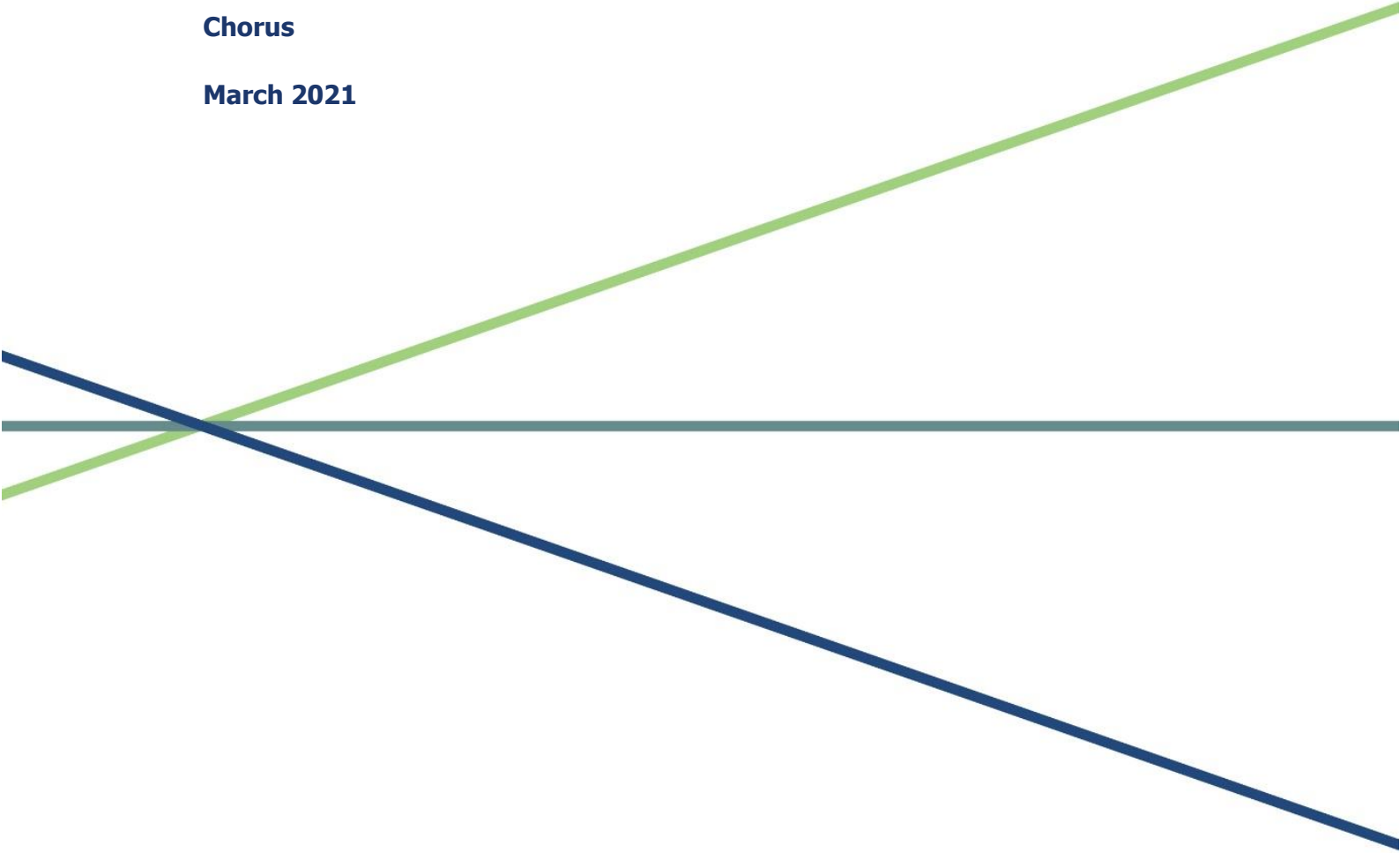


Certain cost allocation issues relevant to the IAV

Chorus

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1. Scope of report

This report provides advice on three specific issues relevant to cost allocation during the pre-implementation period and, in turn, the initial asset value (IAV) for the core fibre assets.

The three issues are:

- the principles that should underpin the application of the “shared cost cap” that is set out in clause B.1.1.6(5) and (6) of the Input Methodologies
- how the risk of a “double recovery” across regulated fibre services (FFLAS) and copper services under a particular cost allocator may be judged, and
- the economic rationale for the four additional allocators that Chorus has proposed, namely:
 - net book value
 - in relation to certain overhead business functions, the use of the allocation that has been calculated and applied to the activity that is the recipient of the services provided by the relevant business function
 - total expenditure (“totex”), and
 - the allocator described as “future benefits”, which has been applied for certain marketing initiatives.

I address these in turn.

2. Application of the shared cost cap

2.1 General observations

The following general observations can be made about the “shared cost cap”.

- First, the expression of the cap is virtually identical to the equivalent cap that applies to the EDBs, even though the drafting of the shared cost cap for the EDBs is structured differently (for the EDBs, the cap is expressed as an allocation that does not exceed the “ACAM” allocation, and then ACAM is defined).
- Secondly, the cap clearly applies to the allocation of both shared operating costs and shared assets – clause 2.1.3(5) refers expressly to both asset values and operating costs.
- Thirdly, even though the Commission’s discussion in the IMs Final Report focussed on cost reductions that Chorus may be able to achieve in reality once (if) copper services are discontinued, the test is clearly a hypothetical one – i.e., asking what proportion of the shared cost could be avoided today if copper services were not provided.
- Fourthly, there is a test of materiality (albeit undefined), where the extent of allocated opex or assets that would be eliminated under the shared cost cap is compared against total opex or total assets, respectively. The value that is adopted for this materiality threshold may turn out to be quite a material issue.
- Fifthly, my reading of the Commission’s discussion is that it does not expect the shared cost cap to have the potential to bind in a material way until copper services are getting close to being discontinued.

In terms of the conceptual application of the test, its application to shared operating expenditure would appear to be reasonably straightforward, at least at the level of principles. The test just requires an assessment of the extent to which the relevant components of shared operating expenditure could be reduced in the hypothetical world where only FFLAS was provided. For operating expenditure, this is equivalent to determining the cost that would be incurred to operate a fibre-only business.

In relation to shared assets, the precise meaning of the test is less obvious. The equivalent concept to opex is capex and, like opex, it is reasonably straightforward to think about a hypothetical cessation of copper services would affect capex. However, the concept of avoiding (existing) *assets* is less clear. Nevertheless, there is substantial material in the Commission’s IMs Final Report that sheds light on what it intends and does not intend, which provides guidance relevant to this provision. In particular, the Commission’s statements suggest the following:

- First, that it intends to recognise and respect the fact that a lot of Chorus’s assets may be (economically) “sunk”, meaning that alternative uses do not exist. As a specific example, the Commission has observed that a substantial proportion of duct-related assets have no alternative use, which is taken to mean that the asset cannot be avoided.

- Secondly, the Commission’s discussion about the avoidability of assets focussed on the practical actions that Chorus could do – and should be motivated to do – to defray costs once the copper services were discontinued.
- Thirdly, in a similar vein, the Commission was clear that it did not intend to apply the shared cost cap as a means of giving effect to a form of optimisation.

I think that what the Commission means by “avoiding a shared asset” is a reference to the circumstances where capital-related costs can be reduced, in a practical sense. That is, requiring an inquiry into whether it may be possible to sell or lease part of an asset that is no longer required (e.g., separating off and leasing unnecessary exchange space) or just selling off excess assets (e.g., unnecessary electrical equipment in exchanges). As the focus would be on the realistic capacity to avoid costs, the avoided cost would be net of any costs incurred to allow the avoidance of cost, and essentially require a focus on the things that a prudent business would do if it (hypothetically) no longer provided copper services. The “avoided asset” in this case would be the amount that could be obtained from this repurposing / sale, net of the costs required to make this repurposing / sale possible, with all amounts converted into a (capitalised) value.

2.2 Applying the shared cost cap

Conceptually, implementing the shared cost cap would appear to require, for each relevant category of shared operating expenditure and assets, an estimate of the extent to which – under the assumption that copper services were not being provided but FFLAS remained unchanged:

- shared operating expenditure would have been lower, and
- shared assets may be able to be sold / repurposed and, if so, the net gain from that sale / re-purposing.

This is not something that is likely to be easily observable from the accounts of Chorus and hence able to be calculated simply (and also made into a mechanical calculation over time). Rather, avoided cost – like incremental cost – is an economic concept that will generally need to be estimated.

However, like all estimates, there are different methods that could be employed, and differing levels of sophistication (i.e., effort, time, cost) that could be employed. In addition, a key component of the relevant IM clause is that the cap itself is subject to a materiality test, namely only applying where the application of the cap to opex or assets would have a material effect on the total allocation of each of these. Thus, there may be the potential for a risk-based approach to the application of the cap, which may involve the following steps.

- First, for each category of operating expenditure and assets, to establish whether the application of the cap would be likely on *first-principle grounds* to result in a material reduction in the allocation or cost / assets, given the nature of opex category / assets and the method of allocation.
- Secondly, for those potentially material categories, undertake a more detailed analysis, starting with the involvement of subject matter experts.

In terms of whether, on a priori grounds, there is the potential for the avoided cost cap to bind and materially, I observe that:

- For operating expenditure, if a cost-driver approach to cost allocation is applied, and there are no legacy issues that constrain cost to be high compared to what would have been done for a fibre-only business, then the avoided cost cap should be unlikely to bind. This is because there are likely to be economies of scope (or, at least, not diseconomies of scope) in the provision of copper and fibre jointly, so that the stand-alone cost of fibre provision (i.e., what is left after avoiding copper costs) should not be lower than the allocated cost.
- For assets, a key issue is the extent to which the relevant assets may have an alternative use. As discussed above, the Commission has said that if assets are truly (economically) sunk then it accepts that there cannot be an avoided cost, and so the focus needs to be on whether a prudent business would do things to defray its costs. Moreover, even where costs can be defrayed, if assets are allocated on the basis of utilisation then, unless there are material legacy issues (like excess capacity etc.), it should be unlikely that the allocated cost would be above the non-avoidable cost.¹ This reflects the fact that assets generally have some element of economies of scale, and that deploying them to an alternative use typically incurs a cost.

I set out some further thoughts about specific categories of operating expenditure and assets below.

I note there is also a question as to what threshold might actually be applied to determine materiality. Given the cap is only applied to the extent that the change in operating expenditure or the RAB is “material” this may become important. However, this is not an area where economic principles have much to add.

2.3 Observations about specific categories of expenditure

2.3.1 Operating expenditure

For many of the categories of operating expenditure for which costs are shared between fibre and copper services, I understand that allocators will reflect factors that explain how Chorus’s costs are caused (i.e., cost-drivers). In this situation, the allocation of costs to fibre would not be expected to exceed the avoided cost cap due to the likelihood of economies of scope (or not diseconomies of scope) from the joint provision of copper and fibre services, as discussed above.

A more difficult category to analyse and apply the avoided cost cap are marketing costs and, specifically, expenditure that Chorus incurred to promote the use of fixed-line services generally. I discuss this category of cost – and the proposed allocator – further below, but note here that the nature of the marketing initiatives were that:

- the focus was on increasing the awareness of the benefits of fixed-line services more generally, and so was intended to increase take-up of whichever technology was available, and
- furthermore, the benefits were expected to be delivered over an extended period – customers that were attracted to copper broadband would be more likely to connect to fibre when it was

¹ I also note that in the areas where there are more likely to be legacy issues – i.e., around the very old assets – assets are likely to be materially depreciated in any event, which should further lessen the exposure.

available, and customers that had a favourable experience with copper broadband but left for some reason, would be more likely to return to fibre in the future.

The difficulty with analysing how the avoided cost cap can be applied in this situation is that the program itself was contingent on the existence of the two technologies – copper and fibre – and with the latter eventually replacing the former in UFB areas.

In my view, a sensible application of the avoided cost cap would be as follows.

- First, assume the hypothetical situation whereby Chorus only provides fibre services, but that a copper network exists, just that it is owned by an independent entity.
- Secondly, assume the hypothetical situation whereby the fibre and copper network operators decided to jointly promote the use of fixed line services, as Chorus has done.
- Thirdly, inquire as to how the costs of the joint marketing program would be split between the two entities in a fair negotiation – the amount that would be paid by the independent copper provider would be the amount that would be assumed to be avoided if Chorus hypothetically did not provide copper services.
 - Furthermore, it would be reasonable to expect that the share of the costs that the respective network operators would agree to in a fair negotiation would be related to the relative benefits that each of the network providers expected to receive from the marketing initiative. It would follow that, provided that the allocation of these marketing costs to fibre was not more than the proportion of the benefits that were expected to flow to the fibre business, then the avoided cost cap would not bind.

2.3.2 Capital expenditure

In common with many infrastructure sectors, many of the assets that are used to provide fixed line telecommunications services are (economically) sunk, which means that those assets either cannot be used for anything else or would not have a material value if redeployed to an alternative use. This character of the technology would mean that the cost that could be avoided if copper services were no longer provided would be negligible. As discussed already above, the Commission has observed that it would not expect there to be material costs avoided in relation to duct assets for this reason.

However, there are some areas where it might be feasible to separate off and sell or lease assets and so avoid some cost if the copper services (hypothetically) were not provided. The most likely examples are:

- *Power and air-conditioning assets in exchanges* – which may be moveable and so potentially able to be sold off if the copper-related demand for electricity and cooling was not there.
- *Buildings and land* – where it may be feasible to sub-lease space in exchanges, or possibly to sell an existing building more to a more fit-for-purpose building.

However, in both cases, the feasibility – and cost – of avoiding cost would need to be considered and factored into the calculation (for the avoidance of doubt, the avoided cost refers to the cost that is avoided net of the costs incurred to avoid that cost).

For example, as part of considering the extent of exchange space costs that could be avoided, account would need to be taken of the cost of removing the copper equipment (if this would not otherwise be required), separating off unnecessary exchange space and putting in the necessary security measures. In addition, other apparent potential options – like moving from the current premises to a different, fit-for-purpose building would need to incorporate an assessment of the cost of realigning fibre cables to the new location.²

2.3.3 Most likely outcome

An implication of the above discussion is that I think it would be unlikely that the avoided cost cap would bind, and less likely again in a material way. This conclusion follows from the fact that:

- in relation to operating expenditure, the requirement to apply causal-based allocators where possible has the effect of sharing the economies of scope that are realised by providing fibre and copper services jointly, implying that the operating expenditure that is attributed and allocated to fibre should be below the cost that would be incurred on a stand-alone basis (which is an alternative expression for the avoided cost cap), and
- in relation to assets, the same considerations also apply, but in addition the substantially sunk nature of the relevant assets means that the extent of assets that would be avoidable (in the sense that an alternative use – and revenue stream – could be found) is likely to be minimal.

² We observe that the fact that Chorus has material spare space in exchanges at present – but has not found it profitable to seek to reuse that space for other purposes – suggests that it is not obvious that material exchange building costs could be avoided if copper services were (hypothetically) withdrawn.

3. Risk of double-recovery of costs

3.1 Introduction

During the consultation on the Input Methodologies, the concern was raised that Chorus may have the capacity to recover part of its shared cost twice (or, stated alternatively, over-recover for these items) across its fibre and copper services. This view noted that copper prices do permit some recovery of shared costs, which is factually correct.

In addition, the view was expressed further – and which has been provided some endorsement by the Commission – that allocating shared costs on a per connection basis between fibre and copper would be most compatible with avoiding such a double-recovery. The logic behind this view revolved around the method by which the prices for copper services were determined in the Final Pricing Principle (FPP), where those prices were set on the assumption that there was a single fixed-line network that served all of the fixed-line customers. Thus, as customers depart the copper network and connect to fibre the extent of Chorus’s fixed cost recovery would decline in proportion to that decline in copper customers, suggesting that Chorus would be kept whole – and not over recover – if the proportion of fixed costs that are associated with the departing customers is allocated to fibre (and so recovered through prices for fibre services). This outcome would be achieved by allocating these fixed costs on a per connection basis between fibre and copper.

As submissions to the Commission have pointed out, there are substantial obstacles – and limitations – to the ability to test with any precision whether costs are recovered – but not double-recovered – across fibre and copper services. The principal obstacle comes from the fact that the copper prices and fibre prices are being set through very different methods that commence with different ideas about the total cost base, and so it is not simply a matter of observing the portion of a shared cost that are recovered under copper prices and inferring that the remainder – and only the remainder – must therefore be recoverable from fibre prices.

However, in this discussion here these complications are put to one side and we simply ask whether it would be correct to assume that a per-customer allocation of shared costs would be consistent with Chorus recovering costs in total – but not double-recovering – even in the situation where the prices for both services were (in the case of copper) or will be (in the case of fibre) determined with reference to the same total cost base. The conclusion reached is that this assumption will generally be invalid, and indeed it will be in only limited circumstances where a per customer allocation will allow all costs to be recovered. The discussion then addresses whether causal based allocators would be expected to permit a recovery of cost overall – but not double recovery – and it is concluded that this is more likely, at least when assessed across the different types of shared costs.

3.2 Would a per customer allocation permit costs to be recovered but not double-recovered?

As suggested above, the proposition that a per-connection allocator would be neutral in relation to the avoidance of double-counting is only correct in a very limited circumstance. Specifically, a per-connection allocator would only be expected to provide a recovery of cost overall in the circumstances where the “shared costs” that are to be allocated between copper and fibre are unchanged by the subsequent provision of fibre (i.e., roll-out of the UFB), or what economists would call “common costs”. However, the “shared costs” as defined in the IMs are defined according to

accounting conventions, and is very likely to include part of the incremental costs associated with the fibre rollout to the extent that these exist,³ especially for cost centres or assets where a substantial portion of these costs or assets are unable to be directly attributed. Some of the specific reasons that shared costs are expected to increase are because:

- the roll-out of fibre is requiring things to be done by support cost centres that would not have been required for the copper business (i.e., managing a major capital spend)
- the roll-out will require costs to be incurred for fibre well before customers can be connected to fibre, and so when the copper costs could be reduced, and
- even once fibre is rolled-out to an area, the existence of two networks is likely to require additional support and other activities than if the same customers were served by one network.

Thus, it is inevitable that the shared costs for many of the cost centres are likely to increase as a consequence of the fibre roll-out.

A simple example will demonstrate the proposition that a per customer allocation will imply an under-recovery of shared cost if shared costs increase as a consequence of providing fibre. These results are set out in the Table 1 below.

Table 1 – Effect of a per customer allocator when shared costs increase

PPP Calculation of copper prices - single network serving all connections								
Total cost - copper only	Total Connections	Cost recovery per connection built into copper prices						
100	100	1						
Costs shared with fibre - per connection allocator, no change in shared cost								
Total cost - with fibre	Copper connections	Fibre connections	Allocation to copper	Allocation to fibre	Copper recovery	Fibre recovery	Total recovery	Surplus / shortfall
100	70	30	70	30	70	30	100	0
Costs shared with fibre - per connection allocator, increase in shared cost								
Total cost - with fibre	Copper connections	Fibre connections	Allocation to copper	Allocation to fibre	Copper recovery	Fibre recovery	Total recovery	Surplus / shortfall
120	70	30	84	36	70	36	106	-14

The results in this table show the following.

- The first panel shows the assumptions built into the prices for copper services. It is assumed that the copper service prices assumed the cost in relation to a particular cost centre of \$100 and that the total fixed-line connections were 100, implying that copper prices built in a recovery of \$1 per connection in relation to this cost centre.
- The second panel then shows how costs would be recovered when fibre services are being provided on the assumptions that (i) this particular shared cost does not increase as a consequence

³ A “directly attributable” cost is an accounting concept, and refers to costs that can be exclusively allocated to a service. Thus, such a cost needs to be observable from the entity’s accounts. An incremental cost, on the other hand, refers to all of the additional cost that would be incurred from providing an additional service, including the increase in activities/assets that will be shared between services. Incremental costs typically cannot be observed from an entity’s accounts, but need to be estimated.

of fibre being provided, and (ii) a per connection allocator is used. The result is that, under these assumptions, Chorus recovers its costs but does not “double recover” any of the cost.

- The third panel shows the outcome if a per connection allocator is used, but the quantum of this particular shared cost increases as a consequence of providing fibre. The calculations show that a material under-recovery against total costs results (in this example, of the \$120 in total costs, \$84 would be allocated to copper but only \$70 would be recoverable, leaving a shortfall of \$14).

The conclusion to be drawn from this is that a per connection allocated of shared costs – and, equally, of a shared asset value – would be expected to lead to an under-recovery of cost across copper and fibre services wherever the share cost or shared asset value increases as a consequence of providing the services in combination.

3.3 Performance of other allocators

The Input Methodologies require shared costs or assets to be allocated on a causal basis, at least where it is possible to establish such a driver. Causation in this context, for operating expenditure, means a factor that drives – or causes – cost, and for assets means the extent to which the asset is available for use.

The simplest case to analyse is where the quantum of a particular shared cost category simply increases or falls with the extent of service it provides, meaning that there are not material economies of scale with the activity. However, even in this simplest of cases, whether or not costs are recovered – or whether a deficit or surplus may result – will depend on how the extent of the activity required for copper services will vary with customer connections. This reflects the fact that the amount of a shared cost that Chorus is able to recover from copper services will vary directly with the number of connections, rather than the specific cost driver. A simple example – shown in Table 2– will illustrate this.

Table 2 – Effect of causal allocators on cost recovery

FPP Calculation of copper prices - single network serving all connections										
Total cost - copper only	Total Connections	Cost recovery per connection built into copper prices								
100	100	1								
Costs shared with fibre - causal allocator where costs scale to the proportion of connections										
Total cost - with fibre	Copper connections	Fibre connections	Allocation to copper (%)	Allocation to fibre (%)	Allocation to copper	Allocation to fibre	Copper recovery	Fibre recovery	Total recovery	Surplus / shortfall
120	70	30	58%	42%	70	50	70	50	120	0
Costs shared with fibre - causal allocator where costs are invariant to customer connections										
Total cost - with fibre	Copper connections	Fibre connections	Allocation to copper (%)	Allocation to fibre (%)	Allocation to copper	Allocation to fibre	Copper recovery	Fibre recovery	Total recovery	Surplus / shortfall
200	70	30	50%	50%	100	100	70	100	170	-30

The outcomes of the table are as follows.

- The first panel is the same as the previous example, and shows that the FPP prices will provide a recovery of \$1 per connection for this particular shared cost item.
- In the second panel, it is assumed that a particular shared cost will vary both with the additional effort associated with the fibre network, and also vary directly with the number of customers served. For example, the shared cost may be a corporate support function that provides services both to the construction of the fibre network, as well as to the serving of the connected customers. The result is that the additional costs caused by existence of the fibre network (i.e., the serving of

the construction function) is allocated to fibre, and the remainder of the costs are divided between copper and fibre according to the proportion of customers served. The natural result of this is that the cost that is allocated to copper services declines directly with the customers connected, and hence aligns with the amount that is recoverable. Note that costs are recovered – but not double-recovered – even though the proportion of costs allocated to fibre (42 per cent) exceeds the allocation that would result under a per customer allocation (30 per cent).

- However, in the third panel it is assumed that there is a material additional cost caused by the provision of the fibre services (a doubling), but that the quantum of the cost that is caused by each of the services is not related to customer connections. For example, the cost associated with copper and fibre services may be related to the extent of the networks that rather than the extent of their use – an example of this may be insurance and local government rates, or the shared costs that serve network maintenance activities.⁴ In this situation, the costs that are allocated to copper would not fall in line with the copper connections, and a deficit overall would be expected. Note again that this deficit would occur even though (under the assumptions of the example) the proportion of costs allocated to fibre (50 per cent) would exceed by some margin the allocation that would result from a per connection allocation (30 per cent).

In reality, however, the relationship between costs, cost drivers and connections are likely to be more complex, including that:

- many of the shared cost categories are likely to achieve some degree of economies of scale (i.e., a fixed cost associated with the activity), and
- the cost drivers may have some relationship to customer connections, but somewhere between a one-for-one relationship and the no relationship scenario assumed in the example above.

These additional factors – which work in opposite directions – would complicate further the question of whether the use of a causal allocator for a particular shared cost or shared asset category is likely to result in costs being under-recovered or “double recovered”.

3.4 Conclusion

The principal focus of this section was whether a per connection allocation would be a reasonable default allocator. The clear conclusion is that, even if the difficulties with comparing the FPP and building block cost concepts are put to one side, such a default would only be justifiable for shared cost or asset categories that are not expected to increase as a consequence of the fibre rollout. To the extent that the fibre rollout did cause an increase in a shared cost or asset category, then a per connection allocation would be expected to result in an under-recovery overall.

The Input Methodologies principal guidance for allocating shared costs and assets is that this reflects causation. An implication of the discussion presented here is that this is a complex matter to assess (again, even putting aside the difficulties with comparing the FPP and building block cost concepts), and will depend on (amongst other things) the extent to which there is a relationship between the causal allocator and customer connections (the latter reflecting the basis of cost recovery permitted under the copper prices) and the extent of economies of scale in the relevant functions. It is plausible

⁴ The extent of these costs associated with fibre would be expected to fall as the copper network is decommissioned, but this will occur sometime after the reduction in customer connections.

that a causal cost allocation may result in recovery overall or an under-recovery, and even if the causal allocator resulted in a materially higher allocation than a per connection allocation.

4. Chorus's proposed additional cost and asset allocators for the IAV

4.1 Introduction

4.1.1 Guidance in the IMs

The Input Methodologies (IMs) require costs and assets to be allocated between the regulated fibre services (the fibre fixed line access service, or FFLAS) and the other services that Chorus provides – principally copper-based fixed line services – by first attributing costs and assets that may be directly attributed to each service, and then allocating the remainder (the “shared cost” component) using cost or asset allocators. The IMs set out a range of further guidance for the cost and allocators, which are that:

- if possible, the allocators are to reflect a causal relationship, which is defined to mean:
 - for operating expenditure, a circumstance in which a cost driver leads to an operating cost being incurred in the relevant year, and
 - for assets, a circumstance in which a factor influences the employment of an asset in the relevant year, where employment is further defined to mean the extent to which an asset is available for use, and
- where a causal relationship cannot be established, proxy allocators are to be used, which are required to be:
 - based on factors in existence during the relevant year
 - consistent within and across years, and
 - objectively justifiable and demonstrably reasonable.

In addition, in relation to the determination of the Loss Asset component of the Initial Asset Value, the IMs prescribe the allocator types – being the concept behind a particular allocator – that may be applied to allocate shared operating expenses and assets, which comprise a number of different dimensions of demand (spanning customers and traffic), the number or size of assets, power usage, events and revenue. Relevantly, this list of allocator types applies to both causal allocators and proxy allocators. However, the IMs also permit the Commission to approve the use of other allocator types.

Chorus is proposing to apply four allocators that would not appear to fall within these different allocator type concepts, which are:

- *Net book value* – which is proposed to allocate insurance and council rates costs
- *Allocation applied in a similar or recipient business function* – which is proposed to allocate the overheads of certain activities provided by service companies as well as the services of certain overhead functions

- *Total expenditure* – which is proposed to allocate certain corporate expenses, and
- *Future benefits* – which is proposed to allocate certain marketing expenditures.

4.1.2 Criteria for selection of additional allocators

The IMs themselves do not set out criteria that the Commission will apply to decide whether to accept an additional allocator; however, further insight was provided in the IAV Reasons Paper.

First, whilst the Commission’s discussion suggests that it will place value on simplicity and consistency – and potentially at the expense of accuracy in all circumstances – it does contemplate that there may be certain items for which an alternative allocator will be demonstrably superior to those in the default list against the principles for allocators discussed above. The Commission’s expectation, however, is that the exceptions from the default list will be limited.

Secondly, one of the key sources of information the Commission used to establish its default list of allocators was the modelling work that it undertook to establish the copper prices (the FPP process). This suggests that circumstances that are materially different as between those considered in the FPP process and the fibre IAV context would be relevant.

Thirdly, the Commission expressed a particular concern about the potential for Chorus to make a “windfall gain” if pre-2011 assets were treated inappropriately, and put in place a number of measures to address this, of which defining the default list of allocators was an important component.⁵ It would appear to be less likely, therefore, for the Commission to accept an alternative allocator in relation to the pre-2011 assets. However, all of the items that are proposed to be allocated via these additional allocators relate to expenditure – and operating expenditure specifically – during the post-2011 period and so do not fit into this category of more at-risk items.

4.2 Assessment of the proposed alternative allocators

4.2.1 Net book value

Chorus proposes to use “net book value” to allocate the costs of its property damage and business interruption insurance costs between fibre services and copper assets, where the net book value figure will be updated to reflect the relative contribution of the two businesses in each of the relevant years.

The rationale for applying “net book value” to allocate these insurance costs is that the net book value of each of the networks has a close relationship to the premium that is chargeable. Thus, net book value could be interpreted either as a causal allocator, or as a proxy allocator that provides a very close proxy for the true causal allocator.

In terms of the remaining default allocators, the only one in the list that will reflect the relative size of the copper and fibre businesses – and hence to the things that are insured – is revenue. However, revenue will be a poor allocator of insurance costs in the circumstances of the fibre business during the pre-implementation period because the network was being constructed during this period, and so

⁵ See, for example, Commerce Commission (2020), Input Methodologies – IAV, final reasons paper, para.3.304.

there will necessarily be a delay between the assets being installed (at which time insurance commences) and then subsequently being used (at which time revenue is generated).

In terms of the Commission's FPP modelling, revenue would most likely be a reasonable allocator for insurance costs where there are multiple networks in existence and operating – at that time, there would be a strong relationship between the things that are insured and revenue. However, the situation whereby one network is in the process of being constructed means that this relationship would breakdown. Accordingly, Chorus's proposal to use a net book value allocator responds to a situation that would not appear to have arisen in the Commission's FPP modelling.

4.2.2 Allocator extended from the recipient business function

There are a range of overhead functions that perform services for other functions within Chorus, and Chorus proposes to extend the allocation applied to the lower level (service recipient) function to the higher level (service provider) function. As some examples:

- the overhead cost of supervising the work of service companies is allocated in the same manner as the payments that are made to service companies
- maintenance in relation to power and property assets is allocated in the same manner as the property-related power and accommodation operating expenditures, respectively.

The implicit assumption behind this proxy allocator is that the effort that is undertaken in the relevant overhead function between the different services is related to the relative size of expenditures of the business function that is receiving the overhead service, which in my view is a reasonable assumption.

Of the allocators in the default list, there are none that could be applied in this case that are sensitive to the fact that Chorus's expenditures during the rollout of the UFB – and the relative effort expended by overhead functions in relation to that expenditure – would be unrelated to the relative copper and fibre customer bases. For example, the relative customer connections and revenue default allocators would allocate very little of the relevant corporate overheads to fibre during the early years of the UFB rollout, notwithstanding the fact that the management of the rollout itself required the employment of substantial resources. Accordingly, the proposed allocator is demonstrably superior to any in the default list. As noted already and again below, the situation where the expenditure incurred for a service (i.e., fibre) was disproportionate to the number of customers (i.e., due to the construction of the fibre network) was not an issue that would have arisen in the context of the modelling the Commission undertook for the FPP exercise.⁶

4.2.3 Total expenditure (totex)

Chorus has proposed applying total expenditure – or totex – to allocate certain corporate overhead costs. The classes of corporate overhead costs that are proposed to be allocated in this manner

⁶ Arguably, this allocator implies that one or more of the allocators from the default list (or an alternative allocator that the Commission had approved separately) are being applied, albeit indirectly, by virtue of the fact that those default allocators (or an alternative allocator that the Commission had approved separately) had been applied to allocate costs in relation to the recipient business function.

comprise the corporate functions that provide services to the delivery of expenditure, including project management, legal advice and similar things.

It is not uncommon for aspects of corporate overhead to be allocated between activities on the basis of expenditure, as this reflects the reasonable assumption that the degree of effort required in corporate support roles are related to the magnitude of the expenditure. For example, the potential for and complexity of legal advice that may be sought in relation to contracts with external service providers would be expected to have a strong relationship to the cost to Chorus of the services provided. The one additional extension to this common allocator for corporate services is the observation that effort that is provided by corporate is reasonably indifferent as to whether the activity would be classified as an operating expense or as a capital cost. Indeed, given the UFB rollout comprised a very large undertaking using a new technology, it should be expected that a substantial part of the effort of corporate was directed to decisions and management in relation to this capital project.

In terms of the list of default allocators, none of the allocators would be expected to provide a reasonable proxy for the effort that corporate service functions exercise in relation to expenditures between the copper and fibre services that reflect the current context, namely where one of the networks is being constructed. Where there were two networks in operation (i.e., already constructed), then relative customer connections may be a reasonable proxy for relative corporate effort. However, as customer connections will lag expenditures by some period where a network is being constructed, this allocator is not appropriate in the context of fibre services. Moreover, the context whereby relative customers are not related to relative expenditure (or assets) is also not something that likely arose in the context of the Commission's FPP modelling.

4.2.4 Future benefits

During the pre-implementation period, Chorus undertook substantial marketing initiatives to promote the use of better broadband services, which were agnostic to the technology employed. Our understanding of how Chorus decides on the marketing initiatives – and made decisions during the pre-2011 period – is that the changes in customer behaviour expected from those initiatives will have an enduring element, with the benefits including that:

- customers may be encouraged to connect to the fibre network immediately, provided the network was available
- customers may be encouraged to adopt a better quality of copper broadband service, but these customers would then be more likely to upgrade to a fibre service once the fibre services were available, and
- customers that were encouraged either to upgrade to a better copper service or to connect to a fibre service but later disconnected (and, for example, tested fixed wireless services) would be more likely return to a fixed line service at a later date.

It follows from this that the driver of the marketing expenditure – reflecting the expected benefits from that expenditure – would continue over an extended horizon.

The specific proxy for the benefits that Chorus has proposed has been described as the future benefits, which is defined as the relative revenue forecast between the different services (principally copper and fibre) out over a defined forecast period. The forecast period that Chorus has adopted is 12 years,

which reflects three cycles of an average customer life of four years, which is consistent with how Chorus considers that customers react to marketing initiatives and hence has factored into its decisions on marketing initiatives.

Given Chorus's views about how customers may react to marketing initiatives, the future benefits allocator would be expected to provide a very good proxy for the benefits that may be expected from the marketing initiatives. A marketing initiative would be expected to influence the decisions of customers at the margin, for example, increasing customer numbers or revenue per customer by x per cent. It would follow from this that the forecast of relative revenue – i.e., the base against which improvement may be expected – would be directly related to the relative benefits that the initiative would generate between copper and fibre services. In addition, if the future benefits are considered to provide a good proxy for the relative benefits across copper and fibre from the marketing initiative, then it would also provide a good proxy for the cause of the initiative (i.e., recognising that marketing initiatives are undertaken to provide benefits in terms of connections and revenue).⁷

In terms of the default list of allocators, future benefits may fall within the concept of “revenue” in the default list. However, it is addressed in this report in case revenue in the default list is interpreted as just meaning contemporary revenue. If the meaning of revenue is restricted in this way, then none of the default allocators would provide a reasonable proxy for why the marketing initiatives were undertaken and the benefits expected. For example, if contemporary revenue were used as an allocator, then this would suggest that Chorus undertook substantial marketing activities to promote its copper services, even though its business strategies were framed around fibre being the core of its future business. Moreover, this situation – whereby technology neutral marketing needs to be allocated between copper and fibre services – is not something that the Commission's FPP modelling likely had to consider.

One question that may be asked about this allocation method is whether the measure of future benefits is sufficiently robust to be used for cost allocation purposes, given that this will be based on forecasts. My understanding is that the source applied for calculating the future benefits will be the corporate plan forecasts which existed over the period and were updated frequently, and so this allocator would reflect observable information from the period in question.

⁷ The real issue that is being confronted is that marketing / promotional activities are treated as an expense, but yet the benefits are intended to be much more enduring. The use of a forward-looking allocator addresses this factor.