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Submission in response to the invitation to comment on the Commission's proposed approach to New Regulatory Framework for Fibre - Pat Duignan 21 December 2018

This submission is a personal submission, independent of any interested party.

It is provided in the hope that the analysis set out below will assist the Commission in arriving at decisions that are in the best long-run interest of end-users in markets for fibre fixed line access services (FFLAS) as required by the purpose statement of Part 6 of the Telecommunications Act 2001 (s 162).

The invitation to comment on the Commission's proposed approach to the new regulatory framework for fibre ("Framework Paper") covers a daunting range of complex issues. This submission does not attempt to cover most of the issues raised. Instead it offers comments on some issues in which I have particular expertise or experience. The submission first considers the application of a building blocks model (BBM) approach to a service where the supplier faces competition. It then examines the issues involved in determining the initial value of fibre assets including the determination of the financial losses incurred by the provider in providing FFLAS under the UFB initiative up until the implementation date of the relevant Part 6 regulation.

The application of BBM regulation to a service where the provider faces competition

Where a service provider regulated under a BBM framework faces competition, a variety of issues can arise.

In the medium term, ie the timeframe of a regulatory period, competition from fixed wireless access service (FWAS) for example could potentially result in substantial changes in the demand for FFLAS. In theory FFLAS can provide bandwidth that exceeds the capability of FWAS at any given time.[1] That capability, however, provides a comparative advantage to FFLAS compared to FWAS only to the extent that end users have a requirement for bandwidth higher than FWAS can provide at the relevant time. In particular the extent to which the introduction of 5G fixed wireless services could significantly slow the growth in demand for FFLAS connections is a key uncertainty.

The way competition between 5G FWAS and FFLAS plays out will be significantly influenced by the form and results of the Government's tendering of spectrum. The tendering process will affect the potential for and intensity of competition between competing FWAS providers which in turn will condition their competition with FFLAS.

In a longer term perspective, competition from FWAS or possibly currently unanticipated technologies could result in economic stranding of some assets that form part of the FFLAS asset base. The likelihood of economic stranding of the actual fibre links to residential premises would seem to depend on the requirement for increase in bandwidth tapering off. At present demand for faster links appears insatiable but the interest in ever-faster links could turn out to be temporary rather than continuing in the long run.

[1] This view is based on fibre being able to convey a higher frequency and intensity of electromagnetic transmission than wireless is able to convey. It is also relevant that some demand for FFLAS will likely be a component in the provision of FWAS under most scenarios.

Under a BBM regulatory approach an increase in the probability of economic stranding of some of the assets of a regulated supplier requires the Commission to consider allowing that suppler to accelerate the depreciation of their assets. The Commission has agreed to do exactly this in the case of electricity distribution businesses. The input methodologies for EDBs have been amended to allow the Commission on application to agree to shorten the remaining lives of EDB assets by up to 15%, with a consequent increase in the depreciation charge for such assets of 17.7%.

Since significant parts of the fibre network over which the FFLAS is provided are carried on poles shared with EDBs, the issue of economic stranding of EDB assets would seem to have a bearing on the appropriate depreciation rates allowed for FFLAS providers in respect of such assets that they own. Where FFLAS providers utilise assets owned by EDBs economic stranding of such assets in regard to electricity distribution could result in FFLAS providers needing to bear additional costs.

My understanding is that where fibre and electricticity distribution is carried on poles in many cases the relevant EDB owns the poles on one side of a road and Chorus owns the poles on the other side (albeit that electricity networks impose greater loads than either copper or fibre telecommunications networks). Thus the Commission will have to consider the implications of the prospect that one of the networks might face economic stranding prior to other.

In the case of FFLAS the analysis is complicated by the need to allocate assets, specifically poles owned by Chorus, between FFLAS and the copper network service. Interested parties will no doubt comment on the range of other issues involved in the allocation of assets between FFLAS and the copper network service.

The next section of this submission focuses on the determination of the initial asset values for the FFLAS service and specifically the determination of the financial loss incurred by FFLAS providers in providing FFLAS under the UFB initiative.

At this point it is appropriate to observe that the accumulated financial losses are to be treated as an asset in the determination of the initial asset base for the FFLAS service. This asset is not subject to depreciation in the normal sense and the Commssion will need to address the question of the period over which this asset should be amortised ie recovered. The issue of the possibility of economic stranding is highly relevant to this decision since absent that possibility it would not be immediately obvious that the asset needed to be amortised as opposed to just continuing to earn a return.

The determination of the financial losses incurred in providing FFLAS under the UFB initiative

The Commission states in the Framework Paper para 7.66 that it "*interprets the direction to calculate "accumulated unrecovered returns" on investment to require the use of a building blocks approach.*" No doubt there will be submissions on this issue but it is not obvious what the term "returns" in section 176(2AA) of Part 6 could refer to other than returns to equity. That would imply the calculation involves calculation of a cost of equity. It is generally agreed in corporate finance analysis that the cost of equity increases with leverage and thus a model of the determination of the weighted cost of capital needs to be considered.

During the determination of the Commerce Act Part 4 IMs the Commission concluded that the simplified Brennan-Lally model exhibited a "leverage anomaly" whereby the estimate of WACC increased with leverage (for a given asset beta). This was attributed at least in part to the issue of a non-zero debt beta. The matter was resolved by setting the leverage parameter equal to the average leverage of the sample from which the beta estimate was derived. In that case the WACC derived under the simplified Brennan-Lally model is at least approximately independent of the level assumed for the debt beta.

Part 6 requires that the cost of Crown financing be taken into account in assessing the financial losses incurred in providing FFLAS under the UFB initiative. Thus there is an issue of how to achieve a consistent approach between the calculation of the benefit of Crown financing and the calculation of the accumulated unrecovered returns.

The Commission is likely to be provided with a variety of views on how the achieve consistency in the circumstances sketched above.

In order to address the issues in a relatively precise way an approach along the following lines might need to be considered.

Firstly, the benefit of Crown financing would, arguably, need to be assessed based on the actual financial leverage of the FFLAS provider. Given that the market cost of debt (and also of equity) increases with the level of leverage (ie gearing) the benefit would be higher the higher the leverage at the relevant time. Thus the benefit would need to be calculated using market returns corresponding to the correct leverage.

Secondly, the assessment would require identification of the characteristics of the Crown financing to the extent that it differed from straightforward debt ie had equity-like provisions.

The identification of the characteristics of the Crown financing would most likely reveal there is no directly comparable publicly traded assets from which a market cost could be derived. Thus a view would need to formed as to what mix of debt and equity would be approximately equivalent to the Crown financing. The benefit of the Crown financing would be the cost of the equivalent mix of debt and equity less the cost of the Crown financing. (The Commission's initial assumption that the cost of the Crown financing is zero is yet to be verified.)

Arguably, in order to achieve as consistent an approach as feasible, the WACC to be used in calculating the required return for comparison with the achieved return would need to be estimated using a consistent leverage assumption. Thus the leverage of the FFLAS provider would need to be assessed on the basis that the Crown financing represented the equivalent mix of debt and equity.

Assuming the simplified Brennan-Lally model is to be used to estimate the WACC, consistency would seem to require that the WACC estimate use the same leverage assessment as was used to calculate the benefit of the Crown financing. Arguably, that would mean accepting the WACC estimation including the increase due to the leverage anomaly unless an assumption was to be made regarding the debt beta. If it was decided an assumption should be made regarding the debt beta (which would have the effect of reducing the WACC estimate) it could be argued that the quid pro quo would be to adjust the cost of debt downwards to recognise the difference between the expected versus promised return.

Subject to other expert views, there does not appear to be any valid simplifying assumption that would avoid the difficult task of identfying what mix of debt and equity is equivalent to the Crown financing. In particular there is no obvious basis for assuming the Crown financing is the same mix of debt and equity as a FFLAS provider's observed mix of market debt and equity. Nor does the Modigliani-Miller theorem provide a methodology to calculate the benefit of the Crown financing without determining what is the equivalent mix of debt and equity.

The optimal order in which the Commission might address the different IM issues

The initial asset base seem likely to be the dominant factor determining the level of the maximum allowable revenue before application of smoothing. Accordingly, providing early information on the possible range of values of the initial asset base is arguably the most material way that the Commission could assist interested parties in their planning.

The Commssion may be concerned at the possible misinterpretation of such estimates as indicating an emerging view. It would, however, be unfortunate if that concern prevented the early provision of estimates since the consultation process is likely to be more useful for all concerned if parties are informed regarding the possible range of magnitudes of the initial regulated asset base.

The asset corresponding to the accumulated losses incurred in providing FFLAS services under the UFB initiative may well be substantial in which case the decision as to whether and how this asset should be amortised may also be material. It is of course true that in order to arrive at a range of estimates of the accumulated losses there must first be available an indication of the asset base prior to addition of the asset corresponding to the accumulated losses in providing the FFLAS under the UFB initiative.

Conclusion

The purpose of this submission is to assist the Commission and interested parties by providing an analysis from a non-partisan perspective of some central issues in regard to which I have specific expertise or experience.

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