



Determining the cost of capital for the UCLL and UBA price reviews

Submission | Commerce Commission

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Contents

Executive Summary	1
Introduction	3
Importance of WACC as an input into TSLRIC prices.....	3
Further consultation and independent expert advice to the Commission.....	3
Cost of capital IMs as starting point.....	3
Amendment to the selection of WACC percentile used in the IMs	6
Selection of WACC percentile for UCLL and UBA.....	7
Estimating parameters	8
Application of a term credit spread differential	8

Executive Summary

Telecom welcomes the opportunity to provide comments to the Commission on its technical consultation paper *Determining the cost of capital for the UCLL and UBA price reviews*, (“WACC Paper”). We provided some comments on these issues in our submissions and cross-submissions on more general aspects of the price review processes. We asked PricewaterhouseCoopers to prepare a report for us on some technical aspects of the WACC Paper. Their report is attached to this submission.

We agree that the estimation of the regulatory weighted average cost of capital, (“WACC”) is one of the key inputs in the estimation of prices determined in accordance with a TSLRIC final pricing principle and consistent with the definition of TSLRIC to be found in Schedule 1 of the Telecommunications Act.

Estimating debt and equity parameters

We think it appropriate at this stage for the Commission to consult on the methodology and approach rather than on any specific parameter values. This is because the specific parameters will impact on and to some extent reflect modelling assumptions. We also note that there will be further consultation both on specific parameters selected for use in each of the UCLL and UBA FPP models, and on a range of issues in respect of which the Commission has not yet formed a preliminary view. In respect of the latter set of issues, we think it appropriate for the Commission to take independent expert advice. As noted below, the Commission’s decision on WACC will represent estimates only of the forward looking cost of capital for use in the UCLL and UBA FPP models

Cost of capital IMs as starting point

As noted in our submission on the UCLL FPP Process and Issues Paper, we agree that the Cost Of Capital Input Methodologies, (“IMs”) developed and referred to by the Commission form an appropriate starting point when estimating WACC for the UCLL and UBA FPP processes. It is also common ground that some of the parameters required to estimate WACC are industry specific, while others reasonably apply across all industries.

Additionally, although we note some issues which should not be lost sight of, we do agree that the simplified Brennan-Lally capital asset pricing model is an appropriate and practical means to estimate the cost of equity.

Dealing with the “leverage anomaly” and the approach to zero debt betas

We think the Commission’s approach to estimating leverage as set out in the WACC Paper represents a pragmatic solution. In relation to the estimation of the cost of capital for the UCLL and UBA FPP models, the Commission should follow the approach used in the WACC IM. Services specific notional leverage should be based on leverage from a sample of comparator companies. If for some reason this is not possible, using any leverage assumption other than that of the comparative firm sample would bias the estimate of the cost of capital. In this latter case non-zero debt betas should be used to minimise the impact of the “leverage anomaly”. The approach used by

the Commission to manage the “leverage anomaly” in the IM process would be appropriate in relation to the UCLL and UBA FPP processes.

Selection of WACC percentile for UCLL and UBA

For the reasons set out in detail below, we do not believe that a firm position can be taken on the adoption of either the median (50th percentile) or the upper quartile boundary (75th percentile) in selecting a point for the estimated WACC applicable to the UCLL and UBA FPP models.

PricewaterhouseCoopers advise that the difference between issues arising in the two FPP processes and the WACC IMs mean that the Commission should not need to use the same point selection approach as the WACC IMs, or any decision on this issue arising from the current consultation on WACC IM point selection. In this context, the rationale for selecting a regulatory WACC above the median of the range of estimates appears less compelling. We suggest that the Commission not limit itself to a particular approach, but seek evidence and exercise its judgment on the trade-off between the impact on investment and the welfare cost.

Application of a term credit spread differential

We have asked PricewaterhouseCoopers to comment on the possible need for a term credit spread differential, (“TCSD”) in relation to the UCLL and UBA FPP processes. They advise that in their view although the premise for the TCSD is valid, a better approach in estimating WACC for the UCLL and UBA FPPs would be to continue with the approach adopted in the 2006/2007 and 2007/2008 TSO Determinations. This approach was to take a prudent borrowing term and make allowances to match costs to the regulatory period. We suggest the Commission continue to apply this practice in the price review processes.

Introduction

1. Telecom welcomes the opportunity to provide comments to the Commission on its technical consultation paper *Determining the cost of capital for the UCLL and UBA price reviews*, (“WACC Paper”).
2. Please see attached to this submission a report prepared for us by PricewaterhouseCoopers dealing with a number of technical issues. We note from paragraph 2 of the WACC Paper that the Commission is seeking independent expert advice on industry specific estimates of various parameters required to apply the simplified Brennan-Lally CAPM model in relation to the UCLL and UBA final pricing principle reviews, (“FPP reviews”). We look forward to the opportunity to review and comment on these issues.

Importance of WACC as an input into TSLRIC prices

3. We agree that the estimation of the regulatory weighted average cost of capital, (“WACC”) is one of the key inputs in the estimation of prices determined in accordance with a TSLRIC final pricing principle and consistent with the definition of TSLRIC to be found in Schedule 1 of the Telecommunications Act.

Further consultation and independent expert advice to the Commission

4. We think it appropriate at this stage for the Commission to consult on the methodology and approach rather than on any specific parameter values. This is because the specific parameters will impact on and to some extent reflect modelling assumptions. We note that there will be further consultation both on specific parameters selected for use in each of the UCLL and UBA FPP models, and on a range of issues in respect of which the Commission has not yet formed a preliminary view. In respect of the latter set of issues, we think it appropriate for the Commission to take independent expert advice.

Cost of capital IMs as starting point

5. As noted in our submission on the Commission’s UCLL FPP Process and Issues Paper, we agree that the Cost Of Capital Input Methodologies, (“WACC IMs”) developed for industries regulated under Part 4 of the Commerce Act form an appropriate starting point when estimating WACC for the UCLL and UBA FPP processes. PricewaterhouseCoopers, in the attached report also agree on this point.
6. It is also common ground for the purposes of estimating cost of capital for the two FPP processes that some of the parameters required to estimate WACC are industry specific, while others reasonably apply across all industries. In the absence of any specific WACC guidelines for the telecommunications industry, we urge the Commission to consider the use of the WACC IMs on a case by case basis when estimating WACC for new regulated services.
7. As noted in paragraph 178 of our submission on the Process and Issues Paper, we agree that the simplified Brennan-Lally capital asset pricing model is a reasonable basis on which to

estimate the cost of equity. Paragraphs 39 and 40 of the Commission's WACC Paper note our comments.

8. In determining the estimate of WACC for use in the UCLL and UBA models the Commission is called on to exercise its judgment. We suggest that it would be appropriate for the Commission, in exercising its judgment when setting the regulatory WACC(s) for the UCLL and UBA FPP processes, to keep in mind some issues. These issues arise where the pragmatism of using the simplified Brennan-Lally model means that it may not completely reflect factors which influence WACC. As a result we think that the Commission's exercise of judgment should reflect a consideration of the source and accuracy of input parameters, the range of estimates available, model related issues and the need to manage risk. We note a few issues which we believe the Commission should take into account in exercising judgment:
 - a. Chorus, like many other listed New Zealand firms has both New Zealand and non-New Zealand shareholders. New Zealand firms seeking both debt and equity funding face markets which are, and are increasingly, substantially integrated internationally. Ideally this would be appropriately reflected in the estimates of the cost of equity and WACC including recognition of imputation credits and other particular features of the New Zealand tax system and its treatment of domestic and offshore debt and equity investors respectively. These concerns have been already been canvassed by the Commission and stakeholders in a range of consultation processes, and we note this here merely to remind the Commission.
 - b. At the present time, we agree that proposals for international CAPM based models for estimation of WACC are still not sufficiently developed to form a prudent basis for regulatory rate setting. Accordingly, practice in New Zealand, Australia, and similar markets, together with the current state of empirical research supports the use of a CAPM based model, with appropriate treatment of the New Zealand tax system. The simplified Brennan-Lally model accordingly makes the practical assumption that it is modeling New Zealand firms as a segmented market, rather than modeling more fully the complex tax treatment of non-resident and resident investors.
 - c. As PricewaterhouseCoopers note the "low beta" anomaly of the classical CAPM is exacerbated by using the simplified Brennan-Lally model. We think the Commission should remain open to adjustments to this model or the use of other models in light of this issue, but only in circumstances where it can be shown to be justified.
 - d. As the Commission is aware from past practice in this area, where there are few or no comparable listed firms available in the New Zealand market place, it is also appropriate to consider evidence from comparable listed firms in other jurisdictions. In some circumstances, where there are still an insufficient number of comparable firms to provide a sufficiently large benchmark sample, the Commission will need to consider other options. Paragraph 26 of PricewaterhouseCoopers' report discusses this issue in relation to beta estimates for example.

- e. This represents a practical solution which it is appropriate for the Commission to use in developing a regulatory WACC estimate for services in the telecommunications industry. Nonetheless, we urge that caution should be used when taking estimates for parameters such as, for instance, leverage, beta estimates or debt and equity premia for comparable companies, from markets other than the New Zealand market. One reason for exercising caution is that a number of the parameters will have interdependencies with other parameters or endogenous factors. A second reason is that some parameters may require adjustments to improve comparability, or for consistency with New Zealand market issues.
9. Particularly if the Commission keeps matters such as these in mind, we think the simplified Brennan-Lally approach, despite its recognized imperfections, is a reasonable basis on which to base estimates of WACC for regulatory purposes.

“Leverage anomaly”

10. In paragraph 42, the Commission seeks our views on the related matter of the “leverage anomaly” inherent in the simplified Brennan-Lally model. The result suggested by the simplified Brennan-Lally model suggest that WACC is always a increasing function of leverage, and that optimal leverage is accordingly to fund a firm with 100% equity.
11. The firm’s WACC in practice is arguably dependent on complex interaction between a number of interdependent factors:
- a. the risk-free rate, debt premium, and debt beta;
 - b. the generation of imputation credits based on the firm’s marginal tax rate, and the tax treatment of domestic and offshore debt and equity holders respectively,
 - c. the level, risks, and changes in availability, of the non-debt and debt tax shields, and changes in default risk at different debt levels.
12. In actual fact, observed firm market value in New Zealand and elsewhere appears to be concave in leverage, and by implication, is optimized within a particular financial market where the equity component of a firm’s actual capital structure approaches a firm or industry specific target levels or bands of equity funding. The fact that even accounting for New Zealand tax issues still generates results which violate the Modigliani-Miller assumption of capital structure irrelevance suggests to us that the simplified Brennan-Lally model does not completely reflect the “real world” in this respect.
13. In paragraph 40 the Commission suggests that the simplified beta leveraging formula should be used, assuming a debt beta of zero. The reasons for this choice, are set out in detail in the December 2010 Input Methodologies Reasons Paper referred to by the Commission. We agree with Dr. Lally that assuming a debt beta of zero is one of several co-factors which increase the impact of the “leverage anomaly”.

14. For regulatory purposes, we can accept the conclusion reached in the IM Reasons Paper in paragraphs H3.60-H3.61 in relation to the telecommunications sector. Nonetheless, we have concerns that the estimation of a notional leverage for Chorus may bias the estimate of the cost of capital if the simplified Brennan-Lally CAPM is to continue to be used with an assumption of a debt beta of zero.
- a. The Commission notes that there are practical difficulties in estimating debt betas, that most regulators do not use them, and that most submissions continued to prefer that they not be used. Notwithstanding this, reasonable debt beta estimates are likely to be attainable, at least within plausible ranges. We can acknowledge that it may be pragmatic for the Commission to assume a debt beta of zero, notwithstanding the influence on the leverage anomaly. We would prefer the Commission to explicitly consider the material impact of using a non-zero debt beta and make a judgment as to their use in relation to telecommunications estimates of cost of capital for the UCLL and UBA FPP processes.
 - b. In that paper, the Commission canvassed the reasons, potential solutions, concerns expressed by stakeholders, and proposed a leverage level of 44% for the electricity and gas pipeline businesses based on a service specific notional leverage based on leverage from a sample of comparator companies. As noted above and in the IM Reasons Paper, the leverage assumption for a notional service provider should be estimated based on market values of comparable firms.

Chorus' actual leverage should not be used

15. As noted in paragraph H3.63 of the IM reasons paper, it would not be appropriate to use the actual leverage for Chorus. Additionally, in the context of the definitions of TSLRIC and forward looking common costs set out in the Telecommunications Act, we think it clear that the UCLL and UBA FPP models require consideration of cost of capital estimates relevant to the service specific leverage rather than Chorus's whole-of-enterprise leverage.
16. For the reasons set out below, we think the Commission's approach to estimating leverage as discussed in paragraph H3.61 represents a pragmatic solution. In relation to the estimation of the cost of capital for the UCLL and UBA FPP models, services specific notional leverage should be based on leverage from a sample or comparator companies.
17. Using any leverage assumption other than that of the comparative firm sample would bias the estimate of the cost of capital. Were this to be the case, we agree that non-zero debt betas (one of the solutions to the "leverage anomaly" proposed by Dr. Lally in the IM Reasons Paper) would have to be introduced to the simplified Brennan-Lally CAPM approach for the reasons set out, and to avoid the risks discussed, in the IM Reasons Paper.

Amendment to the selection of WACC percentile used in the IMs

18. The Commission recently issued a consultation document *Invitation to have your say on whether the Commerce Commission should review or amend the cost of capital input*

methodologies. This consultation followed the High Court's comments on the Commission's practice of setting the allowed rate of return for parties regulated under Part 4 of the Commerce act with reference to the 75th percentile of the range of WACC estimates.

Selection of WACC percentile for UCLL and UBA

19. In the WACC Paper and in relation to the telecommunications sector the Commission raises this specific question in relation to the UCLL and UBA FPP WACC estimation process. Paragraphs 97 to 106 set out the background and specific questions. For the reasons set out below, we do not believe that a firm position can be taken on the adoption of either the median (50th percentile), the upper quartile boundary (75th percentile), or any other point in the range in selecting a point for the estimated WACC applicable to the UCLL and UBA FPP models.
20. We suggest that the Commission not limit itself to a particular approach, but seek evidence and exercise its judgment on the trade-off between the impact on investment and the welfare cost. This would be one aspect of the way in which the Commission can manage risks in the estimation process.

High Court's approach focuses on evidence

21. The High Court's comments on the Commission's established practice in the IM process focus attention on the importance for the Commission to consider an evidence-based approach to selecting the optimal point within the range of WACC estimates. The optimal level of WACC would balance the asymmetric costs of setting the estimated WACC too low and chilling incentives to invest and innovate, against the costs of setting it too high resulting in prices which result in welfare losses. As PricewaterhouseCoopers make clear in paragraph 34 of their report, the differences between application of the WACC IMs to the Part 4 regulated businesses, and the application of the UBA and UCLL pricing models under the Telecommunications Act should drive a difference in the approach to selecting a point in the range. The Commission's decision on this issue in the UCLL and UBA FPP processes should in our view be evidence based, and would also need to be considered in light of the FPP pricing model(s) and market circumstances.
22. In relation to the merits review process being carried out by the Court, it found that neither the Commission, advisors, nor stakeholders had provided evidence to support the selection of a point in the range.

Generic empirical evidence is limited

23. We note that there is significant conceptual analysis and abstract modeling simulations and some regulatory practice supporting the selection of a higher point within the estimated range. However we are not aware of any significant empirical support unequivocally demonstrating the size and degree of impact, or the duration of a reduction in investment. Equally, we note that there is limited evidence unequivocally demonstrating the size, degree of impact, and duration of welfare losses for end-users of telecommunications services.

24. PricewaterhouseCoopers also provide comment on this issue in paragraphs 32 to 35 of their report. We agree with them, for the reasons set out there, that in the context of the UCLL and UBA FPP reviews, the rationale for selecting a regulatory WACC above the median of the estimated range is less compelling.
25. In respect of estimating WACC in relation to regulated telecommunications services, we suggest that the Commission should assess the trade-off set out in paragraph 24 above, seek evidence from stakeholders through the consultation processes, and exercise its expert judgment under the Telecommunications Act in determining the selection of an estimate from the range of estimated WACC values.

Estimating parameters

26. PricewaterhouseCoopers provide comments on the Commission's proposed views as to the appropriate methodology for estimation of both pan-industry and industry specific parameters.
27. We draw the Commission's attention particularly to paragraphs 24 to 29 of PricewaterhouseCooper's report. These paragraphs provide some brief comments on the difficult issue of selecting appropriate estimates for asset beta. We agree that in order to mitigate the level of estimation error, the Commission's analysis should be based on a group of comparable firms. As noted above, and in PricewaterhouseCoopers' report, it may be necessary to draw estimates from a range of different sources, and use them subject to appropriate analysis.

Application of a term credit spread differential

28. We have asked PricewaterhouseCoopers to comment on the possible need for a term credit spread differential, ("TCSD") in relation to the UCLL and UBA FPP processes. They advise that in their view although the premise for the TCSD is valid, a better approach in the telecommunications sector would be to continue with the approach adopted in the 2006/2007 and 2007/2008 TSO Determinations. In those determinations, the debt margin was based on a prudent borrowing term, rather than the regulatory period, and allowance was made for swap costs and adjustments of the amortization of debt issue costs.
29. The Commission's past telecommunications regulatory practice used in the relevant TSO Determinations would be appropriate for use in the UCLL and UBA FPP WACC estimation processes. This approach provides a transparent solution to the problem which the TCSD adjustment is designed to remedy.