The Treatment of ULLS Specific Costs

A Report on behalf of the Australian Competition and Consumer Commission

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1   Background

The purpose of this report is to examine the ACCC's determination with regard to Telstra's access undertaking for Unconditioned Local Loop Service (ULLS). The service being provided is cable access between an end-user and a Telstra exchange allowing competition in the provision of local phone service, broadband internet and other services. Line sharing services also permit access to the same infrastructure but involve more than one telecommunications carrier utilising the cable. Both of these services have been declared meaning that Telstra is obligated to provide access to them on negotiated terms.

A key issue is the allocation of ULLS-specific costs to access seekers. This is a substantial proportion of the cost-base that Telstra used to compute its price undertaking. Those costs are "the *overhead* costs associated with providing the ULLS service to access seekers."[1] "The costs typically consist of:

- IT system development and operational costs

- ULLS connection group costs

- wholesale management costs

- indirect costs."[2]

Telstra has argued that the costs be recovered from ULLS in-use demand only. This is a relatively narrow base. The ACCC argued for a wider-base. The ultimate implication of this would be a significantly lower ULLS monthly service charge.

Given this, I have been asked to comment on the following questions:

    i.   Are ULLS specific costs attributable to current users of this service, or are they attributable to the act of declaration rather than the uptake of declared services?

    ii.   If ULLS specific costs are attributable to current ULLS users only, are the statutory criteria as a

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[1] ACCC, *Assessment of Telstra's ULLS and LSS monthly charge undertakings*, Final Decision, December 2005, p.6 (emphasis added).

[2] *ibid.*, p.45.

        whole best promoted by recovering from those users only or from a wider base?

iii. More generally, over which base should ULLS specific costs be recovered, all wholesale lines, all DSL lines (wholesale and retail) or all CAN lines?

iv. If a broader range of wholesale or retail lines are used (pooled) is it appropriate for both Telstra's internal wholesale as well as their external wholesale costs (ULLS/LSS specific costs) associated with provision of DSL services to be used in the numerator?

v. Is the position taken by the ACCC in its Final Determination appropriate?

The remainder of this note will proceed as follows. First, I will outline the principle of cost attribution and what this means for efficient pricing. In so doing, I consider the ACCC's decision to reject Telstra's undertaking. Second, I will consider what an efficient ULLS pricing structure should look like.

2   Cost Attribution

There is a basic principle in economics that it is efficient that those users who cause costs by their usage should bear those costs. How this is done is an issue because some costs are caused by a user changing their usage and others are caused by them deciding to use or not use altogether. Thus, it is not just a question as to *whether they bear those costs but how they bear them.*

The reasoning is as follows. Suppose that there is a user who derives a benefit, $B(x)$, if they use a service at a rate of x. The cost to an individual user of using the service is $C(x) = f + cx$. Here f are the fixed (or overhead) costs of using the service and c are the marginal costs. Notice that there may be costs associated with providing the service that are common to all users (let's denote these by F). I will comment on the allocation of those costs and their implications for efficiency below.

The service is said to be efficiently used if:

> i.   the marginal benefit to the user (let's denote this by $b(x)$) equals the marginal cost to the provider, i.e., at a rate of X where $b(X) = c$; and

> ii.   that it is worthwhile to have a service to this user at all; that is, $B(X) > C(X)$.

Suppose that the consumer does not pay for these costs directly but pays a price, p, per unit. Then the consumer will have an overall payoff of $B(x) - px$ and the service provider will have profits of $px - cx - f$.

Given these conditions, the consumer will choose a usage, x, such that their marginal benefit from use is equal to price, p. That is, they will consume x^* such that $b(x^*) = p$. Notice that condition (i) will only be satisfied if $p = c$. If not, then if $p < c$, there will be over-use and if $p > c$, there will be under-use.

The problem is that if $p = c$, then the provider's profits are $px^* - cx^* - f = -f$. The provider will be making a loss. Thus, there is a conflict between achieving efficient use and ensuring that the provider breaks even.

The problem here can be 'solved' in several ways.

- (Close as Possible): If the price cannot be set equal to marginal cost, then the alternative is to get it as close as possible while allowing the provider to break even. Breaking even requires that $px = cx + f$ or $p = c + f/x$. The problem is that the regulator will need to forecast x to make a proper judgment. Usage will be typically less than X (the efficient level) but how much less is difficult to judge. And to the extent that there are a number of users there is an issue as to the attribution of any common costs between them.

- (Multi-part Pricing): The issue here arises because the 'first' unit of usage costs $f + c$ while subsequent units cost only c. Thus, the regulator could set a multi-part price that charges more for the first unit (e.g., connection or subscription) than the rest (e.g., usage charges). The good news is that this does not require the regulator to forecast demand (except to the extent there are many users) but it does require them to have knowledge of the relevant costs. This type of pricing will allow the regulator to achieve an efficient outcome.

In summary, the principle of cost causation and attribution holds only when you can price according to those costs. If pricing is set in a different manner, then there are difficult trade-offs between efficiency and financial viability.

Now if there are common costs, F, associated with providing the service to all users, the above conditions for efficiency do not change. Specifically, usage charges will need to be set at c. However, it will also have to be the case that across all users:

$$\sum_n B_n(X) \geq F + \sum_n C_n(X)$$

In this situation, the regulator may have to apportion a share of the common costs, F, to users. However, whether to get as close as possible or to utilise multi-part pricing, the regulator will need to forecast the entire demand for the service across all users in order to appropriately apportion these common costs. I note, however, that any allocation of common costs to the connection or usage charge of a user will result in a departure from efficiency.

2.1   ULLS-Specific Costs and Telstra's Proposed Pricing

Telstra's proposed pricing is a $30 per month per line rental fee. This is an on-going fee on a per line basis. If this reflected the principle of cost attribution, then the majority of ULLS costs would be on-going and vary as the number of lines used by the service varied.

However, it appears that its costs do not match this pricing structure at all:

- ULLS-specific costs are primarily once-off investments in making space available at exchanges and putting in billing systems.

- ULLS-specific costs are unrelated to the total volume of lines being used on the ULLS service.

A similar set of considerations applies for LLS-specific costs.

Since its cost structure does not match its pricing structure, Telstra's undertaking cannot be said to promote efficiency. Indeed, to the extent that prices are based on an averaging of costs, then they are sensitive to overall forecasts of demand. Consequently, the ultimate price paid by users is unlikely to reflect costs attributable to them.

2.2   Competitive Neutrality

In addition, as noted by the ACCC, the pricing structure does not adhere to the principle of competitive neutrality. Access seekers utilising the ULLS service are likely to face higher costs in competing for end-user lines. This is because it is my understanding that some proportion of common costs are being allocated to them. The only way that competitive neutrality can be adhered to is if line usage costs under the ULLS equalled Telstra's short-run marginal costs of line usage provision.

To the extent that ULLS-specific costs are generally fixed, once-off costs, then on-going line usage costs should be very low to preserve competitive neutrality. If this is not done, then prices for all services that might utilise the ULLS service will be correspondingly higher. Indeed, if the line rental charge is too high, then entry on this basis may be deterred and competition may not emerge.

2.3   Summary

The ACCC was correct to reject Telstra's undertaking. The ACCC's reasons for doing so were that it expected the benefits from the ULLS service to flow to a wide number of users and hence, the base for recovery to be greater.

My reasoning here has been a little more direct. I have focussed on the basic economic principles associated with cost attribution and how these are used to form efficient pricing. Telstra's price undertaking makes no attempt to apply these principles and should be rejected on that basis.

3   Efficient ULLS Pricing

Given that Telstra's undertakings fail the basic cost attribution test, what would efficient ULLS pricing look like?

3.1   Declaration and Cost Causation

As already noted, the majority of ULLS-specific costs are once-off fixed costs. The question is: when were these costs caused?

When the ACCC analysed the declaration of the ULLS and LLS services, it had to look at the costs of providing access and take these into account. Thus, there is an important sense that it is the declaration decision itself that caused these costs as it was from that time on that Telstra would have to incur them.

Had Telstra offered its undertakings prior to declaration, that would be a different matter? Had Telstra offered a ULLS service to customers prior to declaration, that would be a different matter? However, it did not do this and has been required to provide access by virtue of the substantive market power it has over the CAN. The demands of users subsequent to declaration cannot be said to be causing these costs.

As a consequence, it is appropriate to view ULLS and LLS-specific costs as similar to the Universal Service Obligation on Telstra that comes from its ownership of the CAN. In that sense, for Telstra, it is "a cost of doing business." In that regard, it should be treated like all CAN costs and should be 'recovered' from all CAN users.

This would suggest the widest possible base in diffusing those costs: over all CAN lines. This would also allow a pricing solution based on getting "as close as possible" to an efficient outcome.

Note also that this obviates the need to forecast demand for the ULLS service itself. Instead, the number of CAN lines is fixed and grows at a relatively predictable rate.

3.2   Part of the USO?

Suppose, instead, that the ACCC were not to allow any ULLS-specific overhead costs to be recovered through the ULLS line rental charge. Then Telstra would still be able to recover some of those costs as part of its USO payments.

Those payments compensate Telstra for its losses in loss-making areas. To the extent that a ULLS service pushed down its revenues, then the number of those areas – and consequent payments – would grow. In existing loss-making areas, the expenses to make local exchanges accessible for the ULLS service would be directly compensated to Telstra through the USO payments.

Consequently, by not allowing an explicit recovery of these costs in the ULLS charges, the ACCC will, by definition, not be harming Telstra's viability as the USO payment scheme will cover this.

3.3   Dynamic Efficiency

One advantage of a wider base for the recovery of ULLS-specific costs than current ULLS users is that it provides Telstra with greater incentives to economise on the costs and investments associated with the provision of that service. Using the entire CAN as a base means that the majority of those costs will be borne by Telstra and so Telstra will have an incentive to economise on them. To allow complete pass-through, as Telstra's undertakings currently do, would be to provide them with no incentives for cost containment.

3.4   Overhead Cost Recovery

If it were determined that ULLS-specific costs had to be recovered from ULLS users only, then the principle of cost attribution would require that the pricing structure for that recovery match the nature of the costs incurred.

To the extent that these costs are overheads unrelated to line usage and not on-going then it is inappropriate to base payments completely on them. What may be more appropriate would be an exchange by exchange payment scheme. In particular, it is my understanding that access seekers would have to make investments (e.g,. DSLAMs) in those exchanges to utilise the service. In that

regard, the most appropriate pricing structure would be determined in the following way:

1. Demand forecast: for each exchange, forecast the maximum number of competitive carriers who are likely to require access. Add these across all exchanges. Let this number be *D*.

2. Time forecast: for each exchange, forecast the length of time, carriers are likely to require the ULLS service. Let the average number of months per carrier per exchange be *t*.

3. Exchange space rental charge: on the basis of this demand (*tD*) take the total amount of ULLS once-off fixed costs (*F*) and compute a monthly rental charge per exchange; $m = F/(tD)$.

4. Line rental charge: take the remaining ULLS costs and use it to compute a line rental charge.

This would match rental charges as close as possible to costs. As the main proportion of the charge will be exchange rental this will provide the least distortion to competitive neutrality but will also allow access seekers to match the main payments to Telstra with their decision to invest in an exchange. This will reduce contractual uncertainty and encourage such investment.

I note, however, that I base these recommendations on my current assumption that most ULLS costs are overhead costs and that the critical investments access seekers need to make are on an exchange by exchange basis. Should either of these assumptions be substantively false my recommendation here would have to be amended accordingly.

3.5   Summary

The efficient pricing of the ULLS service could take numerous forms depending upon constraints in the ability of the ACCC to set prices.

*   It is reasonable to view ULLS-specific overhead costs as being caused by the declaration of the ULLS service rather than the demands of any one ULLS customer. As such, as the costs have been caused, they should not be part of on-going payments. In this case, Telstra would still receive adequate compensation through the USO scheme.

- If it were determined that Telstra was permitted an explicit recovery of these costs, then the basis for recovery should be over the whole CAN as the costs are incurred by virtue of Telstra's monopoly ownership of the CAN. Therefore, they are part of the "costs of running the CAN" and should be treated the same as any CAN costs.

- If it were determined that Telstra was permitted an explicit recovery of these costs from ULLS users alone, then the pricing structure should reflect the nature of those costs and the nature of access seeker investments with perhaps the majority being recovered through an exchange rental charge rather than a line rental charge.