences. Consequently, ictQATAR proposes to adopt a slightly higher asset Beta of 0.45.

For the 'Qatari' variant, ictQATAR is minded to consider an asset Beta between 0.55 and 0.60, the range of comparators' averages according to the inclusion or not of QTel's, STC's, and Batelco's values, in addition to the more relevant Omantel's and Vodafone's asset Betas (cf. Table 8).

A tax rate of 2.5% in the 'Qatari' variant (due to new permanent obligations in favour of Daam) against an effective rate of 21% for QTel Group

4.3 WACC range

The table below summarises the WACC parameters' estimates and resulting range proposed by ictQATAR. This shows the results using the two variant approaches defined earlier in section 3.4.

Table 10 Second CD's WACC parameters and ranges

Variant of the Wider Group Approach	'Qatari'	'Group'
Risk-free rate RF	4.7%	4.7%
Equity market risk premium EMRP	6.3%-6.8%	6.3%-6.8%%
Market return $RM = RF + EMRP$	11-11.5%%	11-11.5%%
Tax rate t	2.5%	21%
Gearing $g = D/(D+E)$	20%	45%
Debt premium RP	0.5%	0.7%
Cost of debt $RD = RF + RP$	5.4%	5.4%
Asset Beta β_A	0.55-0.60	0.45
Equity Beta β_E	0.69-0.75	0.82
Cost of equity $RE = Rf + \beta_E \cdot EMRP$	9.03%-9.80%	9.85%-10.26%
WACC pre-tax $= g \cdot RD + (1-g) \cdot RE / (1-t)$	8.45%-9.08%	9.29%-9.58%

In conclusion, ictQATAR is minded to consider a WACC rate within the range of **8.45%-9.58%**.

Annex 1 – Acronyms and abbreviations

This section lists abbreviations defined in the first CD. It also presents new abbreviations in italics as well as a revised definition for the cost of debt.

- E: value of Equity
- D: value of Debt (net debt in practice)
- $g = D/(D+E)$: *gearing ratio*
- t : corporate tax rate
- RF: nominal Risk Free rate
- RP: debt Risk Premium
- $RD = RF+RP$: *cost of debt*, defined rather as a pre-tax rate in accordance to international corporate finance and regulatory practices
- RM : Return of the Market
- $EMRP = RM-RF$: *Equity Market Risk Premium*
- *SOTP sum-of-the-parts*
- *DSM Doha Securities Market*
- $BetaE$ (or βE): *equity Beta*
- $BetaA$ (or βA): *asset Beta*, i.e. Beta un-levered from any financial leverage, used as an intermediary input to derive a forward-looking $BetaE$ with an appropriate gearing
- $RE = RF + BetaE \cdot EMRP$: *cost of equity*

Hence, for WACC defined as a nominal pre-tax rate:

$$WACC = g \cdot RD + (1-g) \cdot RE / (1-t) = g \cdot (RF+RP) + (1-g) \cdot (RF + \beta E \cdot EMRP) / (1-t)$$

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Annex 3 – Questions used in the CD 1

Question 1 Respondents are invited to comment on the application of the WACC calculation and the potential for other approaches to defining the CoC.

Question 2 Respondents are invited to provide reasoned comments on the proposed application of a single business-wide WACC value.

Question 3 Respondents are invited to provide reasoned comments on the validity of the CoC value.

Question 4 Respondents are invited to comment on the gearing level to apply in the WACC calculation. Alternative approaches should be justified. Respondents are also invited to comment on a reasonable range of gearing. The solidity of the data used to define the optimal levels should be clarified and data should be supplied.

Question 5 Respondents are invited to comment on the appropriate method and the relevant data to defining the risk free return rate appropriate to QTel. Please explain the logic and the data sources and how they are used.

Question 6 Respondents are invited to define the additional appropriate debt risk factors and how they can be defined. Please explain the logic and the data sources and how they are used. Proof that the factors are not included in other parameters are required.

Question 7 Respondents are invited to specify the appropriate market rate of return. Please explain the logic and why that method was chosen over others. The source data in a calculation should be supplied.

Question 8 Respondents are invited to specify the appropriate methodology and the data that defines the beta value correctly.

Question 9 Respondents are invited to specify the appropriate methodology and the relevant data and sources data that define a correct effective tax rate. This includes a justification of a zero value if this is deemed appropriate.

Question 10 Respondents are invited to comment on the overall approach for combining values and obtaining a single result for use for regulatory decisions. This includes additional commentary on each parameter and the related analysis-data that is submitted.

Annex 4 - Equity analysts' WACC estimations

WACC rates assumed in stockbrokers' reports presenting QTel's SOTP³⁴ valuations may provide some interesting insights. The table below shows some of these post-tax WACC estimates, sourced or calculated from publicly available reports.

Table 11 Summary of post-tax WACC rates used by equity analysts

	Broker	Date	Group	Implied*	Qatar
QTel	AUDI	Nov. 2009	8.8%		
	CSFB	Feb. 2008	10%	**	**
	HC brokerage	Oct. 2009		12.8%	11.9%
	HSBC	Feb. 2008		10.6%	9%
	RBS	April 2011		10.8%	10%
	TAIB	June 2011	6.5%		
Vodafone	NAEEM	Sept. 2009	9.4%		
	NBK	July 2011	n/a but mention of RE=11.5%		
	RBS	April 2011	11.5%		

Source: Stockbrokers' company reports. Detailed assumptions presented in Annex 4.

*Consultant's calculations for the group: average of individual WACC with proportions of value to QTel.

** SOTP valuation also carried out but individual WACC (incl. Qatar) not all mentioned.

Equity analysts carrying out SOTP valuations appear to assume a post-tax WACC rate for QTel Qatar lower than for the group in average. Among these reports, only HC Brokerage applied to Qatar a rate above those used for some other countries, though its WACC for QATAR remained below average.

Unfortunately, these reports did not elaborate on the individual parameters or the method used to determine their country-specific WACC³⁵.

One may assume that they essentially differ through distinct country risk premiums (and/or RF), entailing SOTP WACC typically higher in average than the group WACC applied to aggregate cash-flows in QAR³⁶.

³⁴ Sum-Of-The-Parts

³⁵ Explanations could not be obtained: they may be provided only to the stockbrokers' clients.

³⁶ CSFB which carried out both approaches reached a lower price with SOTP valuation. This is necessarily the result of a group WACC, as implied by individual SOTP rates, higher than the aggregate DCF WACC.

If Betas (and gearings) were differentiated as well, this differentiation might have been achieved through the consideration of local listed competitors covered by the stockbroker's Telecoms sector team.

On its side, QTel's 2010 consolidated financial statements mention the following discount rates for its operations³⁷.

Table 12 QTel's estimates on its foreign operations' WACC rates

WACC	Kuwait	Algeria	Tunisia	Indonesia	Iraq
Dec. 31 st 2010	10.6%	12.2%	10.1%	12.7%	15.1%
Dec. 31 st 2009	10.1%	11.2%	9.7%	14%	19%

Source: QTel's Annual Report (p.160)

Unfortunately, a discount rate is not provided for the Qatari operations (nor for the group itself, naturally).

The way the above mentioned rates have been estimated is similar to the equity analysts' assumed approach: "Discount rates reflect management's estimate of the risks specific to each unit. Discount rates are based on a weighted average cost of capital for each CGU. In determining appropriate discount rates for each unit, regard has been given on a ten year US Treasury bond and specific risk factors for each country."

In a note on SOTP valuation (HBS Review 2009), Villalonga makes the following remarks: "The first challenge presented by a SOTP valuation arises from the fact that the whole can be worth more or less than the sum of the parts. Stock market analysts sometimes acknowledge this fact by applying a "conglomerate discount" (arbitrarily chosen) to the Net Asset Value (NAV) obtained from an SOTP valuation. The notion of such a discount has even been accepted in U.S. tax courts, and was supported by academic research in the 1990s. An active debate on the subject ensued, however, and later research has shown that the discount is far from universal, and that even in U.S. stock markets, after correcting for endogeneity and/or data deficiencies, the discount is eliminated and may even turn into a premium. These research findings imply that the practice of applying a discount to SOTP values is not only arbitrary, but in fact wrong."³⁸

In the present case, country WACC used by equity analysts carrying out SOTP valuations tend to imply a higher group WACC than the discount rates used in direct group-level DCF calculations, thus a whole worth more than the sum of the parts.

³⁷ The report mentions p. 162 EV by main subsidiary (i.e. not exactly by country of operations).

³⁸ The next issue mentioned in this note is assumed to have been properly addressed by the equity analysts. "The second challenge stems from the fact that, outside of the United States, conglomerates are frequently structured as business groups. In these groups, some of the operating businesses are fully-owned subsidiaries of the parent or holding company, while others are only partly-owned. The degree of ownership and control by the parent determines the accounting treatment these businesses receive in the parent's consolidated financial statements, which complicates the process of adding the parts together for the purpose of an SOTP valuation."

Beside synergies, an explanation for this phenomenon is that, contrary to the standard approach used by analysts and in this CD, SOTP valuation considers the group as a transparent vehicle for direct investments in its countries of operations. From this point of view, it might be more appropriate to add an average country risk premium on top of the MENA RP in the 'group' variant. Such RP would be the average by local EV of risk premiums or discount above the MENA risk premium (considered in reference to the US EMRP). In order to avoid any circularity issues, relative weights considered in these calculations may be derived from analysts or QTel's EV.

Remarks: on a side note, equity analysts' qualitative comments also worth of consideration include:

- Rasmala (in Spring 2011 following the Arab Revolutions): "We believe Q-Tel's reach across the region strikes a balance between high political risk profile countries, such as Algeria and Tunisia, and more moderate ones, such as Qatar, Kuwait and Saudi Arabia. This should mitigate the effects of geopolitical contagion on financial estimates."
- Audi (2009): "The emerging markets of Indonesia, Algeria, Tunisia and Iraq are expected to constitute the bulk of business growth for Qatar Telecom over the coming years. Relatively mature telecom markets in Qatar, Kuwait, and Oman provide stable positive cash flows to the Group. This diversification has two implications. First, QTel is no longer heavily dependent on revenues and earnings from Qatar. This is an advantage as the market has become more competitive with the entry of VodafoneVodafone Qatar. Second, QTel is more susceptible to foreign currency risk, as well as political and country risk. With 75% of revenues being generated overseas, the fluctuation of foreign currencies is critical to QTel's income".

Annex 5 - WACC international comparison

Country	WACC data	Notes
Bahrain	<p>Nominal risk-free rate (%) 3.20- 3.70 Country risk premium (%) 1.50- 1.50 ERP (%) 5.10-6.10 Asset Beta 0.55 - 0.70 Equity Beta 0.55 -0.70 Cost of equity (%) 7.51 - 9.47 WACC midpoint = 8.45</p> <p>Alternative calc:</p> <p>Nominal risk-free rate (%) 3.50 -5.80 Country risk premium (%) 0.00 - 0.00 (country risk premium is implicitly included in the risk-free rate.) ERP (%) 5.10 - 6.10 Asset Beta 0.65 - 0.80 Equity Beta 0.65 - 0.80 Cost of equity (%) 6.82 - 10.68 WACC (nominal, %) mid point 8.71</p> <p>Cullen selected data: Nominal risk-free rate 3.7% Country risk premium 1.5% ERP 6.10% Asset Beta 0.70 Gearing 0% Equity Beta 0.70 Cost of equity 9.47% Debt margin 0.50%</p>	<p>9.5% for fixed and mobile</p> <p>Rounded up higher-end value of 9.5% was chosen “in considering the need to transition from the previously determined cost of capital and to maintain some regulatory stability over time.”</p> <p>Valid 2 years. No tax and gearing zero or close to zero.</p> <p>One rate for fixed and mobile</p>
Egypt	<p>Cullen data: Risk free = 8.5% Market risk premium = 4.5% Beta = 1.05 Cost of Debt = 11.5%</p>	<p>Nominal pre-tax =12.9 % Data could not be found on NTRA site WACC mobile= 14.8-15.8%</p>
Jordan	<p>16.5% fixed. 18% mobile</p>	<p>This is the WACC used by TRC in the LRIC models for fixed and mobile.</p> <p>According to TRC, this rate was determined on a benchmarking basis.</p>

Country	WACC data	Notes																
		TRC has issued instructions on the principles of calculating WACC. But no results publicly available based on these instructions.																
Oman	<table border="1"> <thead> <tr> <th></th> <th>Integrated</th> <th>Fixed</th> <th>Mobile</th> </tr> </thead> <tbody> <tr> <td>Omantel</td> <td>9.61% - 11.15%</td> <td>9.49% - 11.02%</td> <td>10.44% - 12.04%</td> </tr> <tr> <td>Nawras</td> <td>11.58% - 14.49%</td> <td>11.41% - 14.29%</td> <td>12.69% - 15.87%</td> </tr> <tr> <td>Generic operator</td> <td>10.28% - 12.28%</td> <td>10.15% - 12.13%</td> <td>11.19% - 13.32%</td> </tr> </tbody> </table>		Integrated	Fixed	Mobile	Omantel	9.61% - 11.15%	9.49% - 11.02%	10.44% - 12.04%	Nawras	11.58% - 14.49%	11.41% - 14.29%	12.69% - 15.87%	Generic operator	10.28% - 12.28%	10.15% - 12.13%	11.19% - 13.32%	WACC values depend on operator and fixed and mobile. Final values believed to be not yet defined Source: Cullen International
	Integrated	Fixed	Mobile															
Omantel	9.61% - 11.15%	9.49% - 11.02%	10.44% - 12.04%															
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UAE	12.57% fixed, 13.04% mobile	Determination No. (2) of 2012, Etisalat's Regulated Weighted Average Cost of Capital Annexure to the determination																
Algeria	Cullen: 14.2% fixed, 11.2-12.5% mobile	Data not available on ARPT site																
KSA	WACC pre tax mobile 10.17% (fixed), 12.26% (mobile)	Data not published by KSA. Source: Ovum																
Denmark	6.4% fixed, 7.65% mobile	Source: Cullen International Oct 2012																
France	8.9% fixed, 9.9% mobile	Source: Cullen International Oct 2012																
Germany	7.94 fixed, 7.94 mobile	Source: Cullen International Oct 2012																
Portugal	11.7% fixed, 11.1% mobile	Source: Cullen International Oct 2012																
EU average	9.18% fixed, 10.41% mobile	Average, includes Norway, derived from Cullen Oct 2012 data																

A selection of European values are included in the table (pre-tax nominal). The full Cullen-list shows a range of fixed network WACC values from 6.4% to 11.7% and mobile WACC values from 7.6% to 14.8%. In some cases there are values specific to an operator. In the UK there is a WACC specific to the access business.

Annex 6 - References

This second CD refers to the documents provided by the respondents to the first CD mentioned in Section 1, and makes an extensive use of data collected from Bloomberg Professional Services and regional operators' financial reports. This research has also relied on the consideration of the following documents and textbooks.

Alexander Mayer Weeds, World Bank, Regulatory Structure, Risk and Infrastructure Firms, 1996

Audi Capital, Qatar Telecom - Growth Story: Yesterday, Today and Tomorrow, 2009

Alexander Estache Oliveri, World Bank, A Few Things Transport Regulators Should Know About Risk and the Cost of Capital, 1999

Rashid Ameer, Equity risk premium in emerging markets, 2009

Arcep, Taux de Rémunération du Capital des Activités Régulées du Secteur Fxe, du Secteur Mobile et du Secteur de la Télédiffusion, 2009

Associés en Finance, Expérience du Calcul de la Prime de Risque Anticipée 1975-2009

Bloomberg, Arif Sharif, Qatar Bonds Best Performers in August on Quality, 2011

The **Brattle Group**, Issues in Beta Estimation for UK Mobile Operators, 2002

The **Brattle Group**, Financial Analysis of British Telecommunications, 2004

The **Brattle Group**, Updated Estimate of BT's Equity Beta, 2008

Brealey Myers, Principle of Corporate Finance, Eighth Edition, 2006

Copenhagen Economics, WACC for the Fixed Telecommunications Net in Sweden, Commissioned by PTS, 2007

Credit Suisse, QTel - We maintain outperform and advise participation in the rights issue, 2008

Cullen International, Return on capital employed for fixed and mobile wholesale charges, 2011

Cullen International, Wholesale and Regulatory Measures Benchmark, 2010 update

Aswath Damodaran, Applied Corporate Finance, 2004

Aswath Damodaran, A New Risky World Order, Unstable Risk Premiums, Implications for Practice, 2011

Damodaran, Measuring Country Risk, 2010, <http://pages.stern.nyu.edu/~adamodar/>

Dimson Staunton Marsh, Triumph of the Optimists, 2001; Irrational Optimism, 2003

Dimson Staunton Marsh, The Worldwide ERP: a Smaller Puzzle, 2006

Dimson Staunton Marsh, LBS/Credit Suisse First Boston, Global Investment Returns Yearbook (synopsis), 2011

Donaldson Kamstra Kramer, Estimating the Ex Ante ERP, 2006

Estache Pardina Rodriguez Sember, World Bank, An Introduction to Financial and Economic Modelling, 2003

Estrada, A Review of the Cost of Equity in Emerging and Frontier Markets, 2009

Farber Gillet Szafarz, A General Formula for the WACC, 2006

Pablo Fernández, The Magnitude and Concept of the Equity Premium in 150 Textbooks, 2011

Pablo Fernández, The Equity Premium used in 2011 for the USA by Analysts, Companies and Professors: a Survey, 2011

Frontier Economics, The Cost of Capital for TenneT, a report for DTe, 2006

Frontier Economics, The Cost of Capital for Electricity and Gas Networks: issues raised during public consultation, a report for DTe, 2006

Laurent Gille, Telecom Paris, Valorisation et Coût du Capital, 2005

Girard Omran and Zaher, On Risk and Return in MENA Capital Markets, 2003

Girard Omran, What are the Risks when Investing in Thin Emerging Equity Markets: Evidence from the Arab World, 2005

Grabowski, American Society of Appraisers, Problems with Cost of Capital Estimation in the Current Environment, 2009

Graham & Harvey, The Equity Risk Premium amid a Global Financial Crisis, 2009

HC, Qatar Telecom – Smart Growth, 2009

HSBC, Qatar Telecom - Tough road ahead, 2008

IRG, Principles of Implementation and Best Practice for WACC calculation, 2007

Tim Jenkinson, Regulation and the Cost of Capital, 2006

Robert Johnson and Luc Soenen, Equity Market Risk Premium and Global Integration, 2009

Koller Goedhart Wessels, Valuation Measuring and Managing the Value of Companies, Fourth Edition, 2005

Kuwait and Middle East Financial Investment Company, Expected Rate of Return on Equity in GCC Market Before and After Crisis, 2009

Marashdeh Shrestha, Stock Market Integration in the GCC Countries, 2010

Marpj, Determination of Cost of Capital Rates for the Belgian SMP Operators for BIPT, 2009

Masih Alzahrani Al-Titi, Systematic Risk and Time Scales: New Evidence from an Application of Wavelet Approach to the Emerging Gulf Stock Markets, 2009

Rajnish Mehra, ERP: Why is it a Puzzle, 2003

Roger A. Morin, Direct Testimony before the Public Utilities Commission of the State of California, 2003

Nathalie Mourges, Financement et Coût du Capital de l'Entreprise, 1993

NAEEM, VodafoneVodafone Qatar - Piranha Ddisguised as a Minnow: Buy, 2009

NBK Capital, VodafoneVodafone Qatar – The Brawls Begins, 2010

Nera, Cost of Capital for PR09: Final Report for Water UK, 2008

Network Economics Consulting Group, Australian Competition Tribunal Condemns ACCC Approach to Setting Allowed Returns for Regulated Firms, 2003

Ofcom’s Approach to Risk in the Assessment of the Cost of Capital, First Consultation Amended Document, 2005

Ofcom, A New Pricing Framework for Openreach, Second Consultation, 2008

Ogier Rugman Spicer, The Real Cost of Capital, 2004

Oxera, Which WACC When? A Cost of Capital Puzzle, 2005

Oxera, Eircom’s Cost of Capital, prepared for Commission for Communications Regulation, 2007

Burkhard Pedell, Regulatory Risk and the Cost of Capital, 2006

PricewaterhouseCoopers, Rates of Return for FSA Prescribed Projections, 2003

PricewaterhouseCoopers, Disaggregating BT’s Beta, 2005

PricewaterhouseCoopers, ERP: Annual Survey of the City’s view, 2008

Rasmala RBS, Telecommunications: Politics versus Fundamentals, 2011

Jeremy J. Siegel, Perspectives on the ERP, Financial Analysts Journal, 2005

Smithers & co, Wright College, Beta Estimates and Bond Spread Analysis, Provided to Ofgem, 2005

TAIB Research, Qatar Telecom, 2009, 2011

TAIB Research, Bahrain Telecommunications Company, 2011

TAIB Research, Oman Telecommunication Co., 2011

Quiry Le Fur, Vernimmen Corporate Finance, 2005 and newsletters 56, 77, 79, 82

Belén Villalonga, HBS Review, Note on Sum-Of-The-Parts Valuation, 2009

Wright Mason Miles, Study into Certain Aspects of the Cost of Capital for Regulated Utilities in the U.K., Commissioned by U.K. Economic Regulators and the Office of Fair Trading, 2003



January 28, 2013

Mr. Graeme Gordon
Assistant Secretary General
ictQatar
P.O. Box 23264, Al Nassr Tower
Doha, Qatar

Re: WACC Consultation Second Stage

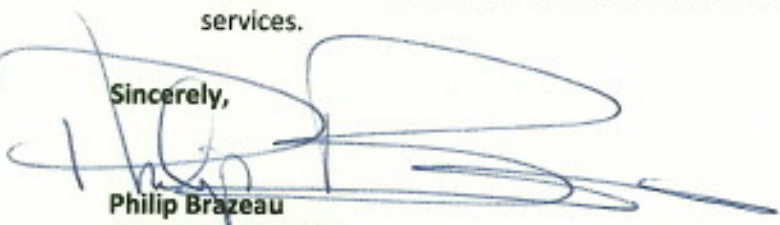
Dear Mr. Gordon,

Please find attached the submission of Qatar National Broadband Network (QNBN) to the Consultation Document (CD) for defining the relevant Cost of Capital for Qatar Telecom (Qtel) Q.S.C. for the purposes of regulatory accounting issued on 6 December 2012.

Our major points, which are developed fully in our comments below, can be summarized as follows:

1. While we disagree with many of the methodological choices made by ictQatar with respect to the derivation of values for the WACC parameters, co-incidentally some of the values themselves are reasonable as they are consistent with values chosen through an alternative set of methodologies that QNBN believes are more appropriate.
2. Certain values proposed by ictQatar are inflated beyond what they should be in the calculation of a business-wide WACC for Qtel. We urge ictQatar to make downward adjustments to these values. We expect that, as a result of downward revision in these values, the range for a business-wide WACC for Qtel should be between somewhat more than 2000 basis points lower than ictQatar's proposed range.
3. We believe ictQatar should differentiate a separate WACC for Qtel's fixed infrastructure service business. In doing so, ictQatar should, at the very least, determine two WACCs: one for Qtel's fixed infrastructure services and another for all other Qtel services. This would be consistent with, for example, the approach Ofcom has taken with British Telecom. According to QNBN's calculations Qtel's fixed infrastructure service WACC should be on the order of 6.18% and 7.37% for Qtel's other services.

Sincerely,



Philip Brazeau
Head of Regulatory
Qatar National Broadband Network



Introduction

QNBN welcomes the opportunity to respond to ictQatar's Consultation Document (CD) for defining the relevant Cost of Capital for Qatar Telecom (Qtel) Q.S.C. for the purposes of regulatory accounting issued on 6 December 2012. Our comments are ordered as responses to ictQatar ten questions from its First CD issued on 10 June 2011 (referred to below as Questions 1.1 to 1.10) and then the two new questions introduced in its Second CD (referred to below as Questions 2 and 3).

We note that in this response we have introduced up-to-date information related to betas and gearing as we are proposing a methodology for those variables that differs from that chosen by ictQatar. For other variables we have used data provided in ictQatar's Second CD. However, irrespective of which set of methodologies ictQatar ultimately chooses, we urge it to update all of the input data. The CD appears to have been written in September 2011, so the input data is already almost a year and a half out of date.

Response to Questions raised by ictQatar

Question 1.1

Respondents are invited to comment on the application of the WACC calculation and the potential for other approaches to defining the CoC.

In the Second CD, ictQatar deals with four issues under its analysis of responses to this question:

1. Appropriateness of the capital asset pricing model (CAPM) for estimating the cost of equity;
2. The issue of pre- and post-tax values;
3. Inclusion of an additional inflation element in the risk-free rate; and
4. Operator profile.

We will deal with each of these in turn.

Appropriateness of CAPM for the estimation of Qtel's cost of equity

We have no issue with the calculation of Qtel's cost of equity based on the CAPM. We agree with ictQatar that the CAPM is widely understood, generally applied in similar contexts and extensively discussed in regulatory proceedings elsewhere. QNBN also strongly agrees with ictQatar's comments in the Second CD rejecting some of Qtel's proposed unorthodox and unjustifiable modifications on the approach, e.g., including introducing an additional "opex" compensation to the cost of equity.

The issue of pre- and post-tax values

QNBN finds that the discussion of the tax issue within the WACC formula highly obscure and suggests that ictQatar clarify in what instances it is proposing to leave out the effective tax rate and why. We believe



that the treatment of tax should be fairly straightforward. There are two instances in which the corporate tax rate is generally introduced into the WACC calculation: the first is as the tax-shield coefficient to the cost of debt; the second is to “gross up” the overall post-tax WACC to a pre-tax WACC figure. These instances are accurately portrayed in the specification of the WACC formula in pages 9 and 10 of the First CD.

We acknowledge that, because ictQatar is considering forms of taxation beyond traditional corporate taxes, the traditional application of the tax factor must be reconsidered. In the case of the tax shield, the tax should be introduced only if the tax payment is impacted by the expenses associated with debt. We will return to this matter in our response to Question 1.9.

With respect to the gross-up of post-tax WACC to a pre-WACC figure, ictQatar appears to have applied the tax in all its scenarios. We would agree, assuming, that in no case the tax payments appear in the calculation of costs of the services to which the WACC is applied. This is usually not an issue as service costing is done on a pre-tax basis; however, if ictQatar chooses to treat non-traditional tax payments as corporate taxes in the calculation of the WACC, it should ensure that these payments do not creep into the costs of services within the RAS.

Inclusion of an additional inflation element in the risk-free rate

We concur with ictQatar that no additional inflation element should be added to the nominal risk free rate. To do so would be obvious double-counting.

Throughout this document, it is assumed that ictQatar will always apply a nominal WACC for relevant Qtel services. However, ictQatar should keep in mind that there may be instances in which it should be applying the *real* WACC and not the nominal WACC. This would be the case, for example, if, under the CCA form of regulatory accounts, a current costing approach is implemented that renders capital costs real, not nominal.

Operator profile

The “Operator profile” issue concerns the inconsistency between the service profile to which the WACC will be applied—Qtel’s services provided domestically—and the operational profile of Qtel itself, which is international and heavily skewed towards mobile service provision. ictQatar says that it could potentially deal with this inconsistency through examination of two valuation scenarios: the “Domestic” Scenario and the “Wider-Group” Scenario. Practically speaking, the difference between the two scenarios is that the Domestic scenario would rely on benchmarking input values from operators that had a service profile closer to those to which the WACC would be applied. In the Wider Group scenario, Qtel specific data would be used to a greater extent.

ictQatar then goes on to reject the Domestic scenario, because it believes the scenario is too “hypothetical.”



QNBN strongly disagrees that this is a valid reason for rejection of the Domestic scenario. In fact, we believe that a “domestic” scenario is the most appropriate way of measuring Qtel WACC. We believe this for several reasons. Firstly, there should be no question that the WACC is to be applied to a set of services for which Qtel is licensed to provide in Qatar. Secondly, the degree of relevance of Qtel’s group-wide data is dependent on the extent to which Qtel’s international activity is similar to its Qatari operations. However, in this case, the Wider Group Qtel should be thought of as an additional benchmark in the domestic scenario. It should not mean that Qtel international-heavy values are a better proxy for all WACC inputs than other benchmarks.

Thirdly, it is better to make use of a robust set of benchmark values that more correctly reflect the underlying drivers of cost of capital for the relevant domestic services in Qatar than for “actual” values for an irrelevant service mix. QNBN acknowledges that arriving at the relevant drivers of cost of capital for the relevant domestic services in Qatar might involve greater effort. However, the effort required should not be avoided on the basis of an erroneous assumption that a domestic scenario would be “hypothetical”.

Fourthly, in its concluding comments, ictQatar states that a “domestic-only” scenario is “too remote from the reality of Qtel Qatar with respect to its supply of capital finance.” That may be true, but it is largely irrelevant. Given the disproportionate share of Qtel operations that are generated abroad it is likely that the “reality” of the supply of capital finance to Qtel is less related to the Qatar telecommunications service market. ictQatar should be focused on the appropriate WACC for services supplied under imperfect competition in Qatar, not what appears to be the appropriate WACC for Qtel international generally.

Fifthly, this situation, in which the profile of the services for the WACC diverges from the profile of service provider, is not so unusual. In this context, we cannot agree with ictQatar that this issue has been “overlooked in Europe”. The fact is that most of the WACC studies in those jurisdictions where the dominant operator has a minority of its invested capital in the domestic market (e.g., Norway or Sweden) are replete with robust benchmarking that ensures that the dominant operator’s international investment structure would not distort the result for domestic application of the WACC. Another example of the recognition of such divergence is that of Cable & Wireless, an international company that provides services in many countries and in many markets for which it has been deemed dominant. In most cases, the equity and debt of the local operation is either not traded or is done so in thin markets. In regulatory proceedings in these countries, the regulators have not chosen to measure Cable & Wireless’s group WACC, but rather that of the domestic operation and rely on a robust set of benchmark comparator companies.

Finally, we find ictQatar’s other justification for a Wider Group scenario weak. On page 16, it states that the wider-group scenario assumes that “an efficient Qatari operator is bound to diversify internationally”. Even if this is true, it has little, if anything, to do with the relevant operator profile for application of the WACC. The WACC is to be applied to Qtel’s *domestic* services.



Question 1.2

Respondents are invited to provide reasoned comments on the proposed application of a single business-wide WACC value.

We disagree with the approach of a single business-wide figure. ictQatar gives two reasons for its adoption of a single business-wide WACC value in its First CD (page 10):

1. "Separating the assets even to fixed and mobile is overly complex due [to] the common usage of many items," and
2. "Qtel will typically borrow on the capital markets for its entire business and not for specific business segments, and certainly not for individually-regulated segments."

We do not believe these arguments are reasons enough for ictQatar to avoid taking into consideration the different risk profile of services to which it applies the WACC.

Clearly, the riskiness associated with some groups of services or businesses is markedly different than that of others. It is common practice among regulators to disaggregate the cost of capital among service categories. Qtel should be thought of as comprising a number of separate businesses—domestic mobile, domestic fixed retail and domestic fixed interconnection/wholesale—rather than one. This is, of course, the kind of disaggregation that accounting separation attempts to proxy and so is particularly relevant given the application of the WACC within the RAS. Each of these businesses face different competitive challenges and therewith different risk. Among these categories, fixed interconnection and infrastructure access, what we will refer to as fixed infrastructure services, are accepted as having the lowest risk.

While we would agree that the risk difference between fixed and mobile services has been closing over time, there is no evidence that access to passive infrastructure, which displays utility type risk is becoming comparatively more risky or more similar to other aspects of the business.

Again QNBN reiterates its view that simply because greater effort would be required by ictQatar to adopt separate WACC's does not provide sufficient justification for undertaking the appropriate exercise.

Furthermore, the practice of differentiating WACCs is more typical than ictQatar suggests. In addition to being common practice in Europe, recent TRA determinations in the UAE and Oman¹ have differentiated WACCs.

There are a number of ways that the WACC can be adjusted to reflect the lower risk for fixed infrastructure services. As discussed below in the UK, Norway and Sweden regulatory authorities have used differentiated betas to capture this differential risk. Elsewhere (e.g., Jamaica) differentiated gearing has been used by the regulator. Bahamas used pure or close to pure-play comparators for measuring separate WACCs.²

¹ ictQatar information on the UAE and Oman experience appears to be outdated (source from a 2010 study).

² See <http://www.urcabahamas.bs/download/021373300.pdf>



With respect to recent experience in the United Kingdom, Ofcom detailed its approach in its August 2005 statement, "Ofcom's approach to risk in the assessment of cost of capital". Ofcom used the betas of UK network utilities and US incumbent local exchange companies in its analysis for access network services. Ofcom confirmed this approach in its 2009 statement on the cost of capital for services provided by BT's network service provider, Openreach. In its latest cost of capital consultation 2011/12, Ofcom has yet again reaffirmed the approach. It first estimated a range for the BT Group asset beta of between 0.45 and 0.60. It then examined comparable UK network utilities and determined the asset beta for Openreach would be 0.05 lower than for BT Group. The range for Openreach's asset beta (i.e. 0.40- 0.55) was above the top end of the network utility range of asset betas, and consistent with Ofcom's belief that Openreach is more risky than a pure network utility. This asset beta range translated to an equity beta range (assuming 50% gearing) for Openreach of 0.68 – 0.98.

In Norway and Sweden, the fixed line beta was derived by calibrating the relevant company's business segment betas and conducting a regression analysis of other telecom operators' asset betas against their business segment shares.³

QNBN strongly recommends that ictQatar to apply to fixed infrastructure services a WACC lower than that for the overall company-wide to reflect the significant lower risk that is involved with the provision of such services. We discuss in our response to Question 1.10 a conservative approach to capturing this lower risk in the fixed infrastructure WACC.

Question 1.3

Respondents are invited to provide reasoned comments on the validity of the CoC value.

We provide our comments to the validity of the CoC value under Question 3 below.

Question 1.4

Respondents are invited to comment on the gearing level to apply in the WACC calculation. Alternative approaches should be justified. Respondents are also invited to comment on a reasonable range of gearing. The solidity of the data used to define the optimal levels should be clarified and data should be supplied.

As discussed above, ictQatar has opted for a "Wider Group" scenario over a "Domestic" scenario for calculation of a number of WACC inputs. Within its Wider Group scenario it has two variants: a "Qatari" variant and a "Group" variant. With respect to gearing, ictQatar uses a rough average of Vodafone's gearing and a slightly adjusted Qtel gearing for its Qatari variant and an unadjusted Qtel gearing for its Group wide variant. We do not believe either of these approaches is very robust.

As we have already indicated above, we do not believe the Qtel Group approach is preferable to the Domestic scenario. By focusing on a set of benchmarks of firms that provide domestic services of the type that we are seeking to apply the WACC to, instead of limiting ourselves to Qtel-like firms, we can obtain a

³ See "Cost of Capital Norwegian Fixed Line Telecom", Thore Johnson, 29 January 2010 and "WACC for the fixed Telecommunications Net in Sweden, Copenhagen Economics, 26 October 2007.

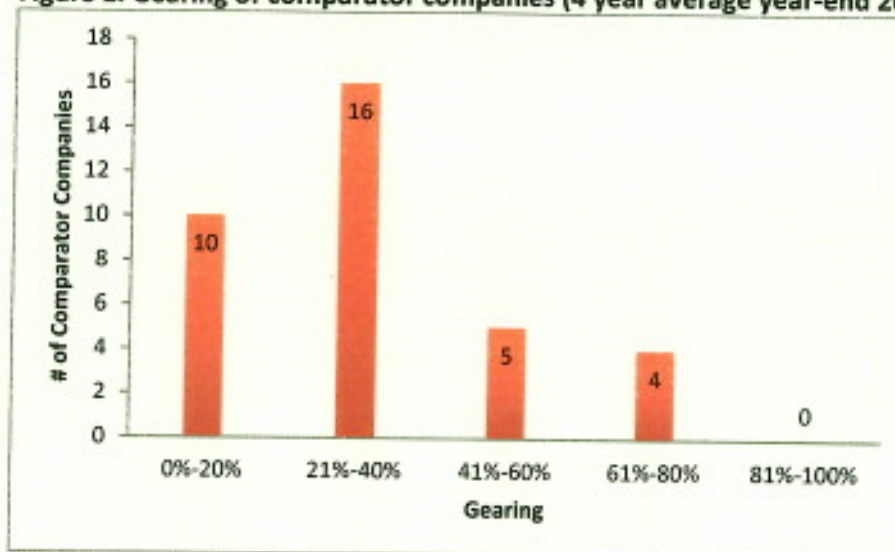


more robust set of international benchmarks which is a more reliable and fairer approach. Reliability and fairness should be guiding principles for ictQatar in arriving at both the gearing level and the appropriate WACC in general.

Using Damodaran's last four years of data (the most recent being January 2013), we find an average gearing of 30% for integrated telecommunications companies of type representative of Qtel's domestic service profile. In choosing these companies we have excluded those that have a minority of revenues outside of their home markets, e.g., Telenor, Teliasonera and Deutsche Telekom. In Figure 1 below we present the distribution of those gearing results. See Appendix 1 for more details. Recent regulator WACC studies have found a gearing in the region of 30%-55% to be appropriate for integrated telecommunications companies.⁴ Thus, we find that co-incidentally there is evidence for a 20% to 45% gearing spread consistent with ictQatar's "Qatari variant" and "Group variant".

QNBN believes that a range of 20%-45% appropriate for the calculation of Qtel's WACC.

Figure 1. Gearing of comparator companies (4 year average year-end 2009-2012)



⁴ See, for example, the gearing for samples in integrated telecommunications companies in the September 2012 Malta Communications Authority study and July 2012 UAE's TRA study.



Question 1.5

Respondents are invited to comment on the appropriate method and the relevant data to defining the risk free return rate appropriate to Qtel. Please explain the logic and the data sources and how they are used.

We can accept ictQatar's proposed yield on the Qatari government bond for a risk free return. As ictQatar notes:

1. "assets under consideration are denominated in QAR, it is more straightforward to estimate the risk free rate on these government bonds' yields"; and
2. "the market for its AA rated government bonds is liquid enough to allow for robust risk-free estimates based on their yields".

We note, however, that ictQatar's approach is somewhat at odds with its very own discussion of the marginal investor or "reference market". If, as ictQatar correctly argues at pages 23 and 24, the representative investor for this exercise is the international, "globally diversified institutional" investor, the risk-free rate should be one which is risk-free in an international context. Therefore, strictly speaking, the risk-free rate should be an instrument like a 10-year US treasury bill, for example, and the Qatari premium should appear as country specific risk.

Question 1.6

Respondents are invited to define the additional appropriate debt risk factors and how they can be defined. Please explain the logic and the data sources and how they are used. Proof that the factors are not included in other parameters are required.

We are generally in agreement with the range provided by ictQatar for the appropriate debt premium. ictQatar highlights the fact that Qtel's high rating is associated with "its strong backup funding source (government of Qatar)". We note that this would certainly be the case in either a "Domestic" or "Wider Group" valuation scenario.⁵

Question 1.7

Respondents are invited to specify the appropriate market rate of return. Please explain the logic and why that method was chosen over others. The source data in a calculation should be supplied.

ictQatar proposes to use a weighted average MENA equity market return premium (EMRP). In particular, ictQatar takes the equity risk premia, in excess of Qatar's risk, for each country in the MENA index, then calculates a weighted average, based on overall equity market capitalization, of 0.8%.

QNBN strongly rejects this approach. First of all, QNBN does not understand what relevance the equity

⁵ We note that this is an additional reason why in neither scenario should Qtel be afforded a "small company risk premium" in the calculation of its cost of equity.



market risk of non-Qatar countries is in this context. We believe that, again, ictQatar should hold to its assumption that the international investor is the investor of relevance. Therefore, the equity market risk premium is a) the general risk required of an investor to invest in an opportunity outside of the risk-free instrument, plus b) the additional risk involved in investment in a Qatari equity. There is no need for an additional non-Qatari equity risk element. To include such is to effectively increase the relevant Qtel services to pay the cost of an under-diversified investor.

QNBN finds it difficult to believe that the risk premium of Bahrain, Jordan, Oman and the KSA--let alone Egypt, Morocco, Tunisia, Lebanon--have any relevance to this analysis. The mix is puzzling, at best. Surely, the country specific risks in these equity markets are so different from that of Qatar that they do not merit consideration.

Secondly, this is a non-standard approach. We know of no other jurisdiction where a country specific EMRP is derived on the basis of estimates of markets of such heterogeneous countries.

We can accept ictQatar's US EMRP, but it should not add a risk element incremental to the Qatar specific risk. Thus, based on ictQatar data, the EMRP should be between 5.5% and 6%, not 6.3% and 6.8%.

Question 1.8

Respondents are invited to specify the appropriate methodology and the data that defines the beta value correctly.

The objective in estimating an appropriate beta for Qtel is to capture its systemic risk associated with the equity funding of its operations. As we have argued above, we believe that the domestic operations are most relevant and a WACC based on this assumption will be more accurate. We believe that the beta, as the gearing, should be derived from benchmarking appropriate comparator organizations. In the data presented in Appendix 1, we see that the unadjusted betas of our comparator organizations from the recent Damodaran data are on average 56%.

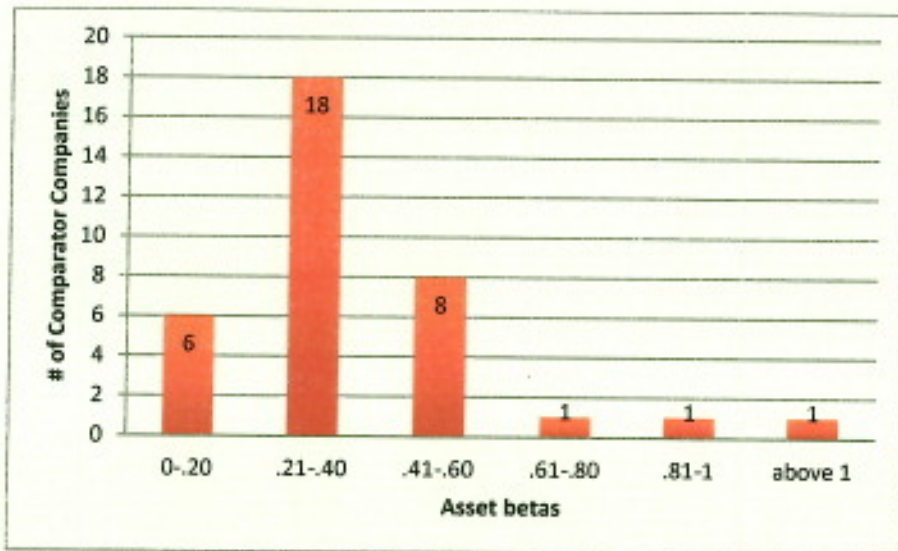
We believe that this is a superior approach to that chosen by ictQatar. ictQatar derives a Qtel equity beta on the basis of a 2-year weekly observations (January 2009-Sept 2011) and finds a raw beta of 0.75 in comparing Qtel share movement in relation to a MENA index. For the reasons enumerated above, we do not believe a Qtel share beta is appropriate for determining the WACC in this proceeding. ictQatar then modifies its 0.75 figure by applying a standard Blume adjustment. It does so in the interest of being "conservative". QNBN also disagrees with the use of a standard Blume adjustment. Firstly, we find it excessive in light of international practice, which as ictQatar itself notes, tends to reject the Blume adjustment.

Secondly, the chief reason for applying the adjustment is to correct for estimation error, which implies than an estimated beta that is far higher than the average is likely to be an overestimate of the true beta, and a very low estimated beta is likely to be an underestimate of the true beta. The Vodafone and ictQatar raw equity beta estimates would not appear to exhibit extreme observations, so the justification for any adjustment is exceedingly weak and inappropriate.



Finally, we note that there are already elements of the WACC calculation that include a likelihood of overestimation, e.g., survivorship bias within the EMRP⁶ and the fact that betas based on relationship with regional markets are likely to be higher than in relation to global market movements. QNB respectfully submits that ictQatar need not be seeking out additional ways to “pad” the cost of equity.

In figure 2 below we present the asset beta derived from Damodaran data (presented in more detail in Appendix 1). We find that an asset beta range of 0.20 to 0.40 is more reasonable than ictQatar’s proposed range of 0.45 to 0.60.⁷



Question 1.9

Respondents are invited to specify the appropriate methodology and the relevant data and sources data that define a correct effective tax rate. This includes a justification of a zero value if this is deemed appropriate.

As noted in our response to question 1.1, in the traditional case, a tax shield is implemented in the cost of debt as tax payments are lowered because interest payments are deductible. ictQatar is considering two tax scenarios: a 2.5% tax associated with Daam (the Qatar social and sports activities support fund) and a 21% tax rate associated with corporate taxes outside of Qatar. We would agree that under the tax associated with the Daam, payments are not impacted by the expenses associated with debt. Thus, there is no relevant tax-shield. Under the 21% scenario, however, we believe that the traditional tax-shield function would be in play and therefore should be included if this “ex-Qatar” corporate tax is used.

⁶ Survivorship bias means that equity market risk premia derived on the basis of historic information on returns do not reflect the results of those firms that have failed or exited the market.

⁷ We note that Co-incidentally, the Damodaran mean of 0.36 is very similar asset beta as ictQatar’s Qtel asset beta, 0.39.



That said, true to our view that the Domestic scenario is the more relevant scenario for Qatar, we do not believe the 21% tax rate should be introduced into the calculation. The Group wide tax rate is simply not relevant to the calculation of a WACC for Qtel's domestic services.

Question 1.10

Respondents are invited to comment on the overall approach for combining values and obtaining a single result for use for regulatory decisions. This includes additional commentary on each parameter and the related analysis-data that is submitted.

QNBN submits its view that, in consideration of the foregoing, ictQatar's estimate for the business-wide WACC is inflated and seriously needs revision. Whereas ictQatar has put the range for the business-wide pre-tax nominal WACC at 8.45%- 9.58%,⁸ QNBN believes that the range should be between 6.18%-7.43%.

Furthermore, as discussed in our response to Question 1.2, QNBN believes that ictQatar must consider two ranges as more appropriate: one for fixed infrastructure services; and one for other Qtel services. QNBN believes that, consistent with practice in other jurisdictions, those ranges should be determined on the basis of differentiated betas. In particular, we propose that ictQatar use the low end of the estimated asset betas for fixed infrastructure service WACC and the high end for Qtel's other services. As illustrated in our table in the conclusion, this implies that the range for the pre-tax nominal WACC for fixed infrastructure services is 6.18%-6.19%, and the range for the pre-tax nominal WACC for other services 7.31%-7.43%.

If ictQatar is focused upon accuracy and fairness in arriving at a correct WACC and its application QNBN respectfully submits that the suggested levels for both Qtel fixed infrastructure and other services be adopted.

⁸ We note that this is the range that is given on page 59 of the Second Consultation Document. However, the table in section 4.3 appears to have some mathematical errors that need to be corrected. For example, the "Qatari" and "Group" cost of debt are the same at 5.4%, yet the debt premia are different. Also, we were unable to replicate ictQatar's pre-tax WACC using the standard formula. This latter issue may have more to do with the tax treatment of input elements, which, as we indicate to our response to Question 1.1, needs to be more transparent in the presentation of ictQatar's analysis and results.



Question 2

Have respondent any general questions to this CD?

QNBN has no additional comments beyond those introduced in its response to the other questions in the Second CD. However, as a part question, QNBN would appreciate that ictQatar, in its ultimate Decision, point out any disagreements it may have with QNBN's analysis and assessments submitted herein.

Question 3

How long should the WACC have validity?

We believe the WACC should have validity for a period that comports with its application to services. For example, if tariffs in reference interconnection or access offers are expected to last for four years, the WACC should be valid for a four-year period. This does not mean that a new set of WACCs should be generated every time a new RIO or RAO are produced but rather that ictQatar revise every four years to ensure that as RIO/RAO tariffs are produced or revised, the cost of capital is never too far out of date.

We also believe that it would be advisable for ictQatar to apply the rate generated in this consultation retrospectively to the upcoming revisions of previous years' separated accounts and only revised if issues arise requiring greater accuracy of historical results.

Conclusion

In the foregoing, QNBN sets out where ictQatar calculations are flawed, and how they should be modified by ictQatar. In the table below QNBN sets out the ictQatar's proposed calculation and QNBN's fairer and more accurate proposal.

Please note that in the shaded columns in the table below we have included what we understand to be ictQatar's proposed inputs to the WACC calculations. For the reasons cited in footnote 5, the WACCs derived from these inputs do not exactly correspond to ictQatar's proposed WACCs on page 59 of its Second CD.



	ictQatar proposed Qtel business wide - Qatari variant		ictQatar proposed Qtel business wide - Group variant		QNBN proposed - Qtel business wide		QNBN proposed - Qtel fixed infrastructure services		QNBN proposed - All Other Qtel services	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Cost of Equity										
Risk Free Rate=RF	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%
Equity Market Rate Premium (EMRP)	6.3%	6.80%	6.3%	6.80%	5.50%	6.00%	5.50%	6.00%	5.50%	6.00%
Asset beta	0.55	0.60	0.45	0.45	0.2	0.4	0.2	0.2	0.4	0.4
Equity Beta	0.69	0.75	0.82	0.82	0.36	0.50	0.36	0.25	0.73	0.50
Cost of Equity=RF+(Equity Beta*EMRP)	9.03%	9.80%	9.85%	10.26%	6.70%	7.70%	6.70%	6.20%	8.70%	7.70%
Cost of Debt										
Risk Free Rate=RF	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%	4.70%
Risk Premium=RP	0.50%	0.50%	0.70%	0.70%	0.50%	0.70%	0.50%	0.70%	0.50%	0.70%
Tax shield	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cost of Debt=(RF+RP)*(1-tax shield)	5.20%	5.20%	5.40%	5.40%	5.20%	5.40%	5.20%	5.40%	5.20%	5.40%
WACC										
Corporate tax rate	2.50%	2.50%	21%	21%	2.50%	2.5%	2.50%	2.50%	2.50%	2.50%
Gearing=g	20%	20%	45%	45%	45%	20%	45%	20%	45%	20%
WACC (post tax)=(1-g)*CE+(g*CD)	8.27%	8.88%	7.85%	8.08%	6.03%	7.24%	6.03%	6.04%	7.13%	7.24%
WACC (pre tax)=WACC post tax/(1-t)	8.48%	9.11%	9.94%	10.22%	6.18%	7.43%	6.18%	6.19%	7.31%	7.43%



Appendix 1. Betas and Gearing of Comparator Telecommunications Companies

Company	Unadjusted Equity beta	Market Debt / Capital	Asset beta
PCCW Ltd (Hong Kong)	0.297	60.32%	0.118
China Telecom	1.248	21.53%	0.979
Telstra Corporation Limited (Aust)	0.277	25.73%	0.206
BCE Inc (Canada)	0.329	31.04%	0.227
Telus (Canada)	0.538	30.01%	0.377
Telecom New Zealand	0.430	32.57%	0.290
KDDI Corporation (Japan)	0.557	32.90%	0.373
Telkom South Africa	0.315	37.34%	0.197
Telecom Slovenije	0.650	36.66%	0.412
Bahrain Telecommunications Company	0.096	3.08%	0.094
Pakistan Telecommunications Company	0.391	15.65%	0.330
Omantel	0.193	5.65%	0.182
Telecom Egypt	0.460	3.39%	0.445
du (UAE)	0.490	16.91%	0.408
Telekom Malaysia	0.071	30.57%	0.049
Telecom Argentina	1.210	5.54%	1.143
Etisalat	0.136	6.16%	0.128
Singtel	0.649	13.35%	0.563
Saudi Telecom Company	0.450	27.88%	0.324
Telekomunikarja Polska S.A.	0.341	22.46%	0.265
Turk Telekomunikasyon AS	0.415	19.05%	0.336
Iliad (France)	0.808	20.82%	0.640
Telecom Italia S.p.A.	1.066	71.73%	0.301
Koninklijke KPN N.V. (Netherlands)	0.435	52.77%	0.205
Swisscom AG	0.338	32.41%	0.229
Portugal Telecom, SGPS S.A.	0.776	63.75%	0.281
Hellenic Telecommunications Organization (Greece)	1.434	64.92%	0.503
Telekom Austria AG	0.887	50.94%	0.435
Magyar Telekom (Hungary)	0.651	41.08%	0.383
Telefonica Czech Republic AS	0.247	2.49%	0.241
France Telecom	0.736	53.31%	0.343
Belgacom SA	0.501	22.62%	0.388
Cable & Wireless Communications	0.726	50.14%	0.362
AT&T Inc	0.738	28.32%	0.529
Verizon	0.700	34.24%	0.460
Average	0.560	30.49%	0.364



Notes to Appendix 1:

Figures are four-year averages of Damodaran data from the individual company information spreadsheets at <http://pages.stern.nyu.edu/~adamodar/>.

Unadjusted equity beta corresponds to Damodaran's "Beta". According to Damodaran, his betas for US firms are estimated "by regressing weekly returns on stock against NYSE composite, using 5 years of data or listed period (if less than 5 years). If data is available for less than 2 years, the beta is not estimated." His betas for all other firms are "estimated by regressing weekly returns on stock against the local index". Damodaran uses "a composite of the two year regression beta and the five year regression beta, weighting the former 2/3rds and the latter 1/3rds". Where a company stock appears in both Damodaran's US and "local" equity markets, we have used the "local" beta result.

Market debt/capital is Damodaran's market value estimate of the debt ratio, obtained by dividing the value of debt of the company by the value of debt plus the market value of equity. He assumes that the book value of debt is roughly equal to the market value of debt.

Asset beta is the unadjusted equity beta multiplied by 1 minus the gearing, or the equivalent: raw equity beta divided by 1 plus the debt-to-equity ratio.

Definition of the relevant Cost of Capital for Qatar Telecom (Qtel) Q.S.C for the purposes of regulatory accounting

Consultation Document – Second Stage

Issued by ictQATAR 6 December 2012

Submission by Qatar Telecommunications (Qtel) Q.S.C

11 February 2013

Executive Summary

Qtel is pleased to provide its response to ictQATAR's *Response Document Consultation - Second Stage* with regard to the *Definition of the Relevant Cost of Capital for Qatar Telecom (Qtel) Q.S.C. for the purposes of regulatory accounting*, issued 6 December, 2012 ("Second CD"). This document does address the three new questions as set out in the Second CD, but also having reviewed the Second CD, it would seem appropriate for Qtel to update its 20 July 2011 submission ("First Response"), which was in response to ictQATAR's Public Consultation with regard to *Definition of the relevant cost of capital for Qtel Qatar (Qtel) Q.S.C. for the purposes of regulatory accounting*, dated 6 June 2011 ("First CD").

Qtel has developed an interpretation of the CAPM model for the determination of the Cost of Capital, which is better suited to the requirements as set out in the Second CD, as well as with the financial management practices of Qtel Group and an up-to-date view of financial market conditions. Qtel does, however, differ on the application of market measures and the resulting conclusions as to the sustainable Cost of Capital that should be used for regulatory purposes.

Qtel supports the view that regardless of the model for determination of the WACC there can be a) an objective to determine the costs as measured today (or a point estimate of the cost of capital at any given time) or b) an objective to determine the sustainable costs expected to prevail over a future period. Qtel is of the firm view that sustainable costs of capital can be determined ex-ante by reviewing current conditions in global capital markets against historical norms and by relying on economic relationships known a priori to exist fundamentally. Further, regulation should consider the forward-looking estimates of WACC. This point is particularly important in the current environment, given that costs of debt financing are at historically low levels, a situation that is likely to end soon and not likely to be repeated for some time. Any estimates of cost of capital based on current market conditions for debt financing are likely to reflect the extreme conditions that currently prevail and produce distorted outcomes as a result.

Current circumstances in debt markets are known a priori not to be sustainable but are indeed a consequence of strong alternative (Quantitative Easing (QE)) monetary measures (and the high belief in their continuance) pursued by the central banks of large indebted nations coupled with fiscal austerity measures undertaken by those nations designed to support growth in their private sector economies while their public sectors retrench. The balancing act is delicate and the outcomes are unknown, but a successful outcome would probably include a bias towards monetary policy stimulus for too long and causing inflationary pressures to build (underestimating output gaps and NAIRU). This outcome and the subsequent withdrawal of current policy measures would trigger upward revisions to bond yields globally. An upside overshoot is a distinct possibility. Perhaps a higher than realized probability should also be attached to a failure of policy, in which case deflationary pressures triumph and economic recovery stalls. Fear of defaults then become a

factor driving a move to higher yields globally. The middle ground is a narrowing corridor; yields must soon be heading higher.

Qtel can point to professional opinions of debt fund managers and monetary economists that are in accord with this view. Managers of very large debt funds are already positioning those funds for higher yields. Institutionally, Qtel shares the view that yields will be heading higher in the near future and is raising funding at far longer terms than usual. Qtel aims to extend its debt profile as much as reasonably possible and has recently issued 15 year and 30 year debt. Qtel aims to lock in these extraordinary debt costs for as long as possible. There is a near term higher cost than might be achieved with shorter term funding today, but Qtel believes its recently issued 30 year debt is at a lower cost than 10-year US Treasury notes will be in a few years time. Qtel plans for the long term when it reviews its capital structure and asks that regulation makes due consideration for probable future outcomes, both in capital markets and for risks in the telecoms industry.

Qtel updates the previous summary comments as follows:

- **More than one cost of capital is appropriate, relevant and practical**

Qtel notes that there can be an approach to derive different WACC for different business lines. However, in view of convergence between the different business segments, Qtel can accept a single business wide WACC provided this reflects the risks encompassed. However, Qtel may wish to reconsider this view at some appropriate point in the future.

- **A minimum rate of return – not rate of return regulation**

Qtel emphasizes that WACC is actually a misnomer. It is in fact a blend of a cost (of debt once issued) and a required return (of equity investors). The previous comment that any regulation derived from determination of the WACC needs to take into account the need to incentivize investment remains valid. To the extent that providers of capital are forward looking and take account of changing risks and opportunities they expect the enterprise to undertake, regulation (and in particular wholesale price regulation of more risky infrastructure, such as FTTx) needs to reflect this fact. More capital is provided (or not) depending on the perceptions of these risks and the price of capital is determined most often by the marginal providers of such capital. Any increase in uncertainty of return begets a higher demand of return by those providers.

- **Important to reflect actual market and operator circumstances**

Qtel's opening comments here reinforce the view expressed in First Response. Qtel supports direct measurement of market parameters rather than benchmark or "building block" approaches. However, it should be noted that wholesale interference in debt markets, as is occurring at present, can require some judgment in stripping out temporary or distorting effects on normal market clearing. Current market bets are probably more a statement of belief in the power of central banks, their policy effects on asset prices and willingness to continue than a belief in the "value" of assets themselves.

- **The opinions of all "stakeholders" are not equivalent**

A sustainable WACC determination for all is required.

Qtel view of ictQATAR proposed pre-tax nominal WACC range and components

ictQATAR proposes to set a pre-tax nominal WACC range of 8.4% - 9.6% for both fixed and mobile telecommunications services regulated in Qatar.

Qtel calculates the pre-tax nominal WACC existing as of January 31st 2013 to range between 9.97% and 11.27%, based on verifiable parameters.

Qtel views the sustainable medium term (3 – 7 years) pre-tax WACC for both fixed and mobile telecommunications services regulated in Qatar to range between 12.10% and 13.02%.

Qtel strongly believes that regulation must be based on sustainable medium term WACC rates and not snapshots in time. Qtel recognizes the range of 12.10% - 13.02%. A single WACC rate for telecommunications services in Qatar is most probably towards 13.02%.

These values are based on the following key findings and considerations:

- The QE Index (DSM Index) as the reference market
- Current RF based on Qatar 10yr bond yield of 2.92%, sustainable Qatar RF estimated at 6.54% (US sustainable RF estimated at 4.4% + sustainable Qatar default spread estimated at 2.14%)
- Current Qatar EMRP of 12.38% and sustainable EMRP of 8.76% (derived as the Qatar Expected Market Return (forward year expected dividend yield + Qatar Trend Earnings Growth) less the respective RF rates.
- Current gearing assumption for Qatar operations of 35% and sustainable gearing assumption of 25%.

- A current and future assumed default spread of 1.1% for Qtel bonds over the Qatar 10 year yield. Inclusive of new issuance spread and costs.
- Current leveraged Beta of 0.8 as a blend of 5 years monthly and 2 years weekly Betas with 1/3rd weight given to the weekly Beta or the weekly Beta of 0.96. Sustainable Betas re-gearred for the different assumption and are 0.77 and 0.90 respectively after de-gearing utilizes a debt Beta based on sustainable EMRP and debt spread.
- Tax rate of 2.5% is used throughout.

Commercial confidentiality

Qtel has provided ictQATAR with extensive comments, supported where necessary by underlying data, in response to all the questions posed by the Consultation. While Qtel has no objection to providing such information to ictQATAR and its advisors in commercial confidence, it is understandably reluctant to have such market price-sensitive information placed in the public domain via ictQATAR's website. As a result, and in accordance with the Consultation instructions, Qtel has submitted a redacted version of its response comments to ictQATAR and trusts that its request for commercial confidentiality will be observed. For simplicity, the redacted version is limited to the comments contained within this Executive Summary.



28 January 2013

Graeme Gordon
Assistant Secretary General
Regulatory Affairs
ictQATAR
P.O. Box 23264
Doha, Qatar

Cc: Rainer Schnepfleitner

Dear Graeme

Consultation on Weighted Average Cost of Capital (“WACC”) Response Document

Vodafone Qatar Q.S.C. (“Vodafone”) refers to the abovementioned response document and ictQATAR’s request for further comments on the response document dated 10 December 2012.

We note that ictQATAR recommends a WACC range broadly similar to that proposed by Vodafone in our submission dated 19 July 2011 (attached). As such, Vodafone is broadly comfortable with the conclusions expressed in the response document.

We welcome this step towards the completion of Qtel’s regulatory accounts.

Yours sincerely

A handwritten signature in blue ink, appearing to be 'JK' followed by a flourish.

Julian Kersey
Head of Regulatory

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