



Incentive payments



A note for Vodafone New Zealand | 4 August 2021



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1 Introduction

1.1 This note

Vodafone New Zealand has asked Frontier Economics for its opinion of Attachment G "Incentive Payments" to the Commerce Commission's Draft Decision, *Chorus' price-quality path from 1 January 2022* (Draft Decision). This note is our response to that request.

Chorus has proposed \$44.4m expenditure on incentive payments over PQP1. Chorus uses these payments to increase both:

- the quantity of new fibre connections (eg, through migration of customers to the fibre network), and
- the intensity of usage of the network by existing customers (eg by up-selling existing end-users to higher speed plans).¹

The Draft Decision proposes that the Commerce Commission will deal with these incentive payments in the following way.

It will first seek to satisfy itself that two preliminary thresholds are met. These preliminary thresholds are:

1. that the proposed incentive payments comply with the geographically consistent pricing requirement under s 201 of the Telecommunications Act; and
2. that the costs Chorus incurs in making incentive payments to obtain contracts with RSPs meet the definition of "capex".

If the Commerce Commission is satisfied that these two preliminary thresholds are met, it proposed to enquire whether the expected incremental revenues exclusively from the incremental end-users outweigh the incremental costs. This enquiry is essentially an enquiry for the Commerce Commission to satisfy itself that the incentive payments do not constitute predatory pricing.

1.2 A substantial issue

The Draft Determination also expresses a reservation with this approach. It states:

The appropriate lens to approach this issue from a s162 perspective is the risk allocation principle (one of our three economic principles). This principle has been expressed as balancing the limbs of s162(a)-(d) and is relevant to this context.

Chorus is better able to manage the demand risk than consumers, as incentive payments are one of the tools Chorus has to influence demand of existing

¹ Draft Decision, para G2.



consumers, and to grow the business. Ideally Chorus should be free to choose whether to make incentive payments, and ideally it should bear/enjoy the downside/upside risk.

The downside risk is that the end-user may switch away before Chorus recovers the investment (ie payment and other associated costs). The upside risk should be that Chorus recoups the investment plus a risk-adjusted return (which may be higher than the WACC).

This is consistent with s162(b) as it provides Chorus with an incentive to manage demand risk through incentive payments efficiently. This avoids a potential moral hazard whereby Chorus takes excessive risks—excessive incentive payments in this context—if it knows it will recover the costs from end-users regardless of the success of the incentive payments in growing demand.²

We share the concerns of the Commerce Commission as expressed in this passage and in later passages: that Chorus should ideally face some risk to encourage efficient use of incentive payments and capitalising those payments removes the risk under a revenue cap formulation (with a wash up).³

However, as we explain in the following section, we also have concerns not just relating to risk allocation, but also broader concerns from allowing the incentive payments to be claimed as part of Chorus' RAB.

² Draft Decision, paras G16 to G19.

³ Draft Decision, para G24.



2 Economic analysis of incentive payments

2.1 Price discrimination

Incentive payments are a form of price discrimination contingent on the length of time a customer has been loyal to a supplier. They arise when markets are characterised by customer inertia – when customer inertia means that customers are more responsive to the prices they have to pay up-front than the prices they may be required to pay in subsequent periods. This form of customer inertia has been observed among the customers for many of the old public utilities, such as electricity, gas and telecoms.⁴

Dynamic price discrimination of this kind can be found as an equilibrium in workably competitive markets.⁵ This can be illustrated with the following example. Consider a market with the following characteristics:

- Customers are more responsive to the prices they pay in the first year with a provider than they are in subsequent years
- Once a customer links with a new provider, the average customer stays with that provider for four years
- The provider has the same number of customers in years 1, 2, 3 and 4 of their contracts
- The market is characterised with free entry and exit, so no excess profits are earned in equilibrium
- The long-run average cost (including the cost of capital) of serving a customer for one year is \$10

Equilibrium in a market with these characteristics is likely to exhibit prices something like those in Table 1.

Table 1: Example of pricing with no revenue cap

Year of customer's contract	1	2	3	4
Prices	\$7	\$11	\$11	\$11

Source: Frontier Economics

The example in Table 1 shows that, in any one year, the firm will just generate sufficient revenue to recover its costs: in any year, it expects to generate average revenue per customer of \$10 per

⁴ See, for example, Ali Hortacsu, Seyed Ali Madanizadeh, Steven L Puller, "Power to choose? An analysis of Consumer Inertia in the Residential Electricity Market", *American Economic Journal: Economic Policy*, 2017, pp 192-226.

⁵ See, for example, Alexander McKay and Marc Remer, "Consumer Inertia and Market Power", Harvard Business School, Working Paper 19-111, 20 July 2021.



customer and it incurs average costs of \$10 per customer. In this example, the low price that customers are offered in the first year of their contracts might be presented in various ways: it may be presented as a low-price introductory offer, an introductory coupon or rebate, or via an incentive payment of \$3 to retailers (that is, \$3 below the average revenue/cost of \$10).

2.2 Offering incentive payments with a revenue cap

Chorus has substantial market power; but this market power is constrained by various kinds of regulation – including a revenue cap. The Commerce Commission explains the purpose of this regulation:

Put briefly, our regulation will counterbalance a monopoly's incentive to maximise profits at the expense of consumers. Without regulation, a monopoly's actions can result in short-term harm including consumers paying higher prices and receiving lower quality. In the longer term, harm can include sub-optimal levels of investment and efficiency gains, lower levels of innovation, or behaviour which attempts to limit competitors from entering the market.⁶

The existence of the revenue cap means that the role of incentive payments is quite different from the role of incentive payments in the example in Table 1. To illustrate this change, assume that the assumptions underlying Table 1 change in the following ways:

- The provider has substantial market power which, if unconstrained by a revenue cap would enable it to generate average revenue per customer substantially in excess of the costs of serving those customers.
- The market power of the provider is counterbalanced by a revenue cap.
- The provider offers an incentive payment of \$3 in the first year of a contract in addition to the low price of \$7 – creating a net price in the first year of a contract of \$4.
- The incentive payments are classified as capex and so can be added to the RAB used to derive the revenue cap.

If there is a revenue cap, the effects of a simple reduction in price and an incentive payment are different because an incentive payment increases the RAB whereas a reduction on price for the first year of a contract does not. If there is a revenue cap, offering incentive payments enable the provider to earn some monopoly profit. This can be illustrated by considering the example in Table 2.

Table 2: Example of pricing with revenue cap with incentive payments deductible from the RAB

Year of customer's contract	1	2	3	4
Net Prices (allowing for the incentive payment)	\$4	\$13	\$13	\$13

Source: Frontier Economics

⁶ Commerce Commission, *Fibre Input Methodologies: Draft decision – reasons paper* (19 November 2019) p 3.



Table 2 assumes the \$3 incentive payment is capex and is added to the RAB, so that the allowable revenue over the four years of a customer's contract increases to \$43. Although the real resource cost of serving a customer for the four years remains at \$40, the firm is now able to generate monopoly profits: its long-run average cost remains at \$10; but its average revenue per customer is \$10.75.

The example illustrates the possibility that a revenue cap designed to ensure that Chorus earns only a normal rate of profit may be thwarted through the use of incentive payments – if those incentive payments are allowed as capex for the purposes of determining the RAB (and there is no offsetting reduction in the revenue requirement).

Note also that the main point from this example is not lost if there is a different customer profile, i.e. not the same number of customers in each of years 1-4 in their contracts. The revenue cap allows prices to be designed and updated to recover all relevant long-run costs.

Section 162 of the Telecommunications Act states:

The purpose of this Part [Part 6] is to promote the long-term benefit of end-users in markets for fibre fixed line access services by promoting outcomes that are consistent with outcomes produced in workably competitive markets so that regulated fibre service providers—

- (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
- (b) have incentives to improve efficiency and supply fibre fixed line access services of a quality that reflects end-user demands; and
- (c) allow end-users to share the benefits of efficiency gains in the supply of fibre fixed line access services, including through lower prices; and
- (d) are limited in their ability to extract excessive profits.

In our opinion, allowing Chorus to count incentive payments as capex for the purposes of determining the RAB is contrary to the purpose of Part 6 of the Telecommunications Act. If incentive payments are counted as capex for the purpose of determining the RAB, Chorus would be able to thwart the purpose of the revenue cap in limiting its ability to extract excessive profits.

2.3 The solution

The solution to this dilemma is simple – at least in principle: for the purpose of determining the RAB, incentive payments should not be treated as capex.

The effect of this solution can be illustrated with the aid of our numerical example above. If incentive payments are not included in capex for the purpose of determining the RAB, the allowable revenue for the provider over the four years would be equal to the provider's real resource cost per customer of \$40. If Chorus' allowable revenue were determined in this way, the revenue cap would succeed in limiting the ability of Chorus to extract excessive profits.

If the Commission cannot legally exclude the incentive payments as capex, then a further adjustment to the annual revenue allowance would be required to avoid over-recovery of costs.



3 The Commission's proposed tests

3.1 Incentive payments should be subject to scrutiny irrespective of whether included as capex

The Commission proposes that further scrutiny should be given to incentive payments, if they are to be included as capex. This occurs via an individual capex proposal that is subject to ex ante scrutiny.⁷ The Commission suggests that, if the preliminary thresholds are met, treating incentive payments as capex and scrutinising it ex-ante can promote s162, if not as much as its preferred principled approach.⁸

As we have set out, we do not consider that it is necessary or desirable to include incentive payments as capex. However, regardless of whether the Commission agrees with this view, we consider that they do deserve scrutiny given the other regulatory and market circumstances in which Chorus operates. That is not to deny the benefits of incentive payments or lower introductory prices: we accept that new customers will provide extra volume and so enable Chorus to gain access to economies of scale and lower average costs. Scrutiny is required for the following reasons:

- Incentive payments allow Chorus to increase prices to its existing customers to provide a stream of revenue to fund the acquisition of new customers.
- If there is no constraint on the ability to cross-subsidise between new and existing customers, Chorus will have significant advantages over competitors that lack the ability to cross-subsidise. This can deny competitors the benefits of scale.
- These advantages can be accentuated by customer inertia (stickiness) that is common in broadband markets.

We note that there is some dispute about the degree of competition likely to be faced by Chorus and whether its discounting can, in fact, affect competition. Nonetheless, Chorus itself suggests that fixed wireless access (FWA) represents a credible alternative for some customers and that it is concerned about its ability to compete for new customers where fibre is being rolled out but not yet available.⁹ In our view, this highlights that the Commission is right to be concerned about Chorus' ability to cross-subsidise between customer groups, and that the competitive consequences of incentive payments are deserving of some regulatory scrutiny. No FWA supplier has a similar advantage.

Finally, we suggest that the Commission should scrutinise incentive payments whether they are treated as capex or (as we suggest) it does not. If Chorus offers incentive payments, the Commerce Commission should be cognisant of the possibility of predatory behaviour relying on cross-subsidisation between customer groups even if there is no specific allowance – as it would for any other company with a significant degree of market power.

⁷ Draft Decision, para G1.

⁸ Draft Decision, para G28.

⁹ https://comcom.govt.nz/_data/assets/pdf_file/0032/259367/Chorus-Letter-to-Anna-Rawlings-and-Tristan-Gilbertson-on-Part-6-Implementation-18-June-2021.pdf, pp. 2-3.



3.2 Incremental costs and incremental revenues

To provide the necessary scrutiny for incentive payments, the Commission proposes two thresholds and a test for capex proposals. The two thresholds seem appropriate, and we agree with the Commission's view that whether incentive payments can be classified as capex:

...will involve a fact-specific enquiry dependent on the terms of the particular incentive payment. They will be determined on a case-by-case basis with reference to Chorus' individual capex proposal.¹⁰

The proposed test for capex proposals relies on an assessment of the "economic sense" of the payments:

In other words, we should ask the question: would the incentive payments make economic sense in the absence of any harm to competition or regulatory effects? If the answer is yes, then these payments are likely pro-competitive. If the answer is no, then they may represent exclusionary conduct which harms competition.¹¹

The Commission proposes a test of incremental revenues and incremental costs to answer this question. If incremental revenues, after taking into account the incentive payments, exceed the incremental costs of supplying the customer, then the incentive payment would be allowed as capex:

To pass the test, Chorus would have to show that the proposed incentive payments are at a level that provide it with an expectation of incremental net benefits, without relying on an expectation of future higher prices (which could result from a lessening of competition), nor do they rely on the regulator allowing the recovery of the incremental costs (ie, allowing incremental revenues) from the whole of the 'captive' customer base (rather than from the incremental end-users).¹²

Without the expectation that costs would be recovered from users benefiting from the incentive payments, then costs would need to be recovered from existing users, over whom Chorus has a degree of market power and from whom recovery would only be possible with the use of that

¹⁰ Draft Decision, para G15.

¹¹ Draft Decision, para G45.

¹² Draft Decision, para G47.



market power. It would therefore raise concerns that the pricing strategy would have the purpose or effect of damaging competitors and competition between Chorus and suppliers of other broadband services that might be attractive to the new customers. We agree that an incremental revenues > incremental cost approach would be consistent with how a firm in a competitive market would offer such incentives, and could not be predatory.

As above, the test does, however, raise a number of questions about how incremental costs and revenues might be measured.

Incremental revenues

When framed in the way described above, the Commission appears to be proposing that Chorus must produce modelling of customer cohorts that identifies that each cohort must produce incremental profits. However, the Commission also makes clear that it has not decided how the test should be applied; for example:

The above test can be applied to the aggregate, average or specific incentive payments.¹³

In our view, it would make sense for the test to be applied on specific incentive payments, as this is how they should be designed and measured by Chorus if the incentive payments are to make economic sense.

The incremental revenues that Chorus will earn from new customer acquisition are effectively the monthly access charges for the average life of each group of customers acquired (net of the incentive payment), suitably discounted to reflect risk. However, it is likely that a proportion of new customers that take advantage of the incentive payment may have joined regardless of whether that payment was offered, so that the true incremental gain in revenue may be somewhat lower than the full amount (i.e. there is foregone revenue).¹⁴ This is likely to be how a commercial business would consider discounts, i.e. not whether incremental revenues are greater than costs, but whether the discount maximises the gap between incremental revenues and costs.

We also note that the average life of new customers is likely to be an area of contention. Note that the life of new customers may be different from the average life of existing customers.

Incremental costs

The incremental costs of servicing customers on a wholesale network with substantial sunk costs already incurred in network rollout are likely to include connection costs and ongoing network maintenance costs.

¹³ Draft Decision, para G47.

¹⁴ This is also recognized in NERA's submission for Chorus, *Customer Incentive Payments and Benefits for End-Users*, at p. 14.



3.3 Conclusion

Our view is that the Commission's proposed treatment of allowing incentive payments as capex will facilitate over-recovery of cost – not just because of under-spending by Chorus, but because it assumes Chorus needs additional revenues to recover its costs of supply. However, we are in general agreement with the Commerce Commission that the incremental revenue > incremental cost test is the right approach to assessing incentive payments if the Commission is concerned about the potential for anti-competitive pricing. While, on the whole, the relatively high degree of sunk costs means such a test may be relatively easy to pass, there are some elements that are not straightforward to model.

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