

Submission to the New Zealand Commerce Commission

**Re: Unresolved Issues: Vodafone Europe B.V. / Sky Network
Television Limited**

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1. This submission has been prepared in response to the 31 October 2016 Letter of Unresolved Issues¹ (the letter) from Katie Rusbatch, Competition Manager of the New Zealand Commerce Commission (the Commission), to Sky Network Television Limited (Sky) and Vodafone New Zealand Limited (Vodafone) regarding their application of 29 June 2016 for clearance to merge².
2. The authors are academics with specific research, teaching and consulting expertise in telecommunications economics, regulatory and competition policy, and media concentration. Their research scope covers both telecommunications and media markets in New Zealand and internationally³. Neither is currently acting in any capacity for the applicants or any of the parties submitting in response to the Commission's Statement of Preliminary Issues⁴, or subsequently in response to those submissions⁵. Their interest in this merger is predicated solely upon intellectual curiosity and academics' responsibility for critical reflection and acting as the informed conscience of society⁶.

Competition issues (mis)identified

3. The letter states that the Commission is not satisfied that the merger would not give rise to competition issues in the provision of telecommunications services resulting from vertical and/or conglomerate effects (para 18) arising from the merged entity's (para 19):
 - substantial market power for premium content, particularly live rugby;
 - ability to bundle content with mobile and/or broadband so as to make it less desirable for retail residential consumers to purchase Sky on a stand-alone basis, thereby foreclosing mobile and/or broadband competitors;
 - reduced incentives to make its content available under resale arrangements so as to enable rivals to offer equally attractive bundles; and
 - potential to raise the prices of telecommunications services above levels in the counterfactual due to rivals losing sufficiently many customers that they are unable to act as a competitive restraint.

¹ <http://www.comcom.govt.nz/dmsdocument/14895>

² <http://www.comcom.govt.nz/business-competition/mergers-and-acquisitions/clearances/clearances-register/vodafone-europe-b.v.-and-sky-network-television-limited/>

³ Curricula vitarum, including full publication records, are available on request.

⁴ <http://www.comcom.govt.nz/dmsdocument/14479>

⁵ The full record of formal proceedings in this clearance application is available on <http://www.comcom.govt.nz/business-competition/mergers-and-acquisitions/clearances/clearances-register/vodafone-europe-b.v.-and-sky-network-television-limited/>

⁶ As per Section 162 (v) of New Zealand's Education Act 1989. <http://www.universitiesnz.ac.nz/nz-university-system>

4. We contend that in coming to these conclusions, the Commission might have:
 - given too much weight to supply-side considerations concerning the potential for the merged entity to exert market power in internet access markets (both mobile and fixed line); and
 - overlooked significant matters on the demand-side of both content and internet access markets that suggest the merged firm will face considerable impediments to acting in the ways described in the letter, either with or without the merger proceeding.
5. We further contend that the Commission's analysis of the proposed merger as a linear production and value chain, with an upstream content market and a downstream internet access and content distribution market with consumers as passive recipients of take-it or leave-it bundles of content and internet access does not reflect the current and future reality of competition between international multi-sided content distribution platforms to recruit both consumers and affiliated internet access providers. Neither does it recognise the inherent uncertainties as to how these platforms will evolve as content creators and rights-holders face increased choices about the ways in which distribution rights may be traded (e.g. rights sold by distribution technology type rather than time and geography) and the models of charging for internet access change to reflect these different options (e.g. sponsored data, zero-rating).
6. Hence, the counterfactual against which the proposed merger has been analysed is most unlikely to be reasonable for any time period other than the short-term future.
7. We note that New Zealanders (like people in many other countries) enjoy content that is produced mainly abroad and for which the rights are owned by foreign entities. The territoriality of copyright could itself be seen as the source of some less competitive features (in contrast too, for example, the market for T-shirts or bananas) of the audio-visual entertainment market. Under current New Zealand competition law, the Commerce Commission is unable to address these consequences. If it is deemed desirable to intervene in the exercise of market power by rights-holders (e.g. mandating monopoly content be made available to all access-seekers on common terms other than those the owner voluntarily proposes) then this is more properly a matter considered under the auspices of regulation rather than competition law.

Outline of our submission

8. We shall

- argue that vertical and/or agglomeration effects will not necessarily lead to a substantial lessening of competition;
- discuss oversights in the Commission’s analytical approach; and
- consider implications for Merger Analysis, Competition and Regulatory policy.

Vertical and/or agglomeration effects will not necessarily lead to a substantial lessening of competition

9. The Commission is concerned that the merged firm will be able to transfer its substantial market power arising from extant ownership of content distribution rights into market power in both fixed and mobile telecommunications (notably broadband access) markets, and that this market power will necessarily result in a substantial lessening of competition in broadband access markets. Lessening of competition is seen as inevitable because:
- a) Sky owns the rights to premium video and live sport content that is deemed a ‘must have’ for effective competition to develop in the New Zealand markets for paid video entertainment; and
 - b) bundling this premium content with internet access services will therefore enable the merged firm to foreclose competitors in the various telecommunications markets.
10. We do not find this this argument compelling.
- a) First, Sky already has rights to live sports content and both its basic and premium content are made available in bundles with internet access offered by Vodafone. The Vodafone bundles⁷ are offered at a \$20 discount relative to unbundled Sky components purchased directly and comparable internet access purchased from rival ISPs⁸. If foreclosure due to the compelling price advantages of the content and internet bundle was inevitable, then it would be expected that all rational Sky customers who also purchase broadband internet access would already be customers of Vodafone fixed line broadband. That is, foreclosure in fixed line broadband access markets would have already occurred. Consequently, the proposed merger could not possibly lead to a lessening of competition in this market *relative to the status quo ante*. Indeed, there would be no need for the merger to actually take place as the putative desired

⁷ We note that bundling per se is neither necessarily anti-competitive nor strictly welfare-reducing. See Carlton, D., Greenlee, P., & Waldman, M. (2008). Assessing the anticompetitive effects of multi-product pricing. *Antitrust Bulletin* 53(3), p. 587-662.

⁸ <http://www.vodafone.co.nz/tv/sky-with-broadband/> \$15 monthly discount on the provision of a MySky box rental and a \$5 monthly discount on the broadband connection

competition-reducing effects have already been achieved under the existing contractual arrangements. Furthermore, this foreclosure, if indeed it has occurred, is not contingent upon consumers purchasing Sky Sport or any other premium content. It is possible simply from the bundling of Sky Basic with a broadband connection.

- b) Second, if such foreclosure has already occurred, it begs the question of why the generous bundling discounts for Sky content continue to be offered. If the market has already perfectly separated Sky internet customers from other Sky customers and other internet customers, then the broadband bundling discount alone should be sufficient to prevent both defection from Vodafone and guarantee all new Sky customers wanting an internet connection will purchase the Sky/Vodafone bundle. That the bundle discount still continues to be offered by Vodafone confirms that foreclosure in the internet access market as proposed in the Commission's merger factual is not credible.
- c) Third, if the Commission's factual is to hold, then future foreclosure of fixed line broadband rivals as the transition towards an all-IPTV transmission of paid video entertainment proceeds would appear to be contingent upon the merged firm acquiring exclusive distribution rights to all paid internet content consumed by residential customers. Instead, we suggest that so long as there is any paid internet content valued by consumers that is not controlled by the merged firm, a case exists for fixed broadband internet access rivals to enter into agreements with those controlling it in order to offer bundles allowing segmentation of remaining internet consumers based upon their (non-Sky) content preferences. This is precisely what is observed with Spark/Lightbox bundles, which have not been foreclosed by the presence of the Sky/Vodafone bundles – noting that achieving scale (acquiring market share) from the ability to bundle Sky premium content with other video entertainment content is a separate (horizontal) issue from the (vertical) question of whether content and internet access bundles can lead to internet access market foreclosure.

Furthermore, even if broadband access foreclosure had occurred, New Zealand fixed broadband access regulation allows any content owner the potential to establish a proprietary ISP for the purpose of offering content and internet access bundles to appeal to consumer content preferences not already addressed by other bundles in the market. The ability to do this is demonstrated by the recent entry of Stuff Fibre⁹, majority-owned by Fairfax Media New Zealand. Whilst Stuff does not currently offer content

⁹ <https://stuff-fibre.co.nz/?gclid=CN2GmsHkiNACFYWTvQodvqsBjQ>

and internet access bundles, there is no reason why internet access bundles combining newspaper and magazine content held behind paywalls could not be developed. Likewise, such bundles need not even be limited to ‘content’ as construed in these examples. Any internet application involving a separate payment by residential consumers could be bundled in this manner. Home security services are one example, but with a growing number of “Internet of Things” applications coming to market, the possibilities appear to be constrained only by the limits to commercially valuable application development.

- d) Fourth, even without regulated access provisions governing mobile telephony markets, the ability for Sky/Vodafone to foreclose rivals in these markets is much less than indicated in the letter. There are currently three mobile network operators in New Zealand. All offer services in both the business and ‘residential’ market segments. The Commission has indicated that it does not perceive the merger to impinge upon competition in business mobile markets. Yet both business and ‘residential’ markets are served by the same network infrastructures. Even if it were possible for the merged entity to foreclose its two rivals in the residential retail markets in the short term, the same network footprints would still be required for all networks to serve business consumers. The incentives for potentially or actually foreclosed mobile operators to find new ways to sell services to residential customers to recoup revenues to offset high fixed costs would likely be very much stronger than for fixed line ISPs relying only on access regulation for purchasing internet inputs. Hence, rivalry between network operators to secure arrangements bundling new and different applications with telecommunications services (as per (c) above) will likely occur earlier and be more intense amongst mobile than fixed operators in order to forestall potential foreclosure by a merged, vertically-integrated rival.
- e) Arguably, Spark’s bundling of Spotify Premium services (retailing at \$12.99 per month stand-alone¹⁰) for no additional charge on a range of on account plans¹¹, whilst neither Vodafone nor Two Degrees make a similar offer, illustrates that competition to bundle differentiated applications is already present in mobile markets. Neither Vodafone nor

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https://www.spotify.com/nz/premium/?utm_source=google&utm_medium=cpc&utm_campaign=360ispotify%7Cnz%7Cbrand-text%7Call%7Cgoogle%7Csem%7Ccore%7Cexact&utm_content=growth_paid&utm_term=43700010058663208_c

¹¹

<http://www.spark.co.nz/spotify?gclid=CNXKjJeIk9ACFYyXvQodNgQFow&gclid=aw.ds&dclid=CICqpJek9ACFQUqlgodgZwAMA>

Two Degrees currently offer Spotify bundles with any of their plans¹² Indeed, any bundling of Sky content with Vodafone mobile plans (as already occurs in the United Kingdom¹³) could be viewed as simply a natural competitive response to the Spark/Spotify offering. The Spark/Spotify example simply illustrates that contractual arrangements are sufficient for bundled offers to be made to consumers. Once again, the merger leads to no further lessening of competition than has already occurred under the contractual arrangement. It seems both inconsistent and an asymmetric application of authority to prevent the Sky/Vodafone merger whilst at the same time not taking action against the Spark/Spotify alliance which, by the Commission's arguing of the merger factual, presents an almost identical potential to substantially lessen competition in the mobile market. Fifth, the different charging arrangements typically employed for mobile services mean that it is not even necessary to rely on applications for which customers pay a positive price when building bundles¹⁴. Because mobile accounts typically include both a fixed access and per megabyte usage charge, it is possible for mobile operators to use discounts on data usage for specific applications (i.e. 'zero-rating'¹⁵) rather than discounting monthly charges as a pro-competitive response to bundling discounts for access to paid content. Indeed, the creation of new content platforms along with zero-rating data when accessing them has been fundamental to the ability of new mobile operators to build customer numbers and achieve scale (e.g. T-Mobile with Binge-On in the US, and Free Basics in the developing world¹⁶). This suggests that the focus on the bundling of only paid content in the range of potential competitive constraints on the merged firm is too narrow.

¹² Even though it is bundled by Vodafone in the United Kingdom. <http://www.vodafone.co.uk/explore/music-tv-and-sports/spotify/>

¹³ <http://www.vodafone.co.uk/explore/music-tv-and-sports/sky-sports-mobile-tv/>

¹⁴ For a discussion on the ability for network operators to exercise market power in the separate cases of no charge and a charge for content provided, see Gans, J. & Katz, M. (2016). *Net Neutrality, Pricing Instruments and Incentives*. National Bureau of Economic Research Working Paper No 22040..

¹⁵ For a discussion of the economics and competitive effects of zero rating, see Howell, B. & Layton, R. (2016). *Evaluating the Consequences of Zero-Rating: Guidance for Regulators and Adjudicators*. Paper presented at the 44th Telecommunications Policy Research Conference, Arlington, Virginia, September 30 2016.

¹⁶ For a discussion, see Layton, R. & Elaluf-Calderwood, S. (2015). *Zero Rating: Do Hard Rules Protect or Harm Consumers and Competition? Evidence from Chile, Netherlands and Slovenia*, paper presented at the 43rd Telecommunications Policy Research Conference, Washington, DC, September 2015 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2587542 and Layton, R. & Elaluf-Calderwood, S. (2016). *Zero Rating, Free Data and Use cases in mhealth, Local Content and Service Development, and ICT4D Policymaking*. Paper delivered at the 44th Telecommunications Policy Research Conference, Arlington, Virginia, September 30 2016. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2757384

Oversights in the Commission's analytical approach

11. In our view, the Commission has come to erroneous conclusions about the likely competitive effects of the proposed Sky/Vodafone merger because it has predicated its assumptions about competitive interaction on the model of perfect competition. In this model (where there is a homogeneous good, perfect information, no transaction costs, no barriers to entry or exit, no externalities, and perfect divisibility of output), total welfare (in a static sense) increases as the number of providers increases. The smaller the number of providers, the lower will be total welfare, with the worst case being monopoly (one provider). This thinking has underpinned the regulation of internet access markets, which requires the owner of bottleneck local loops linking end consumers to the internet to provide cost-based wholesale access to these connections to rivals. Assuming there is no possibility of a second access network being provided, access regulation allows rivalry in the provision of both the (regulated, homogeneous) local access service and other services added 'over the top' by the access retailer (ISP). ISPs can compete on price, service quality discernible to the end consumer or a combination of the two. What would otherwise be a monopoly provider to an essential service now faces real competition. Consumers benefit from lower prices and/or greater variety than if only one provider served the market. Both the factual and counterfactual cases to the merger evaluated by the Commission presume that a similar solution is available to the 'monopoly problem' of Sky holding the monopoly on the distribution rights to premium content. The foreclosure case apparently presumes that unless rival ISPs are able to perfectly replicate the content and internet access bundles offered by the merged firm (by way of either wholesale offers or regulated access to the content for distribution), then just as in the case for internet access, they will be unable to participate in the market.
12. The assumption that perfect competition is the relevant basis for consideration is flawed, for seven reasons.
 - a) First, it presumes that the relevant market is for a homogeneous good – the bundle of Sky content and internet access. In practice, this is not the market in which ISPs (and by extension, ISPs vertically integrated with content owners) actually compete with each other. They compete not on the basis of discounting the price of homogeneous offerings but by differentiating the range of products and services added on to (bundled with) the homogeneous internet access available on equivalent terms to all operators. If rivals to the merged Sky/Vodafone firm get access to Sky content, it will not be to simply gain market share by reselling identical services. It will be to create new,

differentiated bundles with their own proprietary content and applications, in order to attract customers away from Sky/Vodafone and other content and infrastructure alliances.

To the extent that the distribution rights to all content confer monopolies on the owner, then if Sky/Vodafone can foreclose rivals by not making Sky content available for resale, then it could equally be argued that Spark/Lightbox has a monopoly on Spark/Lightbox bundles which confers market power sufficient to foreclose rivals whose business case rests solely on reselling Lightbox content. Of course this is absurd – as much as Spark/Lightbox would like access to Sky sport content to increase its range of bundles and hence market appeal to consumers, so too would Sky/Vodafone like access to Lightbox content to increase the range of its bundles and hence market appeal. This is not an issue of market power created by the merger, but the simple reality of the competition that exists in dynamic ISP markets for providers of otherwise-homogeneous products and services to escape from the rigours of perfectly competitive markets with homogeneous goods to compete in markets predicated on differentiated offerings.

- b) We suggest instead that the relevant models for considering competition in this case are Hotelling and Monopolistic Competition¹⁷. Hotelling presumes that information about consumer preferences and rivals' costs is known, and firms position themselves either closer or further from each other dependent upon their knowledge of the extent to which consumers find the differentiated goods to be substitutes. Monopolistic competition allows for the producer of a variant to have some market power over those consumers who self-select and derive higher welfare from consuming it (at the same price) than from other variants) as other variants. Entry by providers with differentiated products leads to higher welfare as consumers can switch from a less-preferred to a more-preferred variant. However, as each producer does not typically take account of the effect on the residual demand curve from individual entry, where there are many variants and the fixed costs of entry are low, it is possible for inefficiently too many variants to compete in the market. This argument has been used to suggest that resale access regulation, by making most fixed costs of network operation almost entirely

¹⁷ Carlton, D., & Perloff, J. (2005). *Modern Industrial Organization 4e*. Addison-Wesley. . Hotelling is discussed on pp 221-3; Monopolistic Competition on pp. 201-14.

variable, has led to over-much entry in fixed broadband markets¹⁸. It also poses questions about both the plausibility and efficiency of a counterfactual that an unmerged Sky will engage in more wholesale reselling of its content at lower prices than occurs currently. The Commission's approach presumes that consumers will buy only one content bundle. When faced with an array of content and infrastructure bundles, this content selection will determine the identity of the 'winning' internet access provider. Having selected the preferred internet provider, it will not be possible for the consumer to access other paid content, without that content being sold in the access/content bundle by that internet provider. That is, content and infrastructure purchase is tied. However, there is little evidence of content providers tying sales or limiting content distribution (for 'free' content) to customers of a single ISP (noting here that 'tying' is not the same thing as discounting via zero-rating offers). Customers buying a Sky/Vodafone bundle are equally able to purchase Lightbox as Spark/Lightbox bundle customers are able to purchase Sky content bundles and the stand-alone Fanpass sport content¹⁹. This is because once an internet access package has been purchased (either with or without bundled content), content bundles are not perfect substitutes for each other (unless, of course, they become homogeneous as a consequence of regulatory intervention requiring all content to be available for resale and repackaging). Consumers will purchase as many or as few content bundles as their preferences and budgets (both financial and time) permit.

- c) The second point arises from the fact that the demand for internet access is a derived demand – derived from the benefit that consumers extract from consuming applications and content made available over the internet connection. To the extent that an internet connection is purchased at all, it is because the benefits of the bundle of content and access exceed the costs of buying and consuming both (noting that even when cost is not an object, time to consume content may be a limiting factor to the quantities of both and the quality of the connection that are purchased). This does not change when there is an explicit charge made for the content in addition to the cost of the connection. Internet connections are purchased only because there is internet content or applications that are valued in excess of the total paid. More precisely, internet access is purchased when the purchaser knows of content that is valued in excess of the total

¹⁸ Ford, G., Koutsky, T., & Spiwak, L. (2007). Competition after Unbundling: Entry, Industry Structure and Convergence. 59 *Federal Communications Law Journal* 331.

¹⁹ <https://fanpass.co.nz/>

paid since no-one has a clear picture anymore of the panoply of content and services available on the network.

- d) Furthermore, internet consumers are heterogeneous in their preferences for different applications and content and their willingness and ability to pay (in both cash and time). One of the benefits of the convergence of many different forms of applications and content into a single digital format has been the ability for these heterogeneous consumers to form their own customised 'bundles'. Within these bundles, some applications may be effectively substitutes (e.g. most people have a preferred search engine and web browser) and others complements (e.g. search engines and web browsers together). Content bundles (e.g. Netflix and Sky) may be complements for some consumers, so they purchase both, and substitutes for others (e.g. those whose time or cash budgets necessitate a choice between them).
- e) Fifth, internet consumers are not fixed in their preferences, because the range of applications and content from which they can select is constantly changing, leading to new opportunities for ISPs to bundle them in with internet access to appeal to consumers. As new choices come available, consumers are able to re-evaluate their preferences and willingness to pay, and if, over their entire personal bundles of access, content and applications, they would receive higher surplus on total by switching to another access bundle, then it is feasible for them to do so²⁰.
- f) In the face of both consumer and product heterogeneity, it is extremely difficult to define 'markets' that are amenable to analysis using classic competition law tools. It is even harder to undertake analysis when the actual and potential applications and content from which consumers construct their personalised bundles are continually changing.

For example, the Commission's analysis in this merger has been based upon a presumption that Sky premium content (Movies and Sport) constitute a market of their own. Historically, they have been tied to the purchase of a Sky Basic bundle. Yet recently Sky has 'untied' Sport from the Basic bundle and made it available on its own by the day, week or month, without any other purchase being necessary as FanPass. If indeed, Sport was 'essential content', and to purchase it the vast majority of consumers had to purchase Basic bundles for which they had low values in order to access highly-valued Sport, then unbundling Fanpass at \$55.99 a month instead of the tied Basic and

²⁰ Notwithstanding the need to first satisfy break fee terms for contracts of fixed duration.

Sport bundle at \$79.81 (Vodafone price, including MySky box, or stand-alone price without MySky) has actually increased the scope for consumers to construct their own bundles of both satellite and internet-sourced Sky content in a way not possible if Sky Sport remained tied to Sky Basic. That is, the substantive welfare gain comes not from Sky wholesaling its tied premium content via other internet retailers, but from the untying of its own content – regardless of whoever sells the internet access by which it is accessed. Consumers are free to construct the bundle of content and internet access that leaves them with the most surplus.

In a similar manner, a Vodafone/Sky fixed and mobile customer may discover Spotify and decide that a Spark mobile bundle including the nominal \$12.99 Spotify bundle discount exceeds the \$10 monthly discount available from buying a combined fixed and mobile Vodafone bundle. As long as the consumer is not prevented from unbundling fixed and mobile internet purchase and buying one from Spark and one from Vodafone (i.e. purchase of the two connections is not tied) then competition in bundles will lead to higher consumer surplus. Likewise, so long as new application purchases do not become tied to the purchase of existing ones, there is no impediment to a consumer switching between mobile access providers or fixed access providers when net bundled offers with higher surplus for that consumer become available (leaving to one side the effects of break fees for contracts of specified minimum duration). This reiterates the argument in 9(c) above that the continual development of new applications and content, and new opportunities for different operators to bundle them differently with internet access will likely increase competitive intensity rather than diminish it.

- g) Finally, bundling, even in those cases where it implies higher average prices, does not necessarily reduce consumer welfare. Furthermore, an increase in product quality for information goods can be achieved without an increase in price. This is illustrated by Adilov's (2011)²¹ model which incorporates the two-sided market aspect of cable television provision by considering advertisers and decisions about quality.

Implications for Merger Analysis, Competition and Regulatory Policy

13. Based on our analysis, the counterfactual chosen for analysis of this merger is not realistic, even in the short term, because competition policy can have no effect on a

²¹ Adilov, N. (2011). Bundling information goods under endogenous quality choice. *Journal of Media Economics* 24(1), 6-23.

content monopoly that already exists and has already been exploited. If there are benefits from Sky making new content bundles available in a wholesale market for other ISPs to retail, (e.g. to achieve scale in order to recoup the high fixed costs of buying new rights), then it should be equally compelling for the merged firm to make similar offers. These voluntary arrangements are evidenced with Sky's existing wholesale offers, and are frequently observed in mobile telecommunications markets when operators voluntarily contract with virtual operators who resell their services.

14. But what is an appropriate counterfactual? And is it even possible to develop one that could be sufficiently stable to render a meaningful analysis even in the short term, let alone the medium-to-long term?
15. We suggest that the extensive use of bundling that is occurring in both infrastructure and content and application markets, and on both the supply and demand sides of the market, means it is at best unhelpful and at worst extremely risky to use the standard of 'substantial lessening of competition' in just one of the myriad of markets involved to assess this merger. The very ability to engage in bundling in the first place requires some degree of market power. As the effects of bundling may or may not be harmful to total welfare or consumer welfare, depending upon a wide range of factors, it is not obvious that the primary concern should be the level of competition in a given market (the means) instead of total welfare in a larger economic system or subsystem (the end).. Many of the alleged competitive or anti-competitive effects identified in the letter depend crucially on demand-side factors about which there is very little reliable information – notably consumers' application and content preferences, willingness to pay for new applications and content, and elasticities of demand between them. The merger sits at the interface of a number of complex multi-sided platforms, where it is far from clear how complex cross-subsidies and welfare effects play out. It is far from clear that existing competition law tools are helpful or even relevant in analysing behaviour in complex multi-sided markets²².
16. We propose that instead of using a single counterfactual against which to assess the effects of the merger, a number of different simulation scenarios are developed, and the expected effects on each of total welfare and consumer surplus under each are examined. These simulation scenarios can include the effects of different bundling arrangements between both applications and infrastructure, and a range of different

²² See Evans, C.& Schmalensee,, R. (2012). *The Antitrust Analysis of Multi-Sided Platform Businesses*. Coase-Sandor Institute for Law & Economics Working Paper No. 623,

consumer willingness to pay relationships, again within and between different infrastructure and application sets. These scenarios will not provide a definitive answer to the question of what will occur with or without the merger, but they will provide insights into the potential effects of different supplier and regulator decisions. A number of simulations undertaken using generic settings suggest that the welfare enhancing effects of a decision can be highly dependent on assumptions about consumer valuations. Calibrating these simulations to known and hypothetical relationships in the current New Zealand context, and under a range of possible merged and unmerged scenarios would give some insights into the extent to which welfare may be affected.

17. We acknowledge that this is a novel approach. It deviates from current orthodox Competition Policy, and is arguably the sort of tool frequently used in assessing the effects of different interventions under Regulatory Policy. However, given the extent to which developments in the application and content markets in particular are highly uncertain, the approach is well-suited to providing information to assist in ongoing monitoring of the telecommunications and content/applications markets. If it is accepted that the substantive negative effects of the merger have already likely occurred from existing bundling arrangements then there is little to gain from preventing the merger from occurring. However, if the merger does proceed, subsequent bundling activities may occur in the sector that could, on the basis of the scenarios, lead to harm to welfare. The scenarios will therefore assist in ex post enforcement of competition law, when it does appear that bundling activities may have been used anti-competitively. They may also inform future policy development, both in regard to Competition Law and Telecommunications Regulation.
18. We are willing to discuss the contents of this submission and the simulation models developed to address our primary concerns with any of the Commission, the merger proponents and other interested entities.