Is the European costing debate relevant to New Zealand?

A report for Telecom New Zealand

18 October

"This isn't right. It's not even wrong."
Wolfgang Pauli

1 Introduction

Plum Consulting has been commissioned by Telecom New Zealand to review the submission of Vodafone New Zealand on the Review of the Initial Pricing Principle and updating of the UCLL.[1] In particular, Plum has been asked to advise on the claim by Vodafone New Zealand that recent European research identifies that lower copper prices would promote efficient switching to fibre.

2 Context in relation to the European debate

The debate over pricing of copper and fibre in Europe is occurring at both the national level, where regulators are making regulatory decisions, and at the European level where the European Commission provides guidance on regulation and pricing of next generation access.

This debate takes place in the context of ambitious European goals for the commercial roll out of next generation access networks (in the absence of large scale public funding). The approach to regulation in Europe will therefore be a key factor in the timing and extent of next generation access investment. This is not the key consideration in New Zealand where fibre investment is agreed.

A range of approaches have been adopted nationally in Europe in relation to both copper and fibre regulation and costing, including forbearance from setting a price control in relation to fibre. In relation to proposed European Commission guidance on costing methodology a range of views have been expressed including published reports submitted on behalf of the organisations ETNO and ECTA (the views of operators do not map simply from "entrants and "incumbents"[2]):

- The WIK report for ECTA proposed lowering the price of copper substantially (or threatening to do so) alongside rapid copper retirement.
- The Plum report for ETNO proposed a status quo approach for copper (predominately replacement cost) and a discounted cash flow approach for fibre, if *ex ante* regulation is applied.

[1] Commerce Commission. 9 September 2011. Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA up-lift. http://www.comcom.govt.nz/assets/Telecommunications/STD/UCLL/Averaging-and-benchmarking-reviews/initiation-and-draft-decision/Draft-UCLL-averaging-and-section-30R-reviews-decision-9-September-2011-corrected-UBA-prices-in-Table-5.pdf

[2] A fibre entrant might be an ECTA member but support the ETNO position whilst some incumbents are members of ECTA but not all support the ECTA position on costing.

3 The circumstances in Europe and New Zealand differ in key respects

3.1 Circumstances in Europe

The European Commission has set ambitious broadband goals in its Digital Agenda including universal availability of at least 30 Mbps by 2020 and take-up by 50% of European households of 100 Mbps broadband by 2020.[3] However, there is no agreed investment plan or public funding to reach these goals across Europe. The Digital Agenda targets are expected to be delivered predominantly by private investment.[4] As Neelie Kroes, European Commission Vice President for the Digital Agenda stated:

> "*We need regulatory consistency in all Member States to ensure a level playing field for telecoms across the whole EU, in which competition and investment can thrive. This will reassure markets that putting money into fibre networks is a safe and profitable investment*."[5]

The ambitious broadband targets combined with an emphasis on private investment have triggered debate on the regulatory framework governing next generation access. The papers cited by Vodafone New Zealand contribute to this debate.

3.2 Circumstances in New Zealand

In contrast to Europe, in New Zealand the Government has taken an active and central role in determining the timing and nature of next generation broadband access investment. The Ultra Fast Broadband initiative provides NZD$1.5 billion of Government funding and delivery via joint ventures between access providers and the Government to roll out the network.

This means that the regulatory debate in Europe about the regulation of copper and fibre has little relevance to New Zealand; instead, the key element for New Zealand is how regulation affects incentives for consumers to switch from copper to fibre.

3.3 Contrasting circumstances in Europe and New Zealand

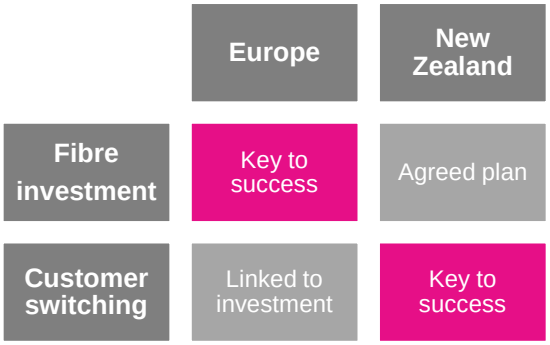
Figure 1 illustrates the contrast between Europe and New Zealand.

[3] EC. July 2010. "A Digital Agenda for Europe." http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:EN:PDF

[4] The Commission's is proposing that only a very limited proportion of the cost come from public funding such as the €9 billion Connecting Europe Facility compared to a total estimated cost running into the hundreds of billions. http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/11/629&type=HTML

[5] European Commission. 3 October 2011. Media Release. http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/1147&format=HTML&aged=0&language=EN&guiLanguage=en

Figure 1: Impact of copper price on fibre investment and customer switching to fibre



Note: Incentives for fibre investment relate both to relative prices on copper and fibre and on anticipated demand i.e. anticipated customer switching is relevant to the commercial investment case for fibre.

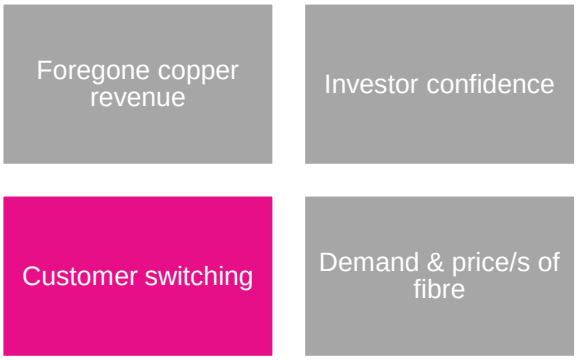
In New Zealand, the price of copper will be a key influence on the behaviour of consumers switching from copper to fibre. In Europe, the price of copper will influence the decision over whether or not to invest in fibre networks. Cheap copper prices would undermine demand for fibre and the business case for new fibre investment.

4 European policy guidance has yet to be agreed and positions differ

The European debate is focused on the roll out of fibre infrastructure to achieve specific "Digital Agenda" targets in relation to high speed broadband availability which it is anticipated will be met primarily via commercially driven private investment.

Figure 2 summarises the broad considerations in relation to the price of copper which have been raised in the European debate as relevant to fibre investment, investment in competing platforms and customer switching from copper to fibre.

Figure 2: Issues considered in European studies



Note: Magenta (dark shading) indicates key relevant issue for New Zealand decision on the price of copper.

Published studies in Europe differ in their coverage of the above considerations:

- The WIK study, cited by Vodafone New Zealand, considers foregone copper revenues only, and focuses only on the case of a copper network operator who is also the fibre investor. The WIK study also does not consider the possible impact in terms of cross platform competition and investment.
- The Frontier Economics study, cited by Vodafone New Zealand, is broader in scope in relation to the above, but applies a "utility" perspective to the telecommunications market and therefore does not consider the possible impact in terms of cross platform competition and investment. In contrast to WIK, the Frontier Economics study identifies the risk that denying cost recovery for some assets would undermine investor confidence and lower copper prices could impact on customer incentives to switch to fibre.
- The Plum study, not cited by Vodafone New Zealand, is also broader in scope than the WIK study. It puts little weight on foregone copper revenues on grounds that they are irrelevant for investors who are non-copper network owners including entrants and for other platform investment. Further, competition from wireless and cable (where available) will limit fear of cannibalisation of legacy network revenues as a disincentive to invest in fibre (since copper revenues will be under competitive pressure regardless).

The above published studies and other representations are playing into the policy debate at the European level and at the national level. Further, the role of possible European Commission guidance on costing methodology should be considered in the context of the wider debate and institutional arrangements in Europe.

Responsibility for communications regulation in the EU is divided between the European Commission, the Body of European Regulators (BEREC) and National Regulators. National Regulators determine the regulation of access within a framework of market definitions set by the Commission. National regulators must take account of guidance issued by the Commission.

The Commission has issued a recommendation on the regulation of next generation access[6] and is in the process of developing guidance on cost orientation in the transition from copper to fibre networks. The recommendation on the regulation of next generation access covers a range of issues and includes a recommendation to require unbundled access to fibre and duct at cost orientated prices (including a risk premium for fibre). The Commission has now issued its initial thoughts on cost orientation in the form of a public questionnaire on costing guidance.[7]

However, there is considerable diversity, both in the prices of unbundled copper lines and the approach to regulating next generation access across Europe. Whilst the price of unbundled copper lines varies significantly across countries (€5.98 to €13.98[8]) the EU average has been stable over the recent past (€9.66 per month in 2009 and €9.61 per month in 2010[9]). Table 1 illustrates the diverse of approach to next generation access regulation in Europe.

[6] Total average cost (line rental plus amortised connection charge). European Commission. September 2010. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF

[7] European Commission. October 2011. http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/cost_accounting/costing_methods_questionnaire.pdf

[8] European Commission, Digital Scorecard. http://ec.europa.eu/information_society/digital-agenda/scoreboard/download/index_en.htm

[9] European Commission, Digital Scorecard. http://ec.europa.eu/information_society/digital-agenda/scoreboard/download/index_en.htm

Table 1: Diversity of approach to next generation access regulation in Europe

Country	Approach
Netherlands	Discounted cash flow approach using economic depreciation and a bottom up model for operating costs.[10]
UK	Retail minus approach to setting price for virtual unbundled loop and no unbundled fibre product[11]
France	Duct sharing at cost oriented rates and access to terminating segment according to the principles of reasonableness, transparency, objectivity, non-discrimination, relevance and efficiency[12]
Germany	*Ex post price* regulation of fibre loops (includes prior scrutiny of prices by the NRA)[13]

In other words even if the debate in Europe were considered directly relevant to New Zealand, there is no agreed set of principles or approach to adopt.

5 Vodafone New Zealand misrepresent the debate

Vodafone New Zealand identify the key conclusion arising from the two reports it has submitted as (page 2):[14]

> *"Recent European research from WIK-Consult, Professor Vogelsang and Frontier Economics, indentifies that lower UCLL rates promote efficient switching to fibre."*

In this section we identify where this conclusion is drawn from and discuss its relevance to what the Commission is addressing in New Zealand. We conclude that Vodafone has misunderstood the reports' conclusions and therefore their relevance in the New Zealand context. We also note that Vodafone New Zealand only consider one side of the debate in Europe and neglect to consider the broader contributions to that debate.

5.1 The WIK study focuses on the opportunity cost of copper revenues foregone potentially foregone

The WIK study focuses on a market in which an incumbent operator is deciding whether to invest in fibre (versus continued reliance on copper). WIK consider the opportunity cost of revenue potentially foregone if the operator invests in fibre and ultimately shuts down copper. Vodafone provides no reference for its assertion that WIK conclude that efficient switching the fibre is promoted by lower UCLL rates. However it appears to come from the WIK conclusions on page 140:

[10] OPTA. May 2010. "Regulation, risk and investment incentives." Regulatory Policy Note 6. http://www.opta.nl/en/news/all-publications/publication/?id=3201

[11] Ofcom. October 2010. "Review of the wholesale local access market". http://stakeholders.ofcom.org.uk/consultations/wla/statement

[12] Arcep. 9 November 2010. Decision 2010-1211. http://www.arcep.fr/index.php?id=8571&L=1&tx_gsactualite_pi1[uid]=1331&tx_gsactualite_pi1[annee]=&tx_gsactualite_pi1[theme]=&tx_gsactualite_pi1[motscle]=&tx_gsactualite_pi1[backID]=26&cHash=4

[13] Federal Network Agency. 25 January 2011. "Bundesnetzagentur invites comments on new regulatory conditions for the last mile." http://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/EN/2011/110125LastMileREgulatoryConditions.html

[14] WIK. November 2010. "Access pricing for copper and fibre: are the sums right?" ECTA Regulatory Conference 2010.

> *"An integrated incumbent will switch from copper to fibre, where copper profit is below expected fibre profit. Since higher copper access charges increase profits from copper but leave fibre profits unaffected, high access charges for copper reduce the incentives for a switch. In particular, at today's nationally averaged copper access charge of 8.55€ there would be little incentive for the incumbent to invest in fibre. High levels of copper access charges generate negative incentives for incumbents to invest into fibre because of profit cannibalization."*

There are two key issues here.

First, it is clear that when WIK talk about incentives for switching, they are talking about an incumbent switching investment from copper to fibre. In the New Zealand context, incentivising that investment switch is less of an issue as the investment in fibre will occur as the result of the competitive tendering process run by the Government. Rather, the key issue in New Zealand is around incentivising customers to switch.

In another context WIK have addressed customer switching and come to a quite different conclusion. At the November 2010 ECTA conference WIK noted the importance of higher, not lower, LLU prices for migration from copper to fibre:

> *"Higher copper LLU price...motivates users to migrate to fibre access where they have the option to".*

Second, a key omission from the WIK analysis is that lower copper prices would discourage customer switching from copper to fibre. It is not therefore correct to claim as WIK do that a change in copper prices would "...*leave fibre profits unaffected*." Higher copper prices would incentivise more customers to switch to fibre, thereby increasing fibre returns. The importance of the linkage between copper prices and fibre adoption and the fact that this issue is not addressed by the WIK model is acknowledged by WIK at page 128/9:

> *"We have assumed so far that (in the absence of an independent fibre investor) the decision to switch from copper to fibre is made solely by the incumbent and is based solely on the criterion of maximum expected profits under given wholesale access Wholesale pricing, NGA take-up and competition charges for copper and fibre. This led to the quite general result that copper is only preferred to fibre under high levels of aC relative to those of aF, because of the effect of access charges on wholesale profits and on the level of downstream competition. The flip side is that relatively low levels of aC vs. aF provide incentives for switching from copper to fibre. Such a switch, however, can lead to conflicts with consumers, who would like to stay with the copper network under the low end-user prices resulting from low levels of aC. This conflict is not directly addressed by our competition model".*

We conclude that the WIK study does not support the conclusions drawn by Vodafone New Zealand.

Vodafone New Zealand also claims on page 6 that:

> *"However, as identified by WIK-Consult and Professor Vogelsang, higher UCLL prices would result in a very strong economic driver to limit fibre roll out, to the minimum switch-over necessary to meet contractual commitments."*

We understand that the fibre rollout in New Zealand has been agreed by contract and is not dependant on high or low UCLL prices. The minimum switchover that Vodafone refers to relates to customer adoption, which WIK acknowledge would be less likely if the copper price were lowered. Therefore the Vodafone assertion above is incorrect.

5.2 Frontier Economics propose distinguishing network assets classes and treating them differently

We do not consider that the Frontier Economics report supports Vodafone New Zealand's assertion that lower UCLL rates would promote efficient switching to fibre. Rather, the report focuses on distinguishing replicable from non-replicable assets and applying different costing methodologies to different asset classes.

Frontier Economics also acknowledge that the price of copper based services will have an effect both on incentives for further investment and take-up of fibre services, but that the exact nature of that is unclear:

> "*In areas where fibre is either already rolled out or could be rolled out, the level of prices determined for copper based services will have an effect both on the incentives for fibre investment and the penetration of fibre in the areas where it is rolled out. The exact relationships will be complex, depending on current and future parameters (such as cross price elasticities of demand between copper and fibre based products) which cannot be determined with any level of certainty at present*."

We note, however, that the direction of impact of lower copper prices on fibre adoption is intuitively clear (i.e. negative) even if the magnitude of impact is unknown. In the New Zealand context, where investment is committed, this is the relevant consideration.

The Frontier Economics analysis is in part motivated by thinking and experience in relation to utilities in the UK, in particular the water industry where underground assets are valued substantially below replacement cost. However, Frontier Economics note that this approach could impact on investor expectations regarding further investment and that it could impact on customer incentives to adopt fibre:[15]

> *"...setting prices to only reflect forward looking costs, if leading to an implicit writing off of the remaining value of past investments, would set a precedent which could discourage future investment." Page 16*

> *"The need to ensure that consumers are not paying more than necessary for the use of legacy networks and do not disconnect or inefficiently switch to alternatives." Page 7*

Frontier Economics also do not consider the impact on platform competition where writing down returns on some assets for fixed broadband access would harm the investment case for investment in competing infrastructure.

5.3 Vodafone New Zealand only refer to one side of the debate

The studies cited by Vodafone New Zealand are inputs to the European debate and their conclusions need to be read in that context. As indicated above, the conclusions Vodafone New Zealand draw from the studies on the importance of low UCLL prices are conclusions that are either not in the reports cited, or limited to the particular context of the report, or simply a misreading of the reports. In our view they are not relevant to the questions currently under consideration in New Zealand.

[15] Frontier Economics. June 2011. "Access network costing."
http://www.vodafone.com/content/dam/vodafone/about/public_policy/policy_papers/nga_costing_proposals.pdf

Further, they do not present a complete picture of the debate in Europe. For example the Plum report for ETNO also reviewed options in relation to costing methodology and concluded that a lower copper price would deter customer switching to fibre and would deter investment by competing infrastructure providers including wireless, cable and fibre entrants.[16] In summary the report concluded that:

- European telecommunications regulation has developed in an era when networks were in place, demand was stable and there was limited network competition. None of these conditions hold during the transition from copper to fibre.
- During the transition investment to rebuild networks is required. Demand will be much less certain as copper, fibre, cable and advanced wireless networks compete for customers. This has three key implications:
  - To support customer migration to fibre the price of copper should reflect replacement cost.[17]
  - Competition will intensify as regulated copper competes with fibre (in addition to other platforms) – competition should be reappraised and the costs and benefits of price controls on fibre assessed.[18]
  - If *ex ante* price controls are applied to fibre a long-term approach to costing is required which addresses the need for commitment to support investment and which reflects demand uncertainty and anticipated demand growth. The Plum conclusions explicitly consider incentives for customer switching from copper to fibre and incentives for investment by non-incumbent investors and competing access platforms and therefore differ from those in the WIK and Frontier Economics studies.

The debate in Europe is still not settled. It is also not directly relevant to New Zealand given that the policy debate in Europe is focussed on incentivising investment rather than fibre adoption given agreed investment.

6 Conclusion

The conclusion Vodafone New Zealand reach, namely *"...that lower UCLL rates promote efficient switching to fibre*" is not supported by the literature they cite in relation to the European debate regarding access pricing. The literature does not in fact claim that lower copper prices would support switching to fibre. In any case, it is not relevant for the New Zealand context where an investment plan is agreed and fibre adoption (predominantly switching) will be the key issue.

[16] Williamson, Black and Wilby. 2011. "Costing methodology and the transition to next generation access". http://www.plumconsulting.co.uk/pdfs/Plum_Costing_methodology_and_the_transition_to_next_generation_access_March_2011_Final.pdf

[17] As Neelie Kroes, European Commission Vice President for the Digital Agenda stated in 3 October 2011:

"And I also have the impression that, as it stands, it would indeed be difficult to build new fibre networks competing with cheap parallel copper networks."

http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/11/623&format=HTML&aged=0&language=EN&guiLanguage=en

[18] Ofcom, for example, are clear on this point (October 2010):

"Moreover, we consider that the prices charged by BT for VULA would be largely constrained from competition at the retail level by OCPs' continuing ability to purchase CGA services from BT on regulated terms and by the services offered by Virgin Media over its cable network." (page 54)

http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf