



COMMERCE COMMISSION

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**Draft Report on whether the mobile termination access services
(incorporating mobile-to-mobile voice termination, fixed-to-
mobile voice termination and short-message-service termination)
should become designated or specified services**

Draft Report under clause 2 of Part 1 of Schedule 3 of the Telecommunications Act 2001.

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Summary of Draft Report: The Commission's draft recommendation is that:

- the mobile termination access services should be made a designated access service by adding the item set out in paragraph 959 to Subpart 1 of Part 2 of Schedule 1 of the Act; and
- the revised undertakings submitted by Telecom and Vodafone, and the undertaking submitted by 2degrees, should not be accepted under Schedule 3A of the Act.

Date of Draft Report: 30 June 2009

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List of abbreviations

ACCC	Australian Competition and Consumer Commission
ARPU	Average revenue per user
CBA	Cost-benefit analysis
CDMA	Code-Division Multiple Access
cpm	Cents per minute (unless otherwise noted, amounts are in New Zealand currency)
cpSMS	Cents per SMS (unless otherwise noted, amounts are in New Zealand currency)
FTM	fixed-to-mobile
GSM	Global System for Mobile communications
ITU	International Telecommunication Union
MED	Ministry of Economic Development
MMS	multi-media-message-services
MTAS	mobile termination access services, incorporating MTM voice termination, FTM voice termination and SMS termination
MTM	mobile-to-mobile
Ofcom	Office of Communications – regulator for UK communication industries
POI	Point of interconnection
PSTN	Public switched telephone network means a dial-up telephone network used, or intended for use, in whole or in part, by the public for the purposes of providing telecommunication between telephone devices.
SMS	short-message-service
TSLRIC	The forward-looking costs over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, the service, taking into account the service provider's provision of other telecommunications services, including a reasonable allocation of forward-looking common costs.
2G	Second generation cellular network, characterised by digital transmission rather than analogue used by the first generation of cellular networks.

3G

Third generation cellular network, based on the IMT 2000 set of radio technology standards as recognised by the ITU.

Executive summary

Introduction

- i. This draft Report relates to the Commission's investigation under Schedule 3 of the Telecommunications Act 2001 (the 'Act') as to whether or not the mobile termination access services ('MTAS'), incorporating mobile-to-mobile ('MTM') voice termination, fixed-to-mobile ('FTM') voice termination and short-message-service ('SMS') termination, should be recommended to be regulated as a designated or specified service under the Act (the 'MTAS Investigation'). The Commission announced on 6 November 2008 that it had decided that there were reasonable grounds to commence this MTAS investigation.
- ii. The MTM and FTM termination services are the termination of voice calls on a mobile telephone network which originate respectively on another mobile telephone network or fixed telephone network and are handed over to the terminating mobile telephone network. The SMS termination service is the termination of a SMS on a mobile telephone network which originates on another mobile telephone network and is handed over to the terminating mobile telephone network.
- iii. The MTAS Investigation is being undertaken in an environment where MTAS are provided by Telecom and Vodafone only. The prices for MTAS are set under Deeds entered into by Telecom and Vodafone (the 'Deeds') which expire on 31 March 2012, and commercial offerings from Telecom and Vodafone, with Vodafone's commercial offering currently only being available to 2degrees.
- iv. The current prices for the MTAS are summarised in Table 1 below. 2degrees is due to launch mobile services in August 2009, so does not currently offer MTAS although it will shortly be doing so.

Table 1: Comparison of MTAS prices under current Deeds and commercial arrangements¹

	Until 31/3/2010	Until 31/3/2011	Until 31/3/2012
Voice			
Telecom (cents per minute)²	15.0	14.0	12.0
Vodafone (cents per minute)³	15.0	14.4	14.0
SMS			
Telecom (cents per SMS)	9.5	9.5	9.5

Source: Commerce Commission (2009).

¹ All figures for current prices under Deeds and undertakings effective from 1 April each year to 31 March the following year.

² Current prices for Telecom include prices under Telecom's Deed and commercial interconnection agreement, as discussed in paragraphs 5 to 7.

³ Current prices for Vodafone include prices under Vodafone's Deed but do not include the details of Vodafone's commercial agreement with 2degrees [VCOI / 2COI, as further detailed in paragraph 8.

Undertakings received

- v. Under the Act, where the Commission is considering a proposed regulatory change, parties may submit undertakings as an alternative to the proposed regulatory change. Undertakings were initially received from 2degrees on 22 December 2008, and Telecom and Vodafone on 12 January 2009, respectively. Telecom and Vodafone subsequently submitted revised undertakings on 6 May 2009. The undertakings and revised undertakings from Telecom and Vodafone offer the same prices as those offered under the Deeds and Telecom's commercial interconnection agreement for voice, i.e., the prices as noted in Table 1 above, with extended terms.
- vi. The pricing structure of Telecom's revised undertaking of 6 May 2009 is set out in Table 2 below.

Table 2: Charges provided for under Telecom's revised undertaking

	Until 31/3/2010	Until 31/3/2011	Until 31/3/2012	Until 31/3/2013	Until 31/3/2014
FTM	15cpm	14cpm	12cpm	11cpm	10cpm
MTM	15cpm	14cpm	12cpm	11cpm	10cpm
SMS	3.5cpt	3.5cpt	3.5cpt	3.5cpt	3.5cpt

Source: Telecom (2009).

- vii. The pricing structure of Vodafone's three revised undertakings of 6 May 2009 is set out in Table 3 below.

Table 3: Charges provided for under Vodafone's revised undertakings

	Until 31/3/2010	Until 31/3/2011	Until 31/3/2012	Until 31/3/2013	Until 31/3/2014	Until expiry
FTM	15cpm	14.4cpm	14.0cpm	13cpm	12cpm	11cpm
MTM	15cpm	14.4cpm	14.0cpm	13cpm	12cpm	11cpm
SMS	9.5cpt	8.9cpt	8.3cpt	7.7cpt	7.3cpt	7.0cpt

Source: Vodafone (2009).

Relevant markets

- viii. The Commission's preliminary view is that the relevant markets for the purposes of the MTAS Investigation are:
- the national wholesale market for mobile termination access services on each mobile network (the 'wholesale MTAS market');

- the national retail market for mobile services, including MTM calling, SMS, multi-media-message-service ('MMS') and data services (the 'retail mobile services market'); and
- the national retail market for FTM and toll call services (the 'retail FTM/tolls market').

Competition assessment

Wholesale MTAS market

- ix. The Commission's preliminary view is that mobile network operators are subject to limited competition in the wholesale market for termination access services on their respective networks, as:
- other mobile networks provide little or no constraint in each of the wholesale MTAS markets; and
 - countervailing buyer power in the hands of fixed network operators is unlikely to constrain the mobile networks in supplying termination services.

Retail mobile services market

- x. The retail mobile market in New Zealand is highly concentrated compared to other countries, with high retail prices and low levels of usage, particularly for voice services.
- xi. Retail prices for on-net services have generally been significantly lower than for off-net services between networks.
- xii. There have been some recent developments that may promote competition, including the expected deployment of a third mobile network.
- xiii. The Commission's preliminary view is, however, that significant characteristics remain present that are likely to limit competition in the retail mobile services market.
- xiv. Most significantly, the provision of the MTAS at prices above cost represents a barrier to efficient entry and expansion in the retail mobile services market. While 2degrees is expected to enter the retail market within the next few months, its ability to compete for retail customers with the incumbent mobile network operators is likely to be limited where mobile termination rates ('MTRs') are significantly above cost.
- xv. In particular, the Commission's preliminary view is that above-cost MTRs are likely to limit the extent to which an entrant will be able to compete with existing retail on-net prices in New Zealand. In 2008, on net traffic accounted for more than 80% of all MTM voice traffic, and a higher proportion for SMS.
- xvi. The Commission's preliminary view is that competition at the retail level in New Zealand is insufficient to constrain the mobile operators in the wholesale supply of termination services on their respective mobile networks.

Retail FTM/tolls market

- xvii. MTAS are an important input into the supply of retail FTM calls. Retail prices for FTM and toll calls have been declining in recent years. Some of these reductions are likely to have resulted from reductions in FTM termination rates. However, average retail prices for these services remain substantially above the cost of supplying the retail services, and the Commission considers that this is in large part due to above-cost MTRs.
- xviii. A number of developments are likely to have increased competition in the retail FTM/tolls market, such as the cost-based regulation of fixed origination and the ability of retail competitors to offer bundles of services through UCLL or other forms of access (such as resale).
- xix. However, the Commission's preliminary view is that the supply of the MTAS at prices that substantially exceed cost still represents a barrier to efficient entry and expansion in the retail market in which FTM calls are supplied.
- xx. Existing fixed operators are likely to be limited in their ability to compete with integrated fixed-mobile network operators when supplying FTM calls, as long as MTRs remain significantly above cost.
- xxi. The Commission notes that both Telecom and Vodafone have in recent years been offering retail packages to business customers with retail FTM prices close to or below the wholesale MTR. The Commission notes that this suggests that integrated fixed and mobile operators, who pay the above cost MTR on a proportion of their FTM traffic only, enjoy a significant advantage over fixed-only operators, who must pay the MTR on all their traffic.

Assessment framework

- xxii. Given the presence of significant barriers to entry and expansion which constrain effective competition in the relevant markets, the Commission has considered whether regulation of the MTAS will promote competition for the long-term benefit of end-users.
- xxiii. In considering whether the MTAS should be regulated, the Commission considers the costs and benefits of regulation, by contrasting what is likely to happen in the absence of regulation (the 'counterfactual') to what is likely to happen if the MTAS is regulated (the 'factual'). The counterfactual scenario is based on the undertakings received from Telecom and Vodafone (summarised in Table 4 below).
- xxiv. The Commission's assessment of the potential benefits and costs of regulation includes both quantitative and qualitative elements. The Commission has estimated a range of potential benefits from regulation in the retail FTM/tolls market. The Commission has considered the potential impact in the downstream mobile services market using a more qualitative approach, due to the difficulty of measuring the extent of new entry into this market.
- xxv. The Commission must consider efficiencies in this context, either as costs or benefits. To the extent that regulation promotes competition in the downstream markets, end-users are likely to benefit from reduced prices and greater efficiencies in the supply of retail services. The Commission will weigh these benefits against the costs associated with

regulation, to come to a view as to whether regulation will promote competition for the long-term benefit of end-users.

Regulated price

- xxvi. The Commission has benchmarked forward-looking, cost-based estimates from overseas countries to establish the likely regulated price. The Commission's preliminary view is that the benchmarked countries are sufficiently comparable to New Zealand for the purposes of establishing a cost-based MTR in New Zealand.
- xxvii. The Commission's preliminary view is that benchmarking against these cost-based rates is consistent with the Act's emphasis on regulated rates recovering efficiently-incurred costs.
- xxviii. The forward-looking cost-based MTR based on the benchmarked countries for voice (FTM and MTM) in 2009 is NZ7.2cpm, and NZ0.95 cents per SMS. Based on the cost path in overseas jurisdictions, the Commission expects the cost-based MTR to decline over time, due for example to increased traffic (a 'cost-path'). The resulting prices are summarised in Table 4 below.

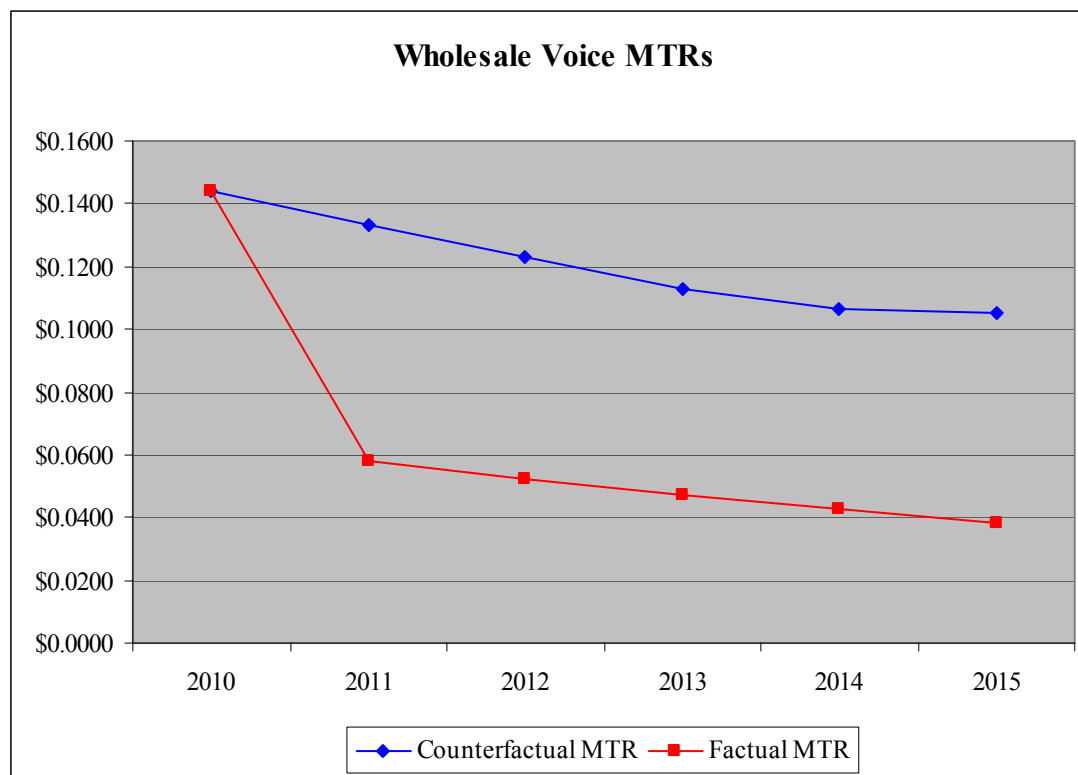
Table 4: Comparison of MTAS prices (NZcpm)

	2009	2010	2011	2012	2013	2014	2015
Voice (cents per minute)							
Counterfactual MTR ⁴	15.25	14.41	13.35	12.31	11.31	10.66	10.53
Factual MTR	7.20	6.50	5.80	5.20	4.70	4.30	3.80
SMS (cents per SMS)							
Counterfactual MTR ⁴	6.68	6.44	6.12	5.81	5.57	5.39	5.36
Factual MTR	0.95	0.86	0.77	0.69	0.62	0.56	0.50

Source: Commerce Commission (2009).

- xxix. Figure 1 summarises the voice MTRs under the counterfactual of the undertakings and the likely voice MTRs under regulation.

⁴ The counter-factual converts the undertakings rates weighted on a calendar basis for each year i.e., the counter-factual for 2010 is one-quarter of the undertakings rate for the period ending 31 March 2010 and three-quarters of the undertakings rate for the period starting 1 April 2010. These figures are then weighted for the proportion of mobile subscriber numbers on each of Vodafone's and Telecom's networks. Telecom and Vodafone's undertakings rates are assumed to remain unchanged for the purposes of calculating the counter-factual in 2014 and 2015.

Figure 1: MTRs in Undertakings and Regulation

Source: Commerce Commission, 2009.

- xxx. The Commission notes that its current cost-based benchmarks are similar to the termination rate that each of the established mobile operators implicitly charges itself in respect of on-net traffic. In contrast, the MTRs contained in the Vodafone and Telecom undertakings are significantly above the rates implied by the average retail on-net prices.

Framework for the Commission's draft recommendation

- xxxi. In assessing the impact of MTAS regulation, the Commission has considered the potential benefits and costs, including efficiency effects, in each of the relevant downstream retail markets. In considering the potential benefits from regulation, the Commission has assumed that the regulated price for the MTAS would be available from early 2011, on the basis that following any recommendation to regulate, such regulation would be introduced in early 2010, with the Commission finalising the price and non-price terms through its Standard Terms Determination process sometime in 2010.
- xxxii. For the Commission to be able to recommend that the Minister accept an undertaking(s), these would have to deliver comparable benefits to end-users over the assessment period, taking into account the quantitative and qualitative factors discussed in this draft decision. The Commission would take into account the advantages offered by revised undertakings, including the potential delivery of earlier reductions in MTRs than would be available under regulation, and the avoidance of direct costs of regulation and the regulatory process.
- xxxiii. The Commission's preliminary view is that a reduction in prices over time which heads towards a cost based rate (a 'glide-path') should only be considered as an

implementation issue and not as part of the benchmarking. However, the Commission will take into account the effect of glide-paths as part of the undertakings in determining whether there are sufficient benefits to justify recommending acceptance of the undertakings.

Assessment of potential impact of regulation

- xxxiv. The Commission’s preliminary view is that compared to the undertakings, cost-based regulation of the MTAS will promote competition in the downstream retail FTM/tolls market and retail mobile services market, with the result that there will be considerable benefits to end-users.
- xxxv. The Commission’s preliminary views on the qualitative and quantitative assessment of benefits and costs, including efficiency effects, are summarised in Table 5 below, over a five-year period from 2011 to 2015. This includes a range of benefits from regulated reductions in MTRs, as well as a number of potential detriments. One such detriment relates to possible offsetting increases in retail mobile prices (sometimes referred to as the “waterbed effect”).
- xxxvi. Any waterbed effect is likely to be influenced by a number of factors, such as the level of downstream competition and the level of mobile penetration. The EC has recently noted that a strong waterbed effect is unlikely. The Commission has examined information on retail mobile prices supplied by Vodafone and Telecom, which suggests that any waterbed effect in recent years has been small. With respect to the results of the quantitative assessment presented below, the Commission has therefore assessed the likely benefits to end users based on a range for the waterbed effect of 0% to 50%.
- xxxvii. Furthermore, the Commission considers that there are likely to be additional and substantial benefits to mobile customers from cost-based regulation of the MTAS, although the Commission has not attempted to measure these benefits.
- xxxviii. Therefore, the quantitative benefits estimated in Table 5 below are likely to significantly understate the overall value of net benefits obtainable from cost-based regulation of the MTAS.

Table 5: Qualitative and Quantitative Long-Term Benefits and Costs to End-Users

Quantitative Assessment (5-year NPV, \$million)	Linear Demand (\$million)	Constant Elasticity Demand (\$million)
Static price effect (FTM)	\$279.5	\$283.0
waterbed effect (50%-0%)	-\$161.0 to \$0	-\$182.9 to \$0
Direct regulatory costs	-\$7.3	-\$7.3
Net Quantified Benefits (see paragraph xliii)	\$111.1 to \$272.1	\$92.8 to \$275.7
Allocative efficiency (FTM)	\$88.9	\$114.2
waterbed effect (50%-0%)	-\$30.3 to \$0	-\$51.6 to \$0
Direct Regulatory Costs	-\$7.3	-\$7.3
Net Quantified Benefits (see paragraph xliv)	\$51.3 to \$81.6	\$55.3 to \$106.9

Qualitative Assessment	
Static price effect (retail mobile)	positive (see paragraph xlvi)
Allocative efficiency (retail mobile)	positive (see paragraph xlvi)
Productive efficiency (FTM and mobile)	positive (see paragraphs xl, xlviii)
Dynamic efficiency (FTM and mobile)	positive (see paragraphs xl, xli, and xlviii)

Source: Commerce Commission (2009).

Note: the net quantified benefits shown above are not additive.

Retail FTM/tolls market

- xxxix. In the retail FTM/tolls market, the reduction in MTRs as a result of regulation (as summarised in Figure 1 above) is likely to result in increased competition between FTM suppliers and result in significant benefits to end-users.
- xl. Greater competition resulting from cost-based input prices is also likely to result in increased productive efficiency, innovation and efficient investment in the delivery of services over fixed networks. This may include the development of flat-rate retail plans that include FTM services.
- xli. In addition, the absence of cost-based regulation of MTRs and fixed termination rates may be a barrier to important innovations and investments in the fixed sector, such as fibre roll-out and the delivery of Next Generation Networks which will allow higher bandwidths and more efficient provision of multiple services.
- xlii. The resulting reduction in retail FTM prices could deliver a long-term benefit of approximately \$280 million over five years to end-users.
- xliii. The likely reductions in MTRs as a result of regulation may have some offsetting effect on other retail prices, such as mobile subscription prices. Taking into account such a 'waterbed effect', as well as the direct costs associated with regulatory processes, the Commission has quantified a net benefit to end-users of between \$92.8 million and \$111.1 million over five years. In the absence of a waterbed effect, the resulting quantified net benefit to end-users is from \$272.1 million to \$275.7 million over five years.
- xliv. The net quantifiable gain in efficiencies is estimated to be between \$51.3 million and \$55.3 million over five years with a waterbed effect, or between \$81.6 million and \$106.9 million in the absence of a waterbed effect. These quantitative benefits can not be added to provide the overall quantitative benefits to end-users, as there is some overlap between the net quantified benefits from the static price effect and the allocative efficiency effect.

Retail mobile services market

- xliv. There are likely to be considerable additional benefits from MTAS regulation arising in the retail mobile services market. These include increased competition between the existing mobile network operators, as MTR reductions are passed through into retail prices for MTM calling.

- xlvi. Cost-based regulation of the MTAS will remove a significant barrier to entry and expansion in the retail mobile services market. Given the relatively concentrated New Zealand retail market, the efficient entry and expansion of a third mobile network could potentially have significant effects, such as:
- given a 5% price effect arising from new entry, the resulting annual gain to consumers is estimated to be approximately \$42.6 million p.a., while the allocative efficiency gain is estimated to be around \$11.3 million p.a.; and
 - cost savings for consumers who no longer need to maintain multiple handsets in order to avoid paying relatively high off-net call prices.
- xlvii. Based on the Commission's cost-based benchmark MTRs, an efficient entrant mobile operator should be able to compete with the existing mobile operators in supplying on-net and off-net services to end-users. In contrast, the MTRs in the undertakings are likely to constrain the ability of an entrant to compete, given average on-net retail prices.
- xlviii. Increased downstream competition in the retail mobile services market is likely to deliver additional benefits to end-users over time, through ongoing innovation and investment in new technologies. Gains in productive efficiency may also result from an increasingly competitive mobile market.

Potential costs of regulation

- xliv. The Commission has considered the potential for some offsetting increases in retail mobile prices arising from the 'waterbed effect' of regulation. Given the level of competition in the retail mobile services market, the waterbed effect in New Zealand is unlikely to offset the declines in price expected under the factual. In recent years, retail subscription prices have continued to decline as wholesale MTRs have fallen.
- l. The potential loss to consumers from the waterbed effect and the direct regulatory costs associated with regulatory processes have been taken into account in the net quantified benefits and net quantified allocative efficiency gains figures in Table 5 above.

Conclusion and draft recommendation

- li. The Commission has weighed up the costs and benefits of regulation compared to the counterfactual of recommending that the undertakings be accepted.
- lii. The Commission considers that the reductions in MTRs that would be expected under the factual of cost-based regulation of the MTAS are likely to increase competition in the national retail market for mobile services and the national retail market for FTM and toll call services, resulting in:
- a reduction in retail prices in these markets; and
 - increased efficiencies,
- which in turn will result in substantial long-term benefits to end-users in these markets.

- liii. There are currently two established mobile network operators in New Zealand, with a third operator about to enter. In the Commission's preliminary view, an efficient entrant mobile network operator will be limited in its ability to compete with the established mobile operators, as long as MTRs remain above cost.
- liv. The Commission's preliminary view is that the above qualitative assessment provides sufficient net benefits to support a recommendation that the MTAS should be regulated. The additional quantitative assessment is consistent with this recommendation.
- lv. The Commission's preliminary view is that the regulation should include price terms,⁵ and that the pricing principles for MTAS should be based on the efficient forward-looking costs of supplying termination services. The Commission has also recommended that the regulated pricing principle retain BAK as an option, to be applied where this is in the long-term benefit of end-users. This approach is consistent with the existing regulated pricing principle for fixed interconnection services in the Act.
- lvi. The proposed initial pricing principle is:
- “Benchmarking against MTAS prices in comparable countries that result from the application to networks that are similar to the access provider's mobile network of -
- (a) a forward-looking cost-based pricing method; or
- (b) if the Commission considers that a forward-looking cost-based pricing method does not best give effect to the purpose set out in section 18, whichever of the following methods that the Commission considers best gives effect to that purpose:
- (i) a pure bill and keep method; or
- (ii) a pure bill and keep method applied to two-way traffic in balance (or to a specified margin of out-of-balance traffic) and a forward-looking cost-based pricing method applied to out-of-balance traffic (or traffic beyond a specified out-of-balance margin).”
- lvii. This reflects the proposed final pricing principle, which would either involve total service long-run incremental costs (TSLRIC) or a bill and keep method, if TSLRIC is not considered to best give effect to the purpose set out in section 18 of the Act.
- lviii. The Commission's draft recommendation is that the MTAS should be made a designated access service by adding the item set out in paragraph 959 to Subpart 1 of Part 2 of Schedule 1 of the Act.
- lix. Consistent with the Commission's draft recommendation in paragraph lviii, the Commission's draft recommendation is that the undertakings submitted by 2degrees and the revised undertakings submitted by Telecom and Vodafone should not be accepted under Schedule 3A of the Act.
- lx. The Commission reiterates that for it to be able to recommend that the Minister accept an undertaking(s), these would have to deliver acceptable benefits to end-users over the assessment period, as have been taken into account in the assessment of the qualitative and quantitative benefits of regulation, in this draft decision.

⁵ The Telecommunications Act 2001 refers to this form of regulation as “designation”.

- lxi. The Commission would take into account the advantages offered by undertakings, including the potential delivery of earlier reductions in MTRs than would be available under regulation, and the avoidance of direct costs of regulation and the regulatory process. Implementation issues that achieve such outcomes, such as glide paths, would also be considered.

Confidential information cited in this determination is subject to the confidentiality order made by the Commission under s 15(i) of the Act and s 100 of the Commerce Act 1986 ('the Order'). The Order in relation to the MTAS Schedule 3 Investigation is dated 6 November 2008.

Information in relation to Telecom's, Vodafone's and 2degrees' restricted information is denoted as [] **TRI**, [] **VRI** and [] **2RI** respectively. Other interested parties' restricted information is denoted in a similar way, for example, TelstraClear's restricted information is labelled [] **TCRI**. Commission only information is denoted as [] **COI**.

All restricted and Commission only information is subject to the Order and has been extracted from the public version of this determination.

Key documents are available on the Commission's website at:

<http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx>

Background

1. The Telecommunications Act 2001 (the ‘Act’) regulates the supply of telecommunications services in New Zealand. Under Schedule 3, the Commerce Commission (the ‘Commission’) may, on its own initiative, commence an investigation into whether or not a telecommunications service should be regulated as a designated or specified service and make a recommendation to the relevant Minister.⁶ The Commission’s process for making a recommendation to the Minister is governed by Part 1 of Schedule 3 of the Act.

Previous mobile termination investigations

2. The Commission previously undertook a Schedule 3 investigation into regulation of mobile termination from May 2004 to June 2005. The Commission’s recommendation to the Minister in relation to that investigation was:⁷

“... to designate termination of voice calls originating on a fixed telephone network where the cellular telephone network technology used for the termination of those calls is not third generation or later technology. The Commission recommends benchmarking as the Initial Pricing Principle and TSLRIC as the Final Pricing Principle.”

3. In August 2005 the Minister requested under clause 6(b) of Schedule 3 of the Act that the Commission reconsider its recommendation on a number of grounds.⁸ The Commission’s reconsideration process concluded in April 2006 with the Commission’s reconsidered recommendation being:⁹

“... to designate termination of voice calls to a cellular telephone network that originate on a fixed telephone network. The Commission recommends benchmarking as the Initial Pricing Principle and TSLRIC as the Final Pricing Principle.”

4. In April 2007 the Minister rejected the Commerce Commission’s recommendation to regulate mobile termination and instead accepted deeds of agreement offered by Vodafone and Telecom (the ‘Deeds’).¹⁰

Current mobile termination market

5. Wholesale fixed-to-mobile termination rates in New Zealand are currently set in accordance with MTR Deeds at the rates are set out in Table 6 below.

⁶ Currently the Minister for Communications and Information Technology.

⁷ Commerce Commission, *Report on whether mobile termination should become a designated or specified service*, 9 June 2005, cover page.

⁸ Commerce Commission, *Reconsideration Final Report on whether mobile termination should become a designated or specified service*, 21 April 2006, page 11, para 28.

⁹ *Ibid*, cover page.

¹⁰ See Deed of Undertaking by Vodafone New Zealand Limited (20 April 2007), (‘Vodafone Deed’), available at <http://www.med.govt.nz/upload/45929/vodafone-deed.pdf>; and Deed Poll by Telecom New Zealand Limited relating to fixed to mobile termination rates (11 April 2007), (‘Telecom Deed’), available at <http://www.med.govt.nz/upload/45931/telecom-deed.pdf>.

Table 6: Fixed-to-mobile termination rates under the MTR Deeds

Annual Period	Maximum FTM termination rate (cpm, excl. GST)	
	Telecom	Vodafone
Effective Date to 31 March 2008	17.0	17.0
1 April 2008 to 31 March 2009	16.0	16.0
1 April 2009 to 31 March 2010	15.0	15.0
1 April 2010 to 31 March 2011	14.0	14.4
1 April 2011 to 31 March 2012	12.0	14.0

6. The Commission understands from Telecom and Vodafone that mobile-to-mobile termination rates are set at the same level as fixed-to-mobile termination rates. In its submission on the Issues Paper, Vodafone stated that, at present, it offers a standard market rate for mobile-to-mobile voice termination that is consistent with the prices for fixed-to-mobile voice termination contained in the MTR Deed.¹¹ Similarly, Telecom noted that its current wholesale voice termination rates for fixed-to-mobile services match the mobile-to-mobile tariffs contained in its standard mobile interconnection agreement.¹²
7. Furthermore, the Commission understands that the current prevailing rate for SMS termination on Vodafone and Telecom's networks is 9.5 cents per text.¹³
8. In addition, Vodafone has entered into a commercial agreement with 2degrees, however, [
-] **VCOI / 2COI**. The fixed-to-mobile and mobile-to-mobile rates that Vodafone would pay 2degrees to terminate calls on 2degrees' network under this commercial agreement are [
-] **VCOI / 2COI**. The rates that Vodafone would pay 2degrees to terminate SMS on 2degrees' network under this commercial agreement [
-] **VCOI / 2COI**.

Current mobile termination access service investigation

9. The Commission announced¹⁴ on 6 November 2008 that it had decided to undertake an investigation into whether or not the mobile termination access services ('MTAS') should be regulated as designated or specified services (the 'MTAS Investigation').

¹¹ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, p 55, para 40.

¹² Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, p 26.

¹³ Vodafone, *Telecommunications Act 2001: Submission on the Schedule 3A Undertakings provided on 12 January 2009, 13 February 2009*, page 65, para 225; and, Telecom (Wholesale), *Interconnection Agreement*, available from http://www.telecomwholesale.co.nz/f543_253191/253191_M2M_ICA_Final_23.7.08.pdf, Schedule 4, clause 4.1ee, page 75.

¹⁴ Commerce Commission, *Reasons for Commerce Commission decision to investigate mobile termination access services* (the 'Commission's Reasons Decision'), 6 November 2008. The *Commission's Reasons Decision* is available at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx#1066>.

10. The MTAS incorporate mobile-to-mobile ('MTM') voice termination, fixed-to-mobile ('FTM') voice termination and short-message-service ('SMS') termination. The MTM and FTM termination services are the termination of voice calls on a mobile telephone network which originate respectively on another mobile telephone network or fixed telephone network and are handed over to the terminating mobile telephone network. The SMS termination service is the termination of a SMS on a mobile telephone network which originates on another mobile telephone network and are handed over to the terminating mobile telephone network.
11. The Commission's MTAS Investigation formally commenced with the publication in the *New Zealand Gazette* on Thursday 6 November 2008 of notice of the decision to investigate.
12. Preceding the decision to commence the MTAS Investigation, the Commission had:
 - informed interested parties on 8 May 2008 that it was considering commencing a Schedule 3 Investigation into whether or not to subject MTM termination rates for both voice and SMS to regulation and seeking the views of interested parties;¹⁵
 - written to interested parties on 14 May 2008 informing them that if, following the receipt of initial views from interested parties, there appeared to be reasonable grounds to commence an investigation, the Commission proposed testing the issue further by releasing an Issues Paper and seeking submissions before deciding whether to commence a formal Schedule 3 investigation;¹⁶ and
 - released an Issues Paper¹⁷ on 8 August 2008. Nine submissions were received on the Issues Paper.¹⁸

Undertakings and comments on the undertakings

13. Under Schedule 3A of the Act, access providers are able to submit applications for undertakings as a potential alternative to regulation, and the Commission is required to determine whether to recommend that any undertakings received should be accepted.

¹⁵ Letter from Patterson (Commission) to interested parties, 8 May 2008, available at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx#948>.

¹⁶ Letter from Borthwick (Commission) to interested parties, 14 May 2008, available at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx#948>.

¹⁷ Commerce Commission, *Telecommunications Act 2001: Schedule 3 Investigation into Regulation of Mobile Termination – Issues Paper* (the 'Issues Paper'), 8 August 2008. The *Issues Paper* is available at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx#1004>.

¹⁸ The submissions on the *Issues Paper* are summarised in the *Commission's Reasons Decisions*, see note 14 above, and are available at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx#1004>.

14. Pursuant to the Act, access providers were required to submit applications for undertakings not later than 12 January 2009. Five undertakings under Schedule 3A of the Act were received from:¹⁹

- Vodafone – three separate undertakings for the three components of MTAS;
- Telecom – one undertaking covering all three components of MTAS; and
- Two Degrees Mobile ('2degrees') – one undertaking covering MTM, SMS, multi-media-message-services ('MMS'), voice over IP calling ('VOIP') and video telephony calls.

('the initial undertakings').

15. Submissions on the initial undertakings were due on 13 February 2009. Submissions were received from Vodafone, Telecom, 2degrees, TelstraClear, CallPlus, the Telecommunications Users' Association of New Zealand ('TUANZ'), and a combined submission from Orcon, Kordia and Woosh.²⁰

16. On 25 March 2009 the Commission released comments on the initial undertakings.²¹ Vodafone, Telecom and 2degrees were invited to submit revised undertakings, should they wish to do so, by 6 May 2009.

17. On 6 May 2009 the Commission received revised undertakings from Vodafone and Telecom ('the revised undertakings'), and a submission from 2degrees.

18. A summary of the revised undertakings, and where relevant the initial undertakings, is presented in paragraphs 83 to 105 in the *Summary of undertakings* section of this draft Report.

Submissions on this Draft Report

19. Submissions on this Draft Report are due by 28 July 2009 and cross-submissions by 18 August 2006.

20. The Commission invites Vodafone, Telecom and 2degrees to submit revised undertakings, should they wish to do so, with their submissions on this draft Report. Further, the Commission wishes to stress that its preliminary view is that it would be unlikely to allow further opportunities for revised undertakings to be submitted after the Conference on this draft Report unless new substantive issues are raised in submissions on the draft Report which impact on the Commission's assessment of the undertakings.

¹⁹ The initial undertakings are available at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx#1120>.

²⁰ Submissions on the initial undertakings are available at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletomobiletermination.aspx#1161>.

²¹ Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009.

Importance of pricing issues

21. The Commission has previously stated²² in its letter providing comments to Telecom, Vodafone and 2degrees on their initial undertakings that:
- “... the Commission’s preliminary view [was] that the prices contained in the Vodafone and Telecom undertakings [were] significantly above the current likely cost of the MTAS. The Commission therefore [considered] that any revised undertakings [would] need to include significant reductions in these prices if the Commission [were] to be in a position to recommend that the Minister accept them.”
22. This draft Report provides the Commission’s preliminary views on the framework for assessing whether or not to recommend that the MTAS be regulated or any of the undertakings submitted should be accepted in lieu of regulation. The section of this draft Report on *Determining a Factual Price for the MTAS*, from paragraphs 457 to 620, sets out the Commission’s preliminary views on the appropriate benchmarks that inform this assessment. As discussed in the summary of submissions on benchmarking issues, in Appendix 4, Telecom and Vodafone have both submitted that the Commission’s benchmarking is not appropriate. Vodafone have also indicated that they did not intend to make any substantive changes to the pricing structure of its undertakings until it has reviewed the Commission’s draft cost-benefit analysis.²³
23. Having given careful regard to Telecom and Vodafone’s submissions, the Commission’s preliminary view is that the significant difference between the Commission’s benchmarks and the price terms of Telecom’s and Vodafone’s revised undertakings means that it is appropriate to focus (in this draft Report) on price issues.

Timetable for remainder of the MTAS Investigation

24. The Commission’s intended timetable for the remainder of the MTAS Investigation process is as follows:

Steps and procedures	Date
Publication of this Draft Report	30 June 2009
Closing date for written submissions on this draft Report, and submission of revised undertakings by Vodafone, Telecom and 2degrees	28 July 2009
Closing date for cross-submissions on this draft Report (and any revised undertakings)	18 August 2009
Conference on this draft Report	14 and 15 September 2009
Final report to Minister	mid-December 2009

²² Letter from Commerce Commission to Telecom, Vodafone and 2degrees, Comments on undertakings received in relation to the MTAS Investigation, 25 March 2009, page 1.

²³ Vodafone letter 6 May 2009, page 18.

Public availability of submissions

25. To promote an open and transparent process, the Commission intends to publish as many submissions as possible on its website. Accordingly, the Commission requests that all submissions are provided in electronic form.

Status of information supplied to the Commission

26. The Commission discourages requests for confidentiality over submissions on the draft Report, as it is desirable to test all the information as fully as possible in a public manner. The Commission is unlikely to agree to any requests that submissions in their entirety remain confidential.
27. However, the Commission recognises that interested parties making submissions may wish to provide confidential information to the Commission. Accordingly, the Commission issued, on 6 November 2008, a confidentiality order to apply to confidential information provided by interested parties making submissions in this proceeding.²⁴ This confidentiality order allows interested parties making submissions to designate information as confidential. Any persons who wish to receive confidential information must sign a deed of undertaking as to confidentiality in an appropriate form and be approved by the Commission in accordance with the confidentiality order. In the event that the Commission or another party challenges the confidentiality status of the information, the Commission will determine whether the challenged information should be subject to the order. The confidentiality order can be viewed on the Commission's website at <http://www.comcom.govt.nz>.
28. Where it is necessary to include confidential information in written submissions, the material should be clearly marked as confidential, and preferably included in an appendix to the submission or enclosed in square brackets []. In addition to the confidential copy, submitters should provide the Commission with a public copy of such submissions, which is clearly marked as public, with the confidential material deleted or amended appropriately so it is suitable for release in both electronic and hard copy form.
29. After the expiry of the Commission's confidentiality order, the Commission will follow its usual practices in response to any request for information under the Official Information Act 1982.

Address for submissions

30. Submissions on the draft Report should be sent to:

shane.kinley@comcom.govt.nz

MTAS Investigation
Telecommunications Branch
Commerce Commission
PO Box 2351
Level 6, 44 the Terrace

²⁴ Pursuant to the Commerce Act 1987, s 100, as applied by the Telecommunications Act 2001, s 15(i).

Wellington
Enquiries: (04) 924 3686
Fax: (04) 924 3700

References to NZ Communications and 2degrees in this draft Report

31. On 11 May 2009 NZ Communications Ltd changed its legal name to Two Degrees Mobile Ltd, and on 13 May announced that it would operate under the brand name "2degrees". These changes occurred after NZ Communications had provided its undertaking and submissions to the Commission. For consistency, NZ Communications/Two Degrees Mobile is referred to as "2degrees" throughout this draft Report.

Legal Framework

Introduction

32. This section outlines the legislative framework for this investigation. It highlights the key statutory provisions governing the MTAS Investigation. In respect of Schedule 3 of the Act, this section set outs the general approach to the Commission's cost-benefit assessment, which includes analysis of price effects and efficiencies of FTM termination rates, and clarifies that the Deeds entered into by Telecom and Vodafone do not bind the Commission. In respect of Schedule 3A of the Act, this section emphasises the Commission's intention to have a fair and transparent process for dealing with undertakings, and sets out the Commission's view that the scope of the services, and terms and conditions, included in the undertakings received are appropriate.

Schedule 3 of the Act

33. Schedule 3 of the Act contains the procedure for altering regulated services. Under Part 1 of Schedule 3, the Commission may undertake an investigation into a proposed alteration and recommend to the Minister whether or not the proposed alteration should be made.
34. The Commission is required to prepare a draft Report, which must include the detail of the proposed alteration, and identify any recommendations that the Commission considers to be sufficiently related to each other that they ought to be considered together.²⁵
35. The Commission must make reasonable efforts to prepare and deliver a final report to the Minister regarding the proposed alteration no later than 120 working days after the date of giving public notice of the investigation.²⁶ On 19 February 2008, the Commission wrote to the Minister informing him that the Commission would not be able to meet this timeframe.
36. In preparing the final report, the Commission must consider all submissions made on the draft Report and all information and opinions presented or expressed at any public hearing on the draft Report.²⁷
37. The requirements for the Commission's final report for this Schedule 3 investigation are set out in clause 4(3) of Schedule 3, which provides:²⁸

4 Final report of recommendation of Commission

...

(3) A final report must include—

- (a) the detail of the proposed alteration; and
- (b) a recommendation by the Commission as to—
 - (i) whether or not the proposed alteration should be made:

²⁵ Telecommunications Act 2001, Sch 3, cl 2.

²⁶ Telecommunications Act 2001, Sch 3, cl 4(1).

²⁷ Telecommunications Act 2001, Sch 3, cl 4(2).

²⁸ Telecommunications Act 2001, Sch 3, cl 4(3).

- (ii) in the case of a proposed alteration to a designated service, whether or not the Minister's decision regarding the proposed alteration should be deferred for any period the Commission thinks fit; and
- (c) the reasons for the Commission's recommendations; and
- (d) the views of two members of the Commission (other than the Telecommunications Commissioner) regarding the recommendation.

Statutory purpose and considerations

38. Section 18 of the Act describes the purpose of Schedule 3 as follows:

18 Purpose

- (1) The purpose of this [Part 2] and Schedules 1 to 3 is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers.
- (2) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term interests of end-users of telecommunications services in New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.
- (3) Except as otherwise expressly provided, nothing in this Act limits the applications of this section.
- (4) Subsection (3) is for the avoidance of doubt.

39. Section 19 of the Act provides as follows:

19 Commission and Minister must consider purpose set out in section 18 and additional matters

If the Commission or the Minister (as the case may be) is required under this [Part 2] or any of Schedules 1, 3 and 3A to make a recommendation, determination, or a decision, the Commission or the Minister must—

- (a) consider the purpose set out in section 18; and
- (b) if applicable, consider the additional matters set out in Schedule 1 regard the application of section 18; and
- (c) make the recommendation, determination, or decision that the Commission or Minister considers best gives, or is likely to best give, effect to the purpose set out in section 18.

40. Section 19A of the Act provides as follows:

19A Commission to have regard to economic policies of Government

- (1) In the exercise of its powers under Schedule 3, the Commission must have regard to any economic policies of the Government that are transmitted, in writing, to the Commission by the Minister.
- (2) The Minister must, as soon as practicable after transmitting a statement of economic policy of the Government to the Commission under subsection (1),—
 - (a) arrange for a copy of that statement to be published in the *Gazette*; and
 - (b) present a copy of that statement to the house of Representatives.
- (3) To avoid doubt, a statement of economic policy of the Government transmitted to the Commission under this section is not a direction for the purposes of Part 3 of the Crown Entities Act 2004.

41. On 5 February 2009, the Minister transmitted a statement of the economic policy of the Government to the Commission, pursuant to section 19A of the Act. The operative part of this economic policy statement is as follows:²⁹

It is the economic policy of the Government that decisions concerning the regulation of telecommunications services should be consistent with, and take full account of, New Zealand's relevant international commitments, as expressed in bilateral and multilateral international instruments in effect in New Zealand.

In the Government's view, compliance with these commitments facilitates trade in telecommunications goods and services, assists the development of telecommunications infrastructure, and promotes competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand.

42. The Commission has considered the Government's statement of economic policy as part of its decision making in reaching the conclusions outlined in this draft Report, as discussed in paragraphs 909 to 923 in relation to the approach to be taken to internationally-originated calls. The Commission's preliminary view is that this is the only issue going to the substance of this MTAS Investigation.

Cost-Benefit Analysis

43. The Commission's decision making for the MTAS Investigation, which incorporates quantitative and qualitative elements, is informed by the requirement that the Commission make the decision that is likely to best give effect to the promotion of competition in telecommunications markets for the long-term benefit of end-users.³⁰
44. Further, in assessing the likely promotion of competition for the long-term benefit of end-users, the Commission is expressly required to consider the efficiencies that will result, or will be likely to result, from the proposed regulatory change.³¹ The term 'efficiencies' is not defined in the Act, though the Commission generally assesses a full range of efficiency effects, including productive and allocative efficiencies (sometimes referred to together as static efficiencies) and dynamic efficiencies. Static efficiencies generally lend themselves more readily to quantitative analysis than dynamic efficiencies.
45. The Commission is not limited to considering efficiencies, and may also consider other relevant factors. The Act does not direct the Commission as to the appropriate weight to be given to efficiencies or to other considerations. The appropriate weight to afford each consideration is, accordingly, a matter for the Commission.
46. The Commission considers that, in order to best assess the long-term benefit for end-users, it should where possible quantify the costs and benefits of a proposed regulatory change. A quantitative analysis of the likely costs and benefits of a proposed regulatory change informs the Commission's overall qualitative assessment in reaching a recommendation in

²⁹ The full version of the Economic Policy Statement is available on the Commission's website at <http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/ContentFiles/Documents/Letter%20from%20Minister%20-%20International%20commitments%20in%20telecommunications%20%205%20Feb%202009.pdf>

³⁰ See Telecommunications Act 2001, ss 18 and 19.

³¹ See Telecommunications Act 2001, s 18(2).

a Schedule 3 Investigation. One important set of costs and benefits that can be quantified is the price effects of the proposed regulation of MTAS. On this analysis, a decrease in retail prices resulting from MTAS regulation represents a benefit to end-users, whereas an increase in retail prices may represent a detriment. Quantitative analysis of the price effects of the proposed regulation of MTAS is an important part of the Commission's overall assessment, because it identifies direct and tangible benefits and detriments for end-users.

47. In this draft Report, the Commission sets out its preliminary views on how competition in the relevant downstream markets will be promoted by regulation of the MTAS. Strengthened competition will be likely to deliver a number of benefits to end-users, including lower prices for retail services that use the MTAS. Such price effects lead to an increase in what is sometimes referred to as 'consumer surplus'.
48. In this draft Report, the Commission's consideration includes the extent to which the price reductions from increased competition, and the consequent increase in consumer surplus, are likely to be sustainable in the long-term. In attempting to replicate the outcomes of a competitive market, where MTAS is supplied at cost-based prices into the downstream markets, the Commission considers that it is appropriate to place significant weight on the resulting gains in consumer surplus. In the absence of a competitive market, suppliers are likely to exercise significant market power that enables those suppliers to capture surplus gains that would otherwise be passed on to end-users. In assessing the long-term benefit to end-users in this draft Report, the Commission has therefore included the price effects from the proposed regulatory change that result directly from the promotion of competition.
49. The Commission is also required to have regard to efficiencies. To the extent that regulation promotes competition for the long-term benefit of end-users, such regulation is likely to also increase efficiencies. The Commission considers that, in order to fully account for efficiencies, it should where possible attempt to quantify those efficiencies directly.
50. Efficiencies represent a net gain to the total New Zealand economy, which includes both end-users (as consumers of telecommunications services) and the telecommunications industry (as producers of such services). Accordingly, to the extent that competition is promoted, the efficiency gains from a proposed regulatory change are likely to complement, but are not equivalent to, the direct benefits end-users gain through the price effects of regulation. Analysis of the efficiency effects of a proposed regulatory change is sometimes referred to as 'total surplus' analysis.
51. Accordingly, the Commission has undertaken quantitative analysis of both the static price effects and the efficiencies resulting from the proposed regulation of MTAS.
52. The Commission's quantitative analysis focuses on the potential competitive impact of the proposed regulation of MTAS in the downstream retail market in which FTM services are supplied. The Commission has also made some allowance for potential detriments in the form of direct and indirect regulatory costs and the costs of the regulatory process, as well as some offsetting price increases (the 'waterbed effect') as a result of lower MTRs. The Commission has sought to undertake a more qualitative analysis of the impact of regulation in promoting competition in the downstream retail mobile services market.

53. The Commission notes that the benefits to end-users from preventing suppliers from exercising significant market power, as discussed in paragraph 47, are sometimes presented as transfers from producers to consumers. The Commission's preliminary view is that the significance given to such transfers may depend on the potential dynamic implications of MTAS regulation, and in particular how the proposed regulation of MTAS might affect the incentives for efficient investment over time. The Commission has separately considered the dynamic efficiency implications of the possible regulation of MTAS, although such effects are not readily quantifiable. Accordingly, the Commission has considered the potential dynamic effects of MTAS regulation in a more qualitative manner.
54. The Commission considers that meaningful weight should be placed on its quantitative cost-benefit analysis, including analysis of both price effects and efficiencies, because the Commission's quantitative analysis is indicative of tangible long-term benefits to end-users. However, the Commission remains mindful that any form of quantitative cost-benefit analysis will rely on a range of assumptions and can therefore be indicative only. Such analysis is only one factor (albeit often a significant factor) that informs the Commission's overall assessment of the extent to which regulation is likely to promote competition for the long-term benefit of end-users.

Status of Deeds

55. FTM termination rates are currently set with reference to the Telecom Deed and the Vodafone Deed. Both Telecom and Vodafone have raised concerns with the current MTAS Investigation against the background of the Deeds.
56. The Commission is an independent regulator, and accordingly is required to make the recommendations that are most likely to promote competition for the long-term benefit of end-users, regardless of the existence of the Deeds. However, both the Deeds do, along with any undertakings received by the Commission, inform the Commission's factual-counterfactual analysis in assessing the benefits of the proposed regulatory change for FTM termination rates.
57. The Commission notes also that both the Deeds expressly contemplate regulatory intervention by the Commission into FTM termination rates, as both the Deeds are expressly provided to terminate if FTM termination becomes a designated service or subject to an undertaking under the Act.³²

Undertakings

58. Schedule 3A to the Act contains a regime that allows access providers to submit undertakings as a potential alternative to regulation. The purpose of Schedule 3A is set out in clause 2, which provides:

2 Purpose of clauses 3 to 16

The purpose of clauses 3 to 16 is to provide, as an alternative to a proposed regulatory change, a mechanism for an access provider to supply a service to all access seekers—

- (a) on a voluntary basis that avoids the need for regulation; and

³² See Vodafone Deed, note 10, clause 2.3; and, Telecom Deed, note 10, clause 6.4.

(b) on terms and conditions agreed between the access provider and the Commission.

59. Clause 3 of Schedule 3A to the Act provides:

3 Commission may accept undertaking

- (1) While the Commission is considering a proposed regulatory change, the Commission may accept an offer from an access provider to supply a service to all access seekers on the terms and conditions of a written undertaking (an **undertaking**).
- (2) If the Commission accepts an undertaking, a final report may include—
 - (a) a recommendation by the Commission that the Minister should accept the undertaking; and
 - (b) any of the following recommendations by the Commission:
 - (i) that the proposed regulatory change should be made:
 - (ii) that the proposed regulatory change should not be made:
 - (iii) that the Minister’s decision on the proposed regulatory change should be deferred.
- (3) However, an undertaking that the Commission accepts under subclause (2) has no legal effect unless it is registered under clause 6.

60. Clause 6 of Schedule 3A requires the Commission to register an undertaking if the Minister accepts the Commission’s recommendation that the Minister should accept an undertaking.

61. Clause 4 of Schedule 3A provides that the Commission must not make a recommendation in its final report unless the Commission is satisfied that the undertaking:

- complies with the Act and any regulation made under the Act; and
- complies with the standard access principles set out in clause 5 of Schedule 1 and any limits on those standard access principles set out in clause 6 of that schedule.

62. Clause 5 of Schedule 3A of the Act contains the requirements any undertaking:

5 Requirements for undertaking

- (1) An undertaking must—
 - (a) be signed or executed by the relevant access provider; and
 - (b) specify the terms and conditions of the supply of the service; and
 - (c) specify the date by which those terms or conditions must be complied with by the relevant access provider; and
 - (d) specify a mechanism for the resolution by the Commission or a suitably qualified and experienced independent person of any issues or disputes that arise after the undertakings registered; and
 - (e) provide for any other prescribed matters.
- (2) An undertaking must not be amended after the Commission has made a recommendation under clause 3(2) in respect of that undertaking.

63. The Commission noted in its preliminary feedback to access providers who had submitted undertakings that in several instances the criteria in clause 4 and the requirements in clause

5 of Schedule 3A had not been met.³³ The Commission has since received revised undertakings from Telecom and Vodafone. The Commission's assessment of the compliance of the revised undertakings with the Act is detailed in the *Summary of undertakings* section below.

Timeframe for undertakings

64. Clause 7(1) of Schedule 3A of the Act provides that the registration of an undertaking is effective for a period of 5 years from the date of registration and any further period that the Commission and the relevant access provider may agree. Before agreeing to a further period, the Commission must consult with every person who has a material interest in the matter.³⁴
65. The Commission may make a recommendation in the final report to the Minister that the registration of an undertaking should expire earlier than the five year period having regard to the following matters:
- the reasonable needs of potential access seekers;
 - the commercial lifetime of the service delivery technology concerned; and
 - any other factors that the Commission thinks relevant.

Process for undertakings

66. Vodafone and Telecom have raised concerns over the Commission's application of the undertakings process set out in Schedule 3A of the Act.³⁵ In particular, Vodafone and Telecom have argued:
- that the Commission has arbitrarily limited the number of opportunities access providers may have to submit revised undertakings; and
 - that access providers do not have enough information about the proposed regulatory change to submit revised undertakings before the Commission has released its draft Report.
67. The Commission has an obligation to ensure a fair process for all interested parties, balancing the interests of access providers, access seekers and end-users. The scheme of the Act, and in particular Schedule 3 and Schedule 3A, strongly indicates that the undertakings process is designed to be expeditious by providing opportunities to resolve key issues at the front end of the Schedule 3 process. The Commission has supported this scheme by providing comments on the initial undertakings, in particular in relation to the adequacy and importance of the price terms in the initial undertakings, prior to providing access providers with the opportunity to submit revised undertakings.

³³ Letter from Commerce Commission to Richard York (Vodafone), Bill McCabe (NZ Communications) and Airihi Mahuika (Telecom), *Comments on undertakings received in relation to the MTAS Investigation*, (25 March 2009).

³⁴ Telecommunications Act 2001, Sch 3A, cl 7(2).

³⁵ Letter from David Kreider (Vodafone) to Osmond Borthwick (Commission), *Re: Investigation into Mobile Termination Access Services (MTAS)*, (3 April 2009); Letter from Vanessa Oakley (Telecom) to Osmond Borthwick (Commission), *Investigation into Mobile Termination Access Services (MTAS): Process Issues*, (8 April 2009).

68. Further, the Commission considers it is likely to be of significant benefit to end-users, thereby giving effect to section 18 of the Act, if the issues under consideration in the MTAS Investigation are resolved in a timely manner. The Commission has sought to give effect to these considerations in setting out its intended process for the MTAS Investigation. While acknowledging that its proposed approach may need to develop as the MTAS Investigation progresses, the Commission considers that the process it has developed, including the opportunities provided to submit undertakings, is fair and reasonable, and consistent with the Act.
69. The Commission also considers that it has provided detailed feedback to access providers who have submitted undertakings, so that an opportunity to substantially revise those undertakings prior to the release of the draft Report is appropriate. Such an opportunity is also potentially highly beneficial to access providers who have received feedback that their undertakings are at significant variance from the Commission's preliminary views.³⁶
70. The Commission has since received revised undertakings from Telecom and Vodafone. These revised undertakings are discussed in the *Summary of undertakings* section of this draft Report.

Scope of undertakings

71. In submissions, Telecom made a number of comments on the scope of the undertakings received by the Commission. Telecom submitted that services outside the scope of the current Schedule 3 investigation should not be included in undertakings, as there is no evidence of market failure in respect of the provision of such services.³⁷ In particular, Telecom challenged the inclusion in 2degrees' undertaking of MMS and VOIP services, which are beyond the services currently included in the scope of the MTAS Investigation.
72. Telecom also submitted that the undertakings could not contain terms that might directly impact on retail prices for provision of MTAS (as opposed to wholesale prices).³⁸ Telecom contended that the Act contemplates the regulation of wholesale telecommunications services only, and any terms in the undertakings that impact on retail prices directly would be inconsistent with the Act. In particular, Telecom submitted that:
- Vodafone's FTM undertaking included wholesale-to-retail pass-through obligations; and
 - 2degrees' undertaking included non-discrimination obligations between on-net and off-net retail prices,

each of which would impact on retail prices, and therefore, in Telecom's view, be inconsistent with the Act.

³⁶ The Commission has provided more detail in relation to these points in its 9 April 2009 letter to Vodafone, available at:

<http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobiletoMobileTermination/mobiletoobiletermination.aspx>

³⁷ Telecom, *Submission on the Schedule 3A Undertakings Received by the Commission*, 13 February 2009, page 15.

³⁸ Telecom, *Submission on the Schedule 3A Undertakings Received by the Commission*, 13 February 2009, page 6.

73. The Commission considers that while the scope of any proposed regulatory change is limited by both the scope of the current investigation and the jurisdiction of the Act, the undertakings are not necessarily limited in scope in the same way. The undertakings regime is designed to import a degree of flexibility in the investigation process, including the potential to offer terms relating to services that would not be available under ordinary regulatory processes. Accordingly, the Commission's view is that the scope of Vodafone's FTM undertaking and 2degrees' undertaking are consistent with both the scope of the MTAS Investigation and the jurisdiction of the Act.
74. The Commission does consider, however, that any undertaking should address the issues at the heart of the Investigation – in this case MTM, FTM and SMS termination – if that undertaking is to be considered capable of acceptance by the Commission for possible recommendation to the Minister. If a proposed undertaking was to fail to meet this basic requirement, the Commission considers that it would be unlikely that it could be recommended in lieu of a proposed regulatory change as being in the long-term interests of end-users. The Commission considers that each of the undertakings received meets this basic requirement.
75. In the case of 2degrees' initial undertaking, the Commission considers that where a Schedule 3 investigation focuses on a number of discrete but related services, such as the MTAS Investigation, an undertaking is required to address at least one of the discrete services in order to be considered capable of acceptance in respect of that service. Accordingly, 2degrees' initial undertaking, which relates to MTM and SMS termination only, meets this basic requirement in respect of MTM and SMS termination.

Application of the Commission's factual/counterfactual analysis

76. In this draft Report, the Commission assesses the likely benefits and detriments of regulation using its standard analysis of the factual (the Commission's view of what is likely to occur where the service under consideration is subject to regulation) and the counterfactual (the Commission's view of what is likely to occur in the absence of regulation).
77. In this case, where there are three monopoly access providers for MTAS on each mobile network, and five undertakings being provided, there are a number of potential counterfactuals. In addition, the Act suggests that the Commission may make a number of decisions, including decisions to:³⁹
- not recommend acceptance of any undertakings, and recommend a proposed regulatory change;
 - accept one or more undertakings in lieu of a proposed regulatory change; or
 - accept one or more undertakings in addition to a proposed regulatory change.
78. These permutations create a number of potential counterfactual scenarios. In the context of the Commission's decision making for merger clearances under section 66 of the

³⁹ Telecommunications Act 2001, Sch 3A, cl 3(2).

Commerce Act 1986, the courts have provided guidance to the Commission on the correct approach where there are multiple counterfactuals.⁴⁰ In that context, the Commission's approach is to:

- identify the potential counterfactuals;
- eliminate any counterfactuals that the Commission considers are not likely;
- consider each of the remaining counterfactuals; and
- assess whether any of the remaining and likely counterfactual(s) is likely to result in a lessening of competition compared to the factual of clearance.

79. The Commission is exercising a very different statutory function in this MTAS Investigation from granting a merger clearance under the Commerce Act.⁴¹ However, the Commission considers that this approach still provides relevant guidance on how the Commission can deal with multiple counterfactuals as part of the framework for analysis in its decision making for the MTAS Investigation.
80. For the purposes of the draft Report, the Commission has considered each of the potential counterfactual scenarios resulting from acceptance or non-acceptance of each of the undertakings, but has chosen one particular counterfactual for the purposes of its factual/counterfactual analysis – acceptance of both Telecom's and Vodafone's undertakings. The Commission has not analysed a counterfactual scenario that includes acceptance of 2degrees' undertaking, because as noted in paragraphs 100 to 102, 2degrees' undertaking is not capable of acceptance.
81. The Commission's preliminary view is that, given that price is a key issue for MTAS, and Telecom's and Vodafone's undertakings contain substantially similar price terms, it is unlikely that one undertaking would be recommended for acceptance without the others also being recommended for acceptance. Further, the Commission's preliminary view is that a counterfactual that includes all of Telecom's and Vodafone's undertakings is the counterfactual that is most likely to provide the greatest long-term benefits to end-users. If this counterfactual is unlikely to provide benefits to end-users that outweigh the benefits of regulation, then the Commission considers that it is not possible for any other combination of undertakings to form a counterfactual that outweighs the benefits of regulation.
82. The Commission's preliminary view is, therefore, that acceptance of Telecom's and Vodafone's undertakings together, in conjunction with the commercial agreement between Vodafone and 2degrees, is the appropriate counterfactual for the purpose of its analysis in this MTAS Investigation, as discussed further at paragraphs 348 to 350.

⁴⁰ See *Woolworths Ltd v Commerce Commission* (2008) 8 NZBLC 102,128 (HC).

⁴¹ The approach set out in paragraph 78 is largely driven by the particular statutory test that the Commission is required to apply in the context of merger clearances, where the Commission must be satisfied that there will not be a substantial *lessening* of competition in a market before granting a clearance. In the context of the MTAS investigation, the Commission is required to make the recommendation that is most likely to *promote* competition for the long-term benefit of end-users.

Summary of undertakings

Introduction

83. This section summarises:

- the initial undertakings received from Vodafone, Telecom and 2degrees, and the Commission's comments letter in response to those initial undertakings, in relation to the core-price terms; and
- the undertakings that are being considered by the Commission under this Investigation as the counterfactual, being:
 - i. Telecom's revised undertaking submitted on 6 May 2009;
 - ii. Vodafone's three revised undertakings submitted on 6 May 2009; and
 - iii. 2degrees' initial undertakings submitted on 22 December 2008.

84. Where relevant to the Commission's preliminary views about the adequacy of the undertakings, reference is also made to the submissions of Telecom, Vodafone and 2degrees in response to the Commission's comments.

Summary of initial undertakings and comments from the Commission on the initial undertakings

85. The initial undertakings from Telecom and Vodafone provided prices and other price related terms, such as pricing structure, that are summarised below including:

- the prices offered for FTM and MTM termination reflected the prices for FTM under the Deeds, with an extended price path to that provided under the Deeds, so that:
 - i. the headline prices offered by Telecom are 15cpm until 31/3/2010, reducing to 10cpm for the period from 1/4/2013 until 31/3/2014; and
 - ii. the headline prices offered by Vodafone are 15cpm until 31/3/2010, reducing to 11cpm from 1/4/2014 until the expiry of the undertakings;
- the price offered by Telecom for SMS termination is 3.5cpt, effective immediately; and
- the price offered by Vodafone for SMS termination is 9.5cpt until 31/3/2010, reducing to 7.0cpt from 1/4/2014 until the expiry of the undertaking.

86. The Commission provided comments on those initial undertakings indicating, amongst other issues, that it was concerned that:⁴²

⁴² See note 22, pages 2-3.

“[the] the mobile termination rates (MTRs) provided in Vodafone’s and Telecom’s undertakings are significantly above forward-looking cost-based rates that have been estimated in regulatory cost models in other countries, as reflected in the benchmark information attached at Appendix One.

Based on the Commission’s current benchmarks, the Commission’s preliminary view is that the current cost-based MTR could be as low as NZ\$0.07/min for MTM and FTM, and NZ\$0.01/SMS. The Commission expects that any revised undertakings will need to offer significantly reduced initial MTRs at, or close to, the level of the Commission’s benchmarks, for the Commission to be able to consider recommending acceptance of the revised undertakings.

The Commission also expects that there will be downward pressure on cost-based prices over time, as volumes of MTAS increase and cost-drivers for MTAS decrease, and that the prices offered in the undertakings should reflect this. In this regard, the Commission considers that forward-looking changes in modelled cost-based rates, such as the example of Sweden noted in Appendix One, illustrate the magnitudes of cost changes that may be expected in the future.”

87. The prices and pricing structure of Telecom’s and Vodafone’s revised undertakings remained the same as those provided in Telecom’s and Vodafone’s initial undertakings.

Summary of Telecom’s revised undertaking and submission

88. The pricing structure of Telecom’s revised undertaking of 6 May 2009 is set out in Table 7 below.

Table 7: Charges provided for under Telecom’s revised undertaking

	Until 31/3/2010	Until 31/3/2011	Until 31/3/2012	Until 31/3/2013	Until 31/3/2014
FTM	15cpm	14cpm	12cpm	11cpm	10cpm
MTM	15cpm	14cpm	12cpm	11cpm	10cpm
SMS	3.5cpt	3.5cpt	3.5cpt	3.5cpt	3.5cpt

89. Key features of Telecom’s revised undertaking are:
- MTM and FTM are provided for on the same basis: the rates in red reflect the current requirements under Telecom’s Deed for FTM⁴³; the rates in blue reflect the current offer under Telecom’s standard interconnection agreement;
 - calls are charged on a minute plus second basis i.e., a full minutes charge for calls that are longer than two seconds in duration and less than one minute in duration, and a per-second charge for each second after one minute in duration. Charges to an access seeker (or by an access seeker to Telecom) for all calls of a particular type on an invoice may be rounded either up or down;
 - SMS messages involve a reduction from the current price in Telecom’s standard interconnection agreement of 9.5cpt;

⁴³ See note 10.

- MMS, video-telephony calls, VOIP-originating calls and internationally-originating calls are not covered by the undertaking;
- no provisions or obligations are made in relation to pass through of the benefits of reductions in FTM, MTM or SMS termination rates;
- resold services are covered by the undertaking, where notified, on the same basis as if the reseller was the access seeker or Telecom;
- symmetrical or reciprocal charging is provided, whereby any access seeker is entitled to be paid the same amounts from Telecom for MTAS as the access seeker is required to pay Telecom i.e. if Telecom terminates a MTM call on an access seekers network they pay the access seeker in accordance with Table 7 above; and
- a range of secondary charges are provided for, mainly relating to the connection between Telecom's network and an access seeker's network.

Summary of Vodafone's revised undertaking

90. The pricing structure of Vodafone's three revised undertakings of 6 May 2009 is set out in Table 8 below.

Table 8: Charges provided for under Vodafone's revised undertakings

	Until 31/3/2010	Until 31/3/2011	Until 31/3/2012	Until 31/3/2013	Until 31/3/2014	Until expiry
FTM	15cpm	14.4cpm	14.0cpm	13cpm	12cpm	11cpm
MTM	15cpm	14.4cpm	14.0cpm	13cpm	12cpm	11cpm
SMS	9.5cpt	8.9cpt	8.3cpt	7.7cpt	7.3cpt	7.0cpt

91. The key features of Vodafone's three revised undertakings are:

- the undertakings would commence for FTM from 1 April 2012, at the expiry of Vodafone's MTR Deed⁴⁴ – the rates in red reflect the current requirements under Vodafone's MTR Deed;
- calls are charged on a minute plus second basis i.e., a full minutes charge for calls that are longer than two seconds in duration and less than one minute in duration, and a per-second charge for each second after one minute in duration – charges to an access seeker for each call are rounded up to the nearest whole cent, and charges to an access seeker for all calls of a particular type on an invoice may be rounded either up or down to the nearest whole cent;

⁴⁴ See note 10.

- MMS, video-telephony calls and internationally-originating calls are not covered by the Vodafone undertakings. It is not clear whether VOIP-originating calls are covered by the Vodafone undertakings;
- an obligation to pass through, on average, the benefits of reductions in FTM termination rates is imposed on access seekers, and Vodafone commits to a similar pass through, on average, of the benefits of any reductions in FTM termination rates for calls terminating on access seekers networks – this provision is not replicated in relation to MTM or SMS;
- resold services are covered by the undertaking, where notified, on the same basis as if the reseller was the access seeker or Vodafone; and
- it is not clear whether any secondary charges are provided for under Vodafone’s undertakings, in contrast to those provided under Telecom’s undertaking relating to the connection between Telecom’s network and an access seekers’ network.

92. Telecom submitted that Vodafone’s proposed terms obliging pass through, on average, to retail prices are outside the scope of the MTAS Investigation and, therefore, are inappropriate for inclusion in Vodafone’s FTM undertaking. As discussed in paragraphs 71 to 75 above, the Commission does not consider that the scope of Vodafone’s FTM undertaking is inappropriate.

Summary of 2degrees’ initial undertaking

93. The pricing structure of 2degrees’ initial undertaking differs significantly from the Telecom and Vodafone undertakings, in that it provides for “bill-and-keep” pricing, whereby neither interconnecting network operator would charge for terminating “Mobile-to-Mobile Events” originating on the other party’s network. Other key features of 2degrees’ initial undertaking are:
- it covers MTM and SMS, MMS and video telephony calls – it does not, however, cover FTM;
 - as the 2degrees’ undertakings provides for “bill-and-keep” pricing, there are no pricing or rounding provisions. There are also no pass through provisions;
 - resold services are not covered by the 2degrees’ undertaking; and
 - the 2degrees’ undertaking effectively amends current Interconnection Agreements between 2degrees and Telecom, and 2degrees and Vodafone – as such it is not an offer available to all access seekers/potential access seekers.
94. Telecom submitted that 2degrees’ proposed terms covering MMS and VOIP, and obliging non-discrimination between on-net and off-net retail pricing, are outside the scope of the MTAS Investigation and therefore inappropriate for inclusion in 2degrees’ undertaking. As discussed in paragraphs 45 to 48 above, the Commission does not consider that the scope of 2degrees’ undertaking is inappropriate.

95. The Commission has also previously indicated that it did not consider “bill and keep” pricing to be appropriate at the current time. The Commission stated that:⁴⁵
- “[the] Commission’s preliminary view is that cost-based pricing is currently more appropriate than BAK in respect of MTAS in New Zealand’s current market conditions because cost-based pricing is likely to best promote competition and be consistent with economic efficiency. The Commission is, however, open-minded to the possibility that, in the long-term, it may become appropriate to consider the adoption of BAK in New Zealand, depending on market conditions in New Zealand and overseas developments.”
96. In the *Framework for assessing the potential benefits and costs of regulation* section of this draft Report, at paragraphs 363 to 427 below, the Commission has reiterated that its preliminary view is that cost-based pricing is currently more appropriate than “bill-and-keep” pricing, in relation to the pricing principles that form part of the factual of regulation. However, the Commission has also indicated that it considers that “bill-and-keep” pricing forms an appropriate element of both the initial pricing principle and final pricing principle for the factual of regulation, and could be implemented if it is demonstrated, most likely in the longer-term, that “bill-and-keep” pricing would best give effect to the purpose in section 18 of the Act.
97. The Commission has also previously indicated that it considered the following issues needed to be addressed in relation to 2degrees’ undertaking:
- justification was required for the exclusion of FTM termination from the scope of 2degrees’ undertaking, as this raises a risk of arbitrage;
 - justification was required for the exclusion of wholesale providers for the scope of 2degrees’ undertaking;
 - 2degrees were invited to incorporate the standard access principles and the limits on the standard access principles into their undertaking, or to explain how their undertaking is compliant without explicit incorporation of these matters;
 - as 2degrees’ undertaking amends existing commercial agreements with Telecom and Vodafone it is essentially an offer to supply Telecom and Vodafone only, it cannot be construed as an offer to supply all access seekers as required under clauses 2 and 3 of Schedule 3A of the Act, and therefore is not capable of acceptance by the Commission. 2degrees were invited to ensure that their undertaking is capable of acceptance by all access seekers, including Telecom and Vodafone;
 - as 2degrees’ undertaking is contingent on both Telecom and Vodafone accepting its terms, it is not appropriate or certain enough to be accepted as being compliant with clause 3(1) of Schedule 3A of the Act, and therefore is not capable of acceptance by the Commission. 2degrees were invited to ensure that their undertaking is capable of independent acceptance by Telecom, Vodafone and other access seekers; and

⁴⁵ See note 22, page 3.

- while retail price non-discrimination provisions are able to be included in 2degrees' undertaking, they are not required to ensure a competitive market, provided that MTAS prices are cost-based.

Summary of 2degrees' submission in response to the Commission's comments letter

98. 2degrees provided a submission in response to the Commission's comments letter, stating that "[g]iven the *urgent need to resolve and implement appropriate access prices*, [2degrees] does not propose submitting revised undertakings at this point instead we will provide feedback on issues raised by the Commission and others."⁴⁶
99. 2degrees also presented a compromise proposal that could form the basis of undertakings that they would consider acceptable, although some matters included in this proposal are noted as requiring further discussion and this proposal is subject to the caveat that it is "ideally as an immediate interim measure until actual costs are calculated."⁴⁷ The main terms of 2degrees' compromise proposal are:
- SMS on a "bill-and-keep" basis;
 - voice (MTM – with discussion on FTM) at a price not exceeding 7cpm billed on a per second basis;
 - effective immediately commercially;
 - with undertakings on this basis given by both Vodafone and Telecom;
 - for a period of not more than three years; and
 - with consideration given to asymmetry for voice services in 2degrees' favour and retail protection.

Commission's preliminary views regarding 2degrees' initial undertaking and submission in response to the Commission's comments letter

100. To date, 2degrees has not substantively addressed the Commission's concerns that 2degrees' initial undertaking does not meet the requirements of the Act, as discussed in paragraph 97, and particularly in relation to the requirement that an undertaking be an offer to supply all access seekers as required under clauses 2 and 3 of Schedule 3A of the Act.
101. While 2degrees may still address the Commission's concerns, should 2degrees submit a revised undertaking in conjunction with their submission on this draft Report, for the purposes of this draft Report the Commission is required to assess the undertakings that it has received.

⁴⁶ 2degrees letter, 6 May 2009, page 2.

⁴⁷ 2degrees letter, 6 May 2009, pages 7-8, paras 2.7 and 3.1, and page 13, para 6.5.

102. Accordingly, the Commission's preliminary view is that 2degrees' initial undertaking cannot be recommended to be accepted, for the reasons outlined in paragraph 97. Therefore, the counterfactual in the following sections considers only Telecom's undertaking and Vodafone's undertakings.
103. The Commission notes that 2degrees' compromise proposal, summarised in paragraph 99, is not capable of being assessed as a counter-factual, as it has not been submitted as an undertaking under the Act. The Commission does, however, note that elements of 2degrees' compromise proposal are assessed in this draft Report.
104. The Commission notes that 2degrees has indicated that it "would be happy to take part in an industry negotiation of access prices."⁴⁸ The Commission also notes that 2degrees have indicated that they are willing to discuss the treatment of FTM termination and wholesale supply of MTAS⁴⁹, in the context of their compromise proposal discussed in paragraph 99.
105. The Commission notes that ultimately it is required in the final report, as set out in paragraphs 37 and 59, to recommend:
- whether or not the proposed alteration to the regulated services should be made under Schedule 3; and
 - that the Minister should accept one or more of the undertakings under Schedule 3A.
106. The Commission's preliminary view is that, in the absence of revised undertakings from 2degrees, if the Commission recommends that the proposed alteration to the regulated services should be made, then any such recommendation would be likely to apply to 2degrees as an access provider, irrespective of the Commission's recommendations regarding Telecom's undertaking and Vodafone's undertakings.
107. The Commission invites 2degrees to take advantage of the opportunity to submit revised undertakings in its submissions on this draft Report, which address the Commission's preliminary views in paragraph 97 above and in the Commission's comments letter.

⁴⁸ 2degrees letter, 6 May 2009, page 2.

⁴⁹ 2degrees letter, 6 May 2009, page 13, paras 6.4 and 6.5.

Market Definition

Introduction

108. The purpose of the market definition is to provide a relevant framework within which competition can be assessed. The Commission's approach to market definition is set out in its Mergers and Acquisitions Guidelines:⁵⁰

For competition purposes, a market is defined to include all those suppliers, and all those buyers, between whom there is close competition, and to exclude all other suppliers and buyers. The focus is upon those goods or services that are close substitutes in the eyes of buyers, and upon those suppliers who produce, or could easily switch to produce, those goods or services. Within that broad approach, the Commission defines relevant markets in a way that best assists the analysis of the competitive impact of the acquisition under consideration, bearing in mind the need for a commonsense, pragmatic approach to market definition.

109. In terms of the current investigation, the Commission is not evaluating the impact of an acquisition, but rather is considering the impact of regulating the mobile termination access services. The mobile termination access service is an input used to deliver calling and SMS services to retail customers. However, the Commission's preliminary view is that it is appropriate to use this approach to market definition as it provides an appropriate framework.

110. The Commission usually considers markets to have five dimensions:⁵¹

- the goods or services supplied or purchased (the product dimension);
- the geographic area from which the goods or services are obtained, or within which the goods or services are supplied (the geographic dimension);
- the level in the production or distribution chain (the functional dimension);
- the timeframe or timing within which the market operates, where relevant (the temporal dimension); and
- the different customer types within a market, where relevant (the customer dimension).

111. The following discussion focuses on the product, functional and geographic dimensions of the relevant markets. The Commission does not consider the customer and temporal dimensions to be of particular relevance to the market analysis. This is because mobile termination rates do not typically differentiate according to the customer type originating or terminating the call, or the time of day.⁵²

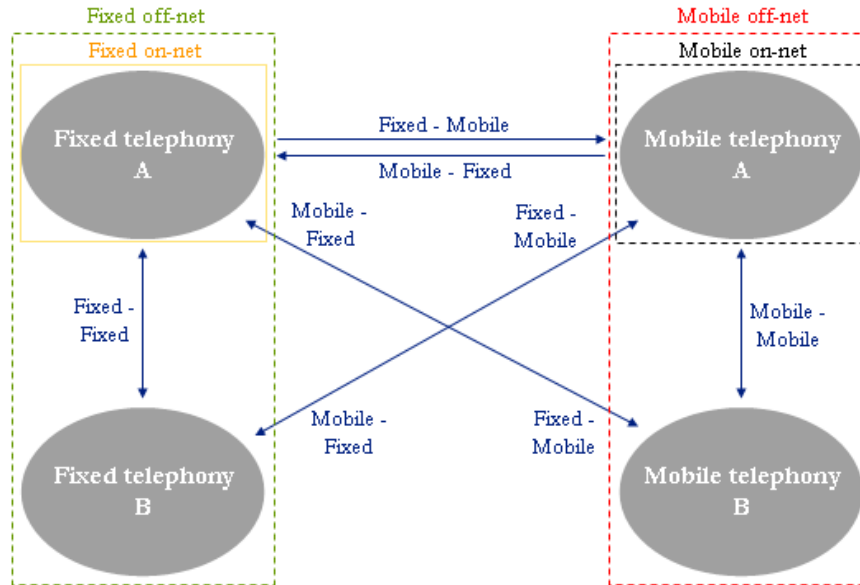
Wholesale market for mobile termination access services

112. The mobile termination access services are wholesale inputs used in the supply of various downstream end-to-end services such as SMS, FTM and MTM calling services. The various traffic flows between different telecommunications networks is summarised in Figure 2 below:

⁵⁰ Commerce Commission, *Mergers and Acquisitions Guidelines*, page 14.

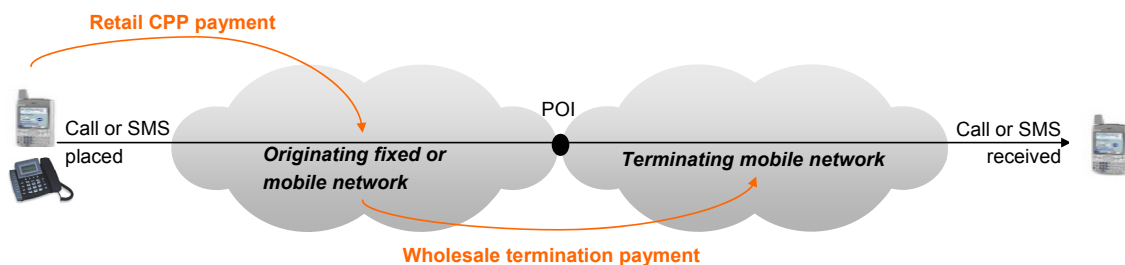
⁵¹ *ibid.*

⁵² As noted in paragraphs 917 to 923, the Commission considers that VoIP and internationally originated traffic should be treated on the same basis as traffic that is originated on domestic fixed and mobile networks.

Figure 2: Traffic flows between telecommunications networks

Source: Commerce Commission, 2009.

113. For FTM and MTM voice calls, the call originates on the fixed or mobile network to which the calling party (the A-party) is connected. The call will at some stage be handed over to the mobile network on which the called party (B-party) is located, and will be ‘terminated’ or completed on that network. The same applies for text messages, however, like an MTM voice call, an SMS is both originated and terminated on a mobile network.
114. The use of the mobile termination service to supply retail FTM, MTM and SMS services is outlined in Figure 3 below.

Figure 3: Use of MTAS to supply retail calling and SMS services

Source: Commerce Commission, 2009.

115. Under the calling party pays (‘CPP’) billing system that currently exists in New Zealand, the end-user making the call pays for the cost of making the call at the retail level. At the wholesale level, the originating fixed or mobile network operator makes a termination payment to the terminating mobile network operator, in order to cover that operator’s costs of terminating the call.

Summary of Issues Paper

116. The Issues Paper considered the markets in which the mobile termination access services are supplied, as well as the downstream markets in which retail FTM calling services, MTM calling services and SMS services are provided. The Commission noted that under a CPP model, service providers sell telephony and data services in the retail mobile market which includes a range of subscription services and the ability to make outgoing calls. The Commission stated that the termination service is not part of this retail offering to subscribers, as subscribers do not pay to receive incoming calls and SMS.
117. The Commission noted in the Issues Paper that the mobile terminating access service is a wholesale input supplied in the wholesale market to those network operators who wish to supply their subscribers with the ability to make retail MTM calls, FTM calls and SMSs. Furthermore, the Commission stated that as termination services are an essential input for providing end-to-end services, termination is recognised to be a bottleneck resource.
118. The Commission noted that it has previously considered the extent to which other services may represent a substitute for mobile services and wholesale mobile termination, and found that there is likely to be a separate market for voice termination services.⁵³ In addition, the Commission noted that overseas regulators have considered the extent to which termination services on competing mobile networks may be substitutable for one another, and found that as a result of the CPP feature of telecommunications, substitutability between different termination services is typically considered to be low or non-existent.⁵⁴
119. The Commission further noted that relevant markets for termination services are generally defined as “voice call termination on an individual (fixed or mobile) network”, and that this definition is consistent with that applied in other jurisdictions, particularly those countries in the European Union (‘EU’).⁵⁵ Furthermore, the Commission noted that within mobile termination services, the EU divides markets into the “national wholesale markets for mobile termination services on each mobile network” and the “national retail market for mobile subscription and origination services”.
120. A summary of the submissions received on the market definition in the Commission’s Issues Paper is contained in Appendix 2.

⁵³ See for example:

<http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobileTerminationRates/ContentFiles/Documents/MT%20Report%20PUBLIC%20version1.pdf>.

⁵⁴ See for example: <http://www.ofcom.org.uk/consult/condocs/wholesale/wholesale.pdf>.

⁵⁵ Examples are: Belgium (Décision du Conseil de l’Institut belge des services postaux et des télécommunications du 11 août 2006, www.ibpt.be/ibpt.htm), Germany (Regulierungsverfügungen der Bundesnetzagentur vom 30. August 2006, www.bundesnetzagentur.de/media/archive/7271.pdf), France (Décision n° 06-0779 de l’Autorité de régulation des communications électroniques et des postes en date du 14 septembre 2006, www.arcep.fr/uploads/tx_gsavis/06-0779.pdf), Italy (Autorità per le Garanzie nelle Comunicazioni, Delibera n. 3/06/CONS del 12 gennaio 2006, www.agcom.it/provv/d_03_06_CONS/d_03_06_CONS.htm).

Commission's view on wholesale markets in the previous mobile termination investigation

121. In the previous mobile termination investigation⁵⁶, the Commission found that there was a national wholesale market for mobile termination services on each mobile network. In arriving at this conclusion, the Commission had regard to submissions from Vodafone and Telecom that a broader mobile services market, encompassing both wholesale mobile termination and retail mobile services, should be defined in order to reflect the two-sided nature of mobile telecommunications markets.
122. Due to the discontinuity in the demand side, where wholesale customers purchase termination, and retail customers purchase calling services and subscription, the Commission did not consider it necessary to define a single, conglomerate mobile services market in its previous investigation.⁵⁷ The Commission did, however, recognise the relationship between termination services and retail mobile services. In particular, the Commission considered the level of 'pass-through' to downstream retail markets and the relationship of the 'waterbed effect' in its cost-benefit analysis.

Other regulators

123. Other telecommunications regulators have examined the relevant market in which mobile termination is supplied. The Commission's draft Report in relation to its previous mobile termination investigation summarised conclusions reached by the European Commission ('EC'), the European Independent Regulators Group ('IRG') and the Australian Competition and Consumer Commission ('ACCC').⁵⁸ These jurisdictions all demonstrated support for the view that wholesale call termination on individual networks is the appropriate market.⁵⁹ The Commission is not aware of any significant changes to this position in recent years.
124. The EC, for example, noted that a lack of suitable demand or supply side substitutes suggest that there is limited constraint on the pricing of wholesale call termination. When combined with the CPP principle, under which the calling party does not have the ability to influence termination charges, the EC concluded that call termination on individual networks is the appropriate market.⁶⁰
125. In 2007 the EC released a revised recommendation on relevant markets. The recommendation in respect of wholesale termination on mobile networks remained unchanged, however, with the EC concluding that:⁶¹

The conclusion at the current time (under a calling party pays system) is that call termination by third parties on individual networks is the appropriate relevant market.

⁵⁶ Commerce Commission, *Schedule 3 Investigation into regulation of mobile termination: Final report*, 9 June 2005.

⁵⁷ See paragraphs 122 to 123 below.

⁵⁸ Commerce Commission, *Schedule 3 Investigation into regulation of mobile termination: Draft report*, 18 October 2004, pp 20-23, paras 102-116.

⁵⁹ In the US, mobile operators work on a 'bill and keep' basis, and a receiving party pays (RPP) billing system is in place. In this scenario, the terminating network charges its own subscriber for the cost of terminating the call, avoiding the issue of monopoly power when setting wholesale termination rates.

⁶⁰ European Commission, *Commission Recommendation on relevant product and service markets within the electronic communications sector*, Explanatory Memorandum, p 32 - 34.

⁶¹ European Commission, *Explanatory note: Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector*, 17 December 2007, p 43.

126. The Commission notes that the ACCC has recently completed a review of the declaration for the domestic mobile terminating access service. In December 2008, the ACCC released a discussion paper in which it invited submissions on whether the market definition outlined in its 2004 MTAS Final Report is still appropriate.⁶²
127. In its final report, the ACCC is of the view that the findings of the 2004 MTAS Final Report remain appropriate. In particular, the ACCC maintains the view that:⁶³
- mobile call termination is a separate market and is unlikely to be substitutable with other services because each provider of call termination has exclusive control of the access to end-users on its own network;
 - the MTAS is in a separate market to that of retail mobile services on the basis that it is not constrained by the retail stage of production and that MTAS is an input used by telecommunication service providers to provide retail FTM and MTM services; and
 - the markets within which retail mobile services and FTM calls are provided are the most relevant downstream markets.

Commission's preliminary view on wholesale markets for mobile termination access services

Product Market

128. In commenting on the Issues Paper, both Vodafone and Telecom submitted that a broader mobile services market, encompassing wholesale mobile termination services, as well as retail services, should be defined. 2degrees also suggested that a broader market definition that includes all mobile services may be appropriate, to reflect the two-sided nature of mobile markets.
129. A two-sided market exists where there are two distinct user groups that provide each other with network benefits⁶⁴. In the case of mobile services, calling parties benefit from having more people connected to a mobile network that they can call, and end-users benefit from being able to receive calls. In summary, Vodafone and Telecom argued that this means that subscription costs and prices must be taken into account when considering termination rates.
130. Similar arguments were considered by the Commission in its previous mobile termination investigation. In that investigation, the Commission acknowledged that there are some complementarities in production on the supply side, and that firms will supply mobile termination, subscription and calling services together. However, the Commission was of

⁶² ACCC, *Domestic Mobile Terminating Access Service: An ACCC Discussion Paper reviewing the declaration for the domestic mobile terminating access service*, December 2008

⁶³ ACCC, *Domestic Mobile Terminating Access Service: An ACCC Final Report reviewing the declaration for the domestic mobile terminating access service*, May 2009, pp 14-18.

⁶⁴ A network effect (also called network externality) is the effect that one user of a good or service has on the value of that product to other people, where this effect is not captured in consumption decisions. A network benefit refers to a positive network effect.

the view that the discontinuity in the demand side between purchasers of the service, where wholesale customers purchase termination, and retail customers purchase calling services and subscription, is significant.⁶⁵ This discontinuity arises from the calling-party-network-pays (CPNP) arrangement that applies to mobile termination in New Zealand.

131. Although MTAS is required in order to complete an end-to-end call, and therefore benefits both the calling party and the receiving party, it is only purchased by wholesale customers. In addition, the two-sided nature of the market does not imply that mobile network operators are constrained when setting prices for termination on their networks.
132. Furthermore, the Commission notes that the approach to market definition is relatively non-contentious internationally. As set out above, regulators in Australia and Europe have adopted similar market definitions. In defining a separate wholesale termination market on each mobile network, the ACCC stated:⁶⁶

It is the [ACCC]'s view that MNOs have control over access to termination of calls to subscribers on their network. As a result of this, the Commission does not believe that MTASs provided on different mobile networks are substitutable for each other – calls to a consumer connected to one mobile carrier's network cannot be terminated on another carrier's network. Further, there are no adequate demand- or supply-side substitutes that will constrain mobile network operators in their pricing decisions for the mobile termination service. These factors, combined with a lack of consumer awareness (on the part of both the A- and B-party consumers) and the incentives that arise from the CPP principle that governs calls to mobile networks, fails to mitigate the control over access mobile operators have with regard to calls terminating on their networks.

133. For the above reasons, the Commission's preliminary view is that there is a product market for the supply of mobile termination access services on each mobile network.
134. The Commission acknowledges, however, that the market for mobile termination is two-sided, and therefore, is of the view that it is necessary to consider inter-relationships between MTAS and retail services. In particular, the Commission considers that there is a separate product market for the retail supply of mobile services, including mobile subscription and mobile origination. This is discussed in more detail in paragraphs 144 to 146 below.

Functional Market

135. As noted above, the submissions by Vodafone and Telecom suggest that the relevant market would encompass both retail and wholesale services. The Commission, however, considers there to be a distinct market for the MTAS. These services are purchased by interconnecting networks in order to be able to complete the delivery of a call. The relevant functional level for termination services is therefore the wholesale level.
136. The Commission's preliminary view is that from a functional perspective it is relevant to distinguish between the upstream wholesale market in which mobile termination is supplied, and the downstream retail markets in which services that rely on mobile termination are supplied. The Commission notes that downstream services, such as mobile

⁶⁵ Commerce Commission, *Schedule 3 Investigation into regulation of mobile termination: Final report*, 9 June 2005, p 33, para 101.

⁶⁶ ACCC, *Final Decision on whether or not the Commission should extend, vary or revoke its existing declaration of the mobile terminating access service*, June 2004, p 54.

subscription and mobile-originated calling services are supplied to retail customers, so the functional level for these services is retail.

Geographic Market

137. In the previous investigation, the Commission defined a national market for mobile termination, due to the national coverage of the two mobile networks on which calls are terminated in New Zealand.⁶⁷ The Commission's preliminary view is that a national market is appropriate.

Commission's preliminary view on wholesale markets for mobile termination access services

138. The Commission's preliminary view is that the relevant wholesale markets for the purposes of this investigation are the national wholesale market for MTAS on each mobile network. As indicated above, however, the Commission has also considered downstream retail markets that are relevant to mobile termination access services. These downstream markets are discussed in further detail below.

Downstream Markets

Commission's view on downstream markets in the previous mobile termination investigation

139. Mobile termination is used as an input in the supply of various downstream retail services, including FTM calling and off-net MTM calling. In the previous investigation, the Commission defined the downstream retail markets that are relevant to mobile termination as:

- the national retail market for FTM and toll call services; and
- the national retail market for mobile subscription and origination services.

Retail FTM services

140. The Commission previously treated FTM services as part of a broader retail market, including national and international toll calling. An important consideration in the adoption of a joint tolls/FTM market was evidence that a high proportion of customers tend to purchase both tolls and FTM calls from the same supplier.⁶⁸

141. The tolls element of this market includes the purchase by an end-user of tolls either:

- as part of a combined fixed-line and tolls service from a fixed-line operator; or
- through the use of a toll-bypass or carrier pre-selection service, where an end-user purchases tolls services from a different operator to the operator which provides them with their fixed-line service.

⁶⁷ Commerce Commission, *Schedule 3 Investigation into regulation of mobile termination: Final report*, 9 June 2005, p 36, para 120.

⁶⁸ Commerce Commission, *Schedule 3 Investigation into regulation of mobile termination: Final report*, 9 June 2005, pp 37-38.

142. In relation to the supply-side, during the Commission's previous mobile termination investigation, Telecom submitted that:⁶⁹

The incremental investment cost of providing fixed-to-mobile services is very small, given toll carriers have already incurred all necessary set up costs to provide toll products. Toll bypass carriers are not required to do anything extra when expanding to fixed-to-mobile calls – rather, the fixed-to-mobile calls will go through on the links already established for toll calls.

143. Due to complementarities in the provision of FTM and tolls services, and evidence previously presented to the Commission suggesting that customers tend to purchase these services as a bundle from the same supplier, the Commission's preliminary view is that the retail market for toll and FTM calls is a downstream market that is relevant to this investigation.

Retail mobile services

144. Consistent with the previous investigation, the Commission's preliminary view is that there is also a separate downstream market for mobile services, including mobile-originated calling services and mobile subscription services.⁷⁰ Given that end-users have to purchase MTM services together with mobile access (through a subscription charge) and from the same supplier, these retail services can be considered to be supplied as a bundle.
145. The Commission notes that SMS, MMS, and data services are often sold as part of a bundle of retail mobile services, including mobile-originated calling and subscription services, and therefore, that these services are all provided in the same retail mobile services market. The Commission notes that within the various segments of the retail mobile services market the products offered maintain a degree of substitutability, although the degree of substitutability differs greatly by customer type.
146. For example, business users of mobile services are likely to have a higher propensity to use voice calls and a lower propensity to view voice and SMS as substitutes. By contrast, younger, lower income, more price-sensitive users of mobile services, especially those that purchase large bundles of SMS⁷¹, are likely to have a higher propensity to use SMS and to use multiple two-way SMS in place of a voice conversation.

Commission's preliminary views on relevant markets

147. For the purposes of this draft Report, the Commission's preliminary view is that the following markets are relevant to this investigation:
- the national wholesale market for mobile termination access services on each mobile network (the "wholesale MTAS market");
 - the national retail market for mobile services, including mobile subscription and origination services (encompassing MTM calling, SMS, MMS and data services) (the "retail mobile services market"); and

⁶⁹ Telecom, *Submission on Issues Paper*, 19 July 2004, para 66.

⁷⁰ Commerce Commission, *Schedule 3 Investigation into regulation of mobile termination: Final report*, 9 June 2005, pp 35-36, paras 115-116.

⁷¹ Such as Telecom's \$10TXT plan for its CDMA network, TXT 150, TXT 600 and TXT 1500 plans for its XT network, or Vodafone's TXT600 or TXT2000 plans.

- the national retail market for FTM and toll call services (the “retail FTM/tolls market”).

Competition Assessment

Introduction

148. In determining whether or not to recommend that the MTAS become a regulated service under Schedule 1 of the Act, the Commission has assessed the level of competition within the markets that are relevant to this investigation.
149. Based on previous investigations and decisions, the factors that the Commission generally considers to be pertinent to the assessment of whether there is limited competition in a market are listed below:⁷²

Existing Competition:

- the number and relative size of competitors in the market, including where possible an assessment of trends in shares over time;
- the extent to which there is product differentiation;
- the degree to which competitors engage in independent rivalry;
- the degree of vertical integration;
- the absence of barriers to customer switching;
- the movement in prices over time, and any evidence of their broad relationship to underlying costs; and
- evidence that the access provider is acting inefficiently or achieving excess returns.

Potential Competition:

- the potential for entry and the significance of any barriers to entry and expansion that may exist, and evidence of recent entry and/or expansion;
- the movement in prices over time, and any evidence of their broad relationship to underlying costs; and
- evidence that the access provider is acting inefficiently or achieving excess returns.

Other Competition Factors:

- the existence of any countervailing power; and
- the constraints imposed by the regulatory environment.

⁷² See Commerce Commission, *Decision No. 497: Determination on the TelstraClear Application for Determination for "Wholesale" Designated Access Services*, 12 May 2003.

150. In assessing the state of competition in the markets relevant to this investigation, the Commission has had regard to the factors outlined above. In considering the level of competition, the Commission has undertaken both qualitative and quantitative analysis of a range of factors and has utilised data from a number of sources, including responses to the MTAS information request, data collected as part of the Commission's sector monitoring and OECD benchmarking.
151. As noted in the previous section, the Commission has defined the relevant markets as:
- the wholesale MTAS market;
 - the retail mobile services market; and
 - the retail FTM / tolls market.
152. The Commission notes that the relevant downstream retail markets are the markets in which any benefit to end-users will be achieved. Furthermore, the degree of competition in the downstream retail market for mobile services will be relevant when considering the extent to which termination profits are eroded through competition.
153. The Commission also notes that to the extent that there is market power in the termination market, for example, in terms a mobile network operator being able to sustain MTRs in excess of costs, this is likely to have some effect in these downstream markets (where the resulting prices are also likely to be above cost).

Issues Paper

Summary of Issues Paper

154. In the Issues Paper the Commission provided an overview of the New Zealand mobile market, and presented a range of evidence that suggested that there is limited competition in the market.
155. Specifically, the Commission noted that:
- the New Zealand mobile market, with only two mobile network operators, is characterised by high concentration whereas comparable overseas jurisdictions have four or more operators;
 - although the level of voice volume per mobile subscriber in New Zealand appears to be lower compared to other countries, the returns per minute are higher;
 - in the downstream retail market, prices for mobile services in New Zealand remain relatively high compared to other OECD countries for the low, medium and high user baskets; and
 - current wholesale mobile termination rates are significantly above the Commission's median benchmarked rate.

156. These observations led the Commission to suggest that the New Zealand mobile market is subject to lower competitive pressure than in other OECD countries.
157. A summary of the submissions received on the competition assessment in the Commission's Issues Paper is contained in Appendix 2.

Wholesale MTAS market

Existing competition

158. In respect of the wholesale MTAS market, the Commission notes that the individual mobile network operator supplying the termination service is the sole supplier of that service, and therefore has a monopoly over the provision of MTAS on its own network. This is because, by definition, calls and SMSs made to that operator's subscribers cannot be terminated by another mobile operator.
159. In addition, the presence of CPP billing in New Zealand means that the end-user paying for the call/SMS generally does not make the subscription decision that determines which network operator provides the termination service. Consequently, the Commission's preliminary view is that there is no constraint from existing competition in each of the termination markets.
160. Wholesale FTM termination rates in New Zealand are currently set in accordance with the Deeds that Vodafone and Telecom entered in April 2007. These rates are set out in Table 9 below.

Table 9: FTM termination rates under the MTR Deeds

Annual Period	Maximum FTM termination rate (cpm, excl. GST)	
	Telecom	Vodafone
Effective Date to 31 March 2008	17.0	17.0
1 April 2008 to 31 March 2009	16.0	16.0
1 April 2009 to 31 March 2010	15.0	15.0
1 April 2010 to 31 March 2011	14.0	14.4
1 April 2011 to 31 March 2012	12.0	14.0

Source: Telecom Deed (2007), Vodafone Deed (2007).

161. The Commission understands from Telecom and Vodafone that MTM termination rates are set at the same level as FTM termination rates. In its submission on the Issues Paper, Vodafone stated that, at present, it offers a standard market rate for MTM voice termination that is consistent with the prices for FTM voice termination contained in the Vodafone Deed.⁷³ Similarly, Telecom noted that its current wholesale voice termination rates for FTM services match the MTM tariffs contained in its standard mobile interconnection agreement.⁷⁴

⁷³ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, p 55, para 40.

⁷⁴ Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, p 26.

162. Furthermore, the Commission understands that the prevailing rate for SMS termination on Vodafone and Telecom's networks is 9.5 cents per text.⁷⁵
163. Mobile termination rates have declined in recent years. In its previous mobile termination investigation, the Commission noted that in 2004 the prevailing rate was around 28cpm.⁷⁶ This compares with the current FTM termination rate of 15cpm set in accordance with the Deeds.
164. Table 10 presents information from Telecom and Vodafone in response to the Commission's data questionnaire and shows continuing downward movements in wholesale mobile termination rates for voice over the period from 2006 to 2008. Wholesale mobile termination rates for SMS have also generally been trending downwards over the same period.

Table 10: Wholesale mobile termination rates and revenue (cpm / cpSMS)

Telecom	2006	2007	2008
Wholesale price for fixed-to-mobile termination (cpm) ⁷⁷	[] TRI	[] TRI	[] TRI
Wholesale price for mobile-to-mobile termination (cpm)	[] TRI	[] TRI	[] TRI
Wholesale price for SMS off-net national termination (cpt)	[] TCOI	[] TCOI	[] TCOI
Wholesale voice termination service revenues (\$m)	[] TRI	[] TRI	[] TRI
Wholesale SMS termination service revenues (\$m)	[] TRI	[] TRI	[] TRI
Vodafone			
Wholesale price for fixed-to-mobile termination (cpm)	[] VRI	[] VRI	[] VRI
Wholesale price for mobile-to-mobile termination (cpm)	[] VRI	[] VRI	[] VRI
Wholesale price for SMS off-net national termination (cpt)	[] VCOI	[] VCOI	[] VCOI
Wholesale voice termination service revenues (\$m)	[] VRI	[] VRI	[] VRI
Wholesale SMS termination service revenues (\$m)	[] VRI	[] VRI	[] VRI

Source: Telecom, Vodafone (2009).

165. Although mobile termination prices have declined, and FTM termination rates are subject to the terms of the MTR Deeds, current mobile termination rates are substantially above the Commission's estimate of the underlying cost of providing the termination service. Based on the Commission's benchmarking (which is discussed in the *Determining a Factual Price for the MTAS* section of this draft Report), the Commission's current estimate of a cost-based MTAS price is 7.2 cpm for voice calls (FTM and MTM), declining to just under 4 cpm by 2015, and 0.95 cent per text for SMS, declining to 0.5 cent per text by 2015.

Potential competition

166. The potential for new entry to constrain existing operators in a market depends on the significance of any barriers to entry into or expansion of that market. Where those barriers

⁷⁵ In paragraph 225 of its submission on the initial undertakings, Vodafone noted that the prevailing market SMS termination rate in New Zealand is 9.5 cents per text.

⁷⁶ Commerce Commission, *Schedule 3 Investigation into regulation of mobile termination: Final report*, 9 June 2005, p 40, para 139.

⁷⁷ Telecom noted that these "figures are drawn from billing system data, which contain some inexplicable discrepancies."

are considered to be low, potential competition may be seen as a real constraint on existing businesses.

167. As defined in the previous section, the relevant market for the assessment of competition is the national wholesale market for MTAS on each mobile network. No other party can terminate calls to subscribers of a particular mobile network. Furthermore, under the CPNP billing method, an increase in termination charges is unlikely to incentivise the call recipient to switch to another mobile network (other than in certain circumstances, such as closed user groups).
168. In the absence of technological developments that might allow direct access to a mobile subscriber for the purposes of terminating voice calls, there appears to be an absolute barrier to entry into the wholesale MTAS market.
169. The Commission's preliminary view is that existing suppliers of mobile termination services will not be constrained by potential competition.

Other competition factors

170. The Commission has also considered whether there are other factors which may act as a constraint on existing participants in a market. These factors include whether customers of, or suppliers to, existing participants possess any countervailing power. For MTAS, the purchasers of termination services from a mobile network operator include other fixed and mobile network operators. These same operators may also supply (fixed and mobile) termination services. The Commission has therefore considered whether this may be a source of countervailing power.
171. Fixed network operators supply termination on their networks. For example, a mobile subscriber calling a fixed line subscriber will involve a call which terminates on the fixed network of the called party. In this case, the fixed network operator supplies the termination service to the mobile network originating the call. However, the ability of the fixed network to raise its termination price in retaliation against any increase in the mobile termination rates is limited, as fixed interconnection is subject to regulatory pressure⁷⁸. This indicates that countervailing buyer power in the hands of fixed network operators is unlikely to constrain the mobile networks in supplying termination services.
172. The story is similar in respect of MTM termination. In order to enable its subscribers to both send calls or SMSs to, and receive calls or SMSs from, competing mobile networks, a mobile network operator must supply termination services to, and purchase termination services from, these competing networks.
173. In its submission on the Issues Paper, 2degrees noted that in negotiations between similar sized networks that both require access to each others network, countervailing buying power may counteract the market power of the terminating network. However, 2degrees further submitted that in the current context, there is a new entrant which does not possess such countervailing power.⁷⁹

⁷⁸ Interconnection with Telecom's fixed PSTN, and interconnection with fixed PSTN other than Telecom's, are regulated services under the Act.

⁷⁹ 2degrees, *Submission from NZ Communications Limited on Mobile Termination Issues Paper, September 2008*, p 31.

174. The Commission's preliminary view is that any new entrant with limited market share, such as 2degrees, is unlikely to possess countervailing power that will significantly constrain Vodafone and Telecom in supplying MTM termination services.

Commission's preliminary view on state of competition in wholesale mobile termination markets

175. The Commission's preliminary view is that mobile network operators are subject to limited competition in the wholesale market for termination access services on their respective networks.

Retail mobile services market

Existing competition

Market overview

176. There are currently two facilities-based cellular mobile network operators in New Zealand, Telecom and Vodafone. Vodafone operates a nationwide 2G and 3G GSM/UMTS⁸⁰ network, while Telecom launched a nationwide 3G network, also based on the UMTS standard, in May 2009 (the 'XT network'). Telecom is currently running its new XT network in parallel with its legacy CDMA network.⁸¹
177. A further mobile network operator is poised to enter the New Zealand mobile market. 2degrees is currently building a 2G and 3G network based on GSM/UMTS technology, and has announced its entry into the market in August 2009.⁸²
178. There are also currently three mobile virtual network operators (MVNOs) operating in New Zealand.⁸³ MVNOs rely on wholesale access to the network infrastructure of facilities-based mobile network operators, such as Telecom and Vodafone, in order to provide mobile services to retail customers.
179. TelstraClear is providing retail services as an MVNO on Telecom's CDMA network, while Black+White and Compass are operating under MVNO agreements with Vodafone. As discussed in the 'potential competition' section below, there are also a number of other parties who have reached wholesale MVNO agreements for the supply of retail mobile services in New Zealand.
180. Although the recent emergence of MVNOs is a positive step for the New Zealand retail market for mobile services, the Commission considers that MVNOs are unlikely to increase competition in this market to the same extent as a facilities-based entrant. This is because,

⁸⁰ Universal Mobile Telecommunications System (UMTS) is the 3G successor to the 2G GSM standard. The most common form of UMTS uses W-CDMA as the underlying air interface.

⁸¹ In a media release dated 8 June 2007, Telecom noted that its CDMA network will remain in operation for at least the next five years.

⁸² See <http://www.2degreesmobile.co.nz/documents/2degrees-press-release.pdf>

⁸³ A mobile virtual network operator (MVNO) is a company that provides mobile phone service but does not have its own licensed frequency allocation of radio spectrum, nor does it necessarily have all of the infrastructure required to provide mobile telephone service.

as the Commission outlined in its schedule 3 investigation into the national roaming service:⁸⁴

The MVNO agreements that have been signed appear to be relatively “thin”, in the sense that the ability of the MVNO to differentiate and offer innovative new retail services is limited. Retail competitors that enter on the basis of resale arrangements are relatively constrained in their ability to engage in independent rivalrous behaviour, especially when compared to facilities-based entry.

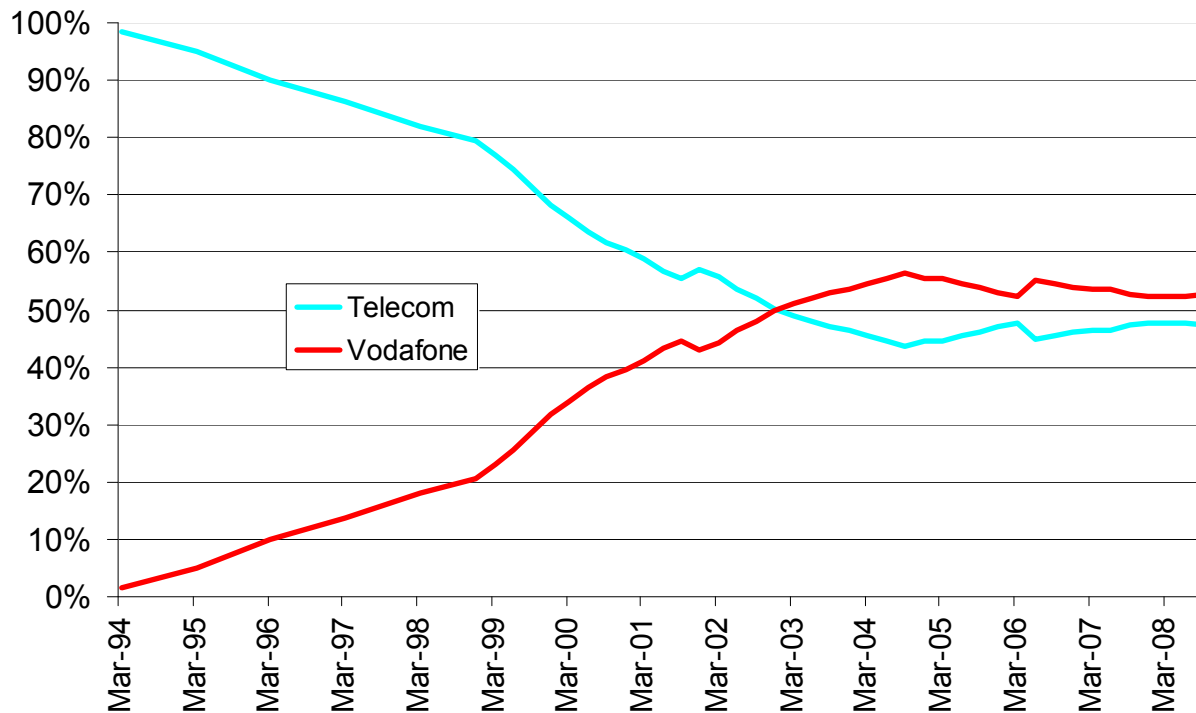
181. The total size of the retail mobile market has continued to expand in recent years. At the end of September 2008, there were 4.62 million mobile subscribers in New Zealand.⁸⁵ This equates to a level of penetration of approximately 108 percent of population.⁸⁶ As the Commission noted in its 2008 telecommunications market monitoring report, this is possibly due, in part, to some end-users carrying two mobile phones in order to make best use of on-net calling and texting offers.⁸⁷
182. Growth in mobile subscribers has remained relatively steady, despite the penetration rate now exceeding 100 percent, with the total number of mobile subscribers growing by just over 8% in the year to September 2008, compared with annual growth of just over 10% for the year to September 2007 and 7% for the year to September 2006.
183. Figure 4 shows how Telecom and Vodafone’s share of total customer connections has changed since BellSouth, which was later purchased by Vodafone, entered the market in 1993.

⁸⁴ Commerce Commission, *Schedule 3 Investigation into amending the roaming service: Final report*, p 18, para 99.

⁸⁵ Merrill Lynch, Global Wireless Matrix, 13 April 2009, Table 1 “Industry snapshot by region – 4Q08 – Developed countries” reports New Zealand as having total mobile subscriber numbers of 4.7million as at the end of 2008, with a corresponding penetration rate of 110.2% and a year-on-year growth in subscribers of 6.8%.

⁸⁶ Based on NZ population as at 30 September 2008 of 4,280,000 (Source: <http://www.stats.govt.nz/store/2008/11/national-population-estimates-sep08-hotp.htm?page=para002Master>).

⁸⁷ Commerce Commission, *2008 Telecommunications Market Monitoring Report*, 14 April 2009, p 15, para 36. See note 375 for further discussion of the reasons why the mobile penetration rate may exceed 100% in New Zealand.

Figure 4: Mobile Market Shares of Customer Connections

Source: Commerce Commission (2009).⁸⁸

184. The market share of subscribers has remained relatively constant in recent years, with Vodafone having a market share of just above 50 percent. Vodafone's market share of subscribers at the end of September 2008 is estimated to be 52.6%, while Telecom's market share is estimated to be 47.4%.

185. The Commission has also calculated the market shares of mobile revenue and average revenue per user (ARPU) based on information from Telecom and Vodafone in response to the Commission's data questionnaire. Vodafone's market share of mobile revenue has increased slightly over the period from 2006 to 2008. The results are set out in Table 11 below.

Table 11: Mobile market share and average revenue

[

] TRI / VRI

Source: Telecom, Vodafone (2009).

Industry concentration

186. The Commission has used the Herfindahl Hirshman Index ('HHI')⁸⁹, which is a standard measure of industry concentration that takes into account both the number of firms in a

⁸⁸ Commerce Commission, 2008 Telecommunications Market Monitoring Report, 14 April 2009, page 15.

market as well as differences in their sizes, to estimate the level of concentration of the New Zealand mobile market. Based on the market shares of customer connections as at 30 September 2008 (as set out above), the Commission estimates the HHI to be over 5000⁹⁰, indicating that the market is highly concentrated.

187. In addition, the Commission notes that New Zealand and Slovakia are the only countries in the OECD that have only two competing mobile network operators.⁹¹ As seen in Table 12 below, each of the other 28 OECD countries have three or more mobile network operators.

Table 12: Mobile Networks and Market Shares (%) in OECD

Number of Operators	Market share of operator					
	1	2	3	4	5	Other
Australia	45.1	32.5	17.2	5.2		
Austria	39.6	24.4	20.7	12.0	3.3	
Belgium	48.3	33.4	18.3			
Canada	36.4	26.9	36.7			
Czech Republic	41.0	40.0	19.0			
Denmark	41.2	23.5	21.0	5.0	9.3	
Finland	65.7	4.3	18.5	11.5		
France	46.8	35.9	17.3			
Germany	37.3	36.8	13.6	12.3		
Greece	37.4	35.6	19.4	7.6		
Hungary	45.0	33.2	21.8			
Iceland	63.6	34.3	2.1			
Ireland	48.6	38	13.4			
Italy	40.0	33.1	19.1	7.8		
Japan	53.0	23.5	15.8	2.8		4.9
Korea	50.9	32.1	17.0			
Luxembourg	53.0	40.0	7.0			

⁸⁹ The HHI is defined as the sum of the squares of market shares. A duopoly involving two firms of equal size has a HHI of 5000 (sometimes expressed as 0.5), while a duopoly involving one firm with 75% and the other with 25% has a higher HHI of 6250 (0.625). A monopoly market would have a HHI of 10000 (1.0).

⁹⁰ The Commission estimates the HHI to be 5013.175. A value of the HHI above 1800 is typically considered to refer to high concentration. Merrill Lynch, see note 85, report New Zealand as having a HHI of 0.501 as at the end of 2008.

⁹¹ OECD, *OECD Communications Outlook 2007*, p 38.

Mexico	78.9	14.0	4.0	3.1		
Netherlands	51.2	23.0	11.3	14.5		
New Zealand	52.8	47.1				
Norway	59.5	24.4	8.0	6.3	1.8	
Poland	35.0	31.0	34.0			
Portugal	46.4	38.3	15.3			
Slovakia	55.5	44.5				
Spain	46.1	30.0	23.9			
Sweden	52.0	27.9	17.0	3.1		
Switzerland	62.5	18.5	18.3	0.7		
Turkey	63.0	22.0	15.0			
United Kingdom	26.0	23.3	22.7	22.6	5.4	
United States	25.4	24.1	21.0	10.2	5.0	14.3

Source: OECD Communications Outlook, 2007.

188. This further emphasises that, at present, the New Zealand mobile market is highly concentrated compared to that of similarly developed countries. The Commission considers that this high concentration is likely to limit the degree of competitive pressure in the market, potentially leading to high retail prices.⁹²
189. In the Issues Paper, the Commission noted that benchmarking the market shares in New Zealand against those of comparable OECD countries indicated that these comparable countries tend to have four or more operators.⁹³ In reaching this conclusion the Commission compared New Zealand to Sweden, Finland and Norway.⁹⁴
190. In response, Telecom asserted that some of these “four or more” mobile operators may be regional operators, or operators with partial coverage using roaming over other networks to fill any coverage gaps in their own networks. For example, Telecom noted that information on the GSM Association’s website indicates that one of Finland’s four operators is a regional operator, and only one of Sweden’s four providers operates a fully national network.⁹⁵

⁹² As noted above, however, 2degrees is likely to enter the market in August 2009, at which point New Zealand will have three facilities-based mobile network operators. However, 2degrees will not be operating a full national network and will be reliant on roaming outside of the main urban areas.

⁹³ Commerce Commission, *Schedule 3 investigation into regulation of mobile termination: Issues paper*, p 15, para 46.

⁹⁴ The Commission applied the comparability criteria that were used in the UCLL STD.

⁹⁵ Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on Issues Paper*, 5 September 2008, p 14, para 52.

191. Notwithstanding this, the Commission considers that there is still evidence of greater facilities-based competition in these countries than in New Zealand at present. Further, the Commission considers that, in general, a likely scenario for entry in a given mobile market is based on building an urban network, supplemented by a roaming agreement with an existing mobile operator.⁹⁶

Network evolution

192. During the Commission's previous investigation into mobile termination rates, Telecom summarised the competitive history between the mobile networks of Telecom and Vodafone, noting the efforts of both mobile operators to gain a competitive advantage through somewhat different technological paths.⁹⁷
193. In terms of Telecom's evolution, the earlier analogue AMPS network was superseded by its digital D-AMPS (or TDMA) network, which enabled Telecom to supplement basic voice services with advanced services such as Caller ID. Telecom launched its CDMA network in 2001, allowing a greater range of data applications. Subsequent upgrades of the CDMA network supported higher data speeds.
194. BellSouth entered New Zealand with its digital GSM network in 1993, which had a competitive advantage over Telecom's prevailing AMPS-based services. BellSouth's network could offer a broader range of services (including SMS or text messaging), and also provided customers with greater roaming options outside of New Zealand. Vodafone purchased BellSouth's network in 1998, and upgraded the GSM network in response to Telecom's CDMA roll-out.
195. In 2005 Vodafone launched its 3G UMTS network, which utilises Wideband CDMA (W-CDMA) as the underlying air interface. Higher speeds and a wider range of services were made available as a result of the introduction of 3G technology in New Zealand.⁹⁸ In October 2006, Vodafone upgraded its 3G network with the introduction of High Speed Downlink Packet Access (HSDPA), leading to increased connection speeds.⁹⁹
196. In June 2007, Telecom publicly announced plans to develop a UMTS (3G) network, based on the same W-CDMA technology used by Vodafone.¹⁰⁰ The XT network was launched in May 2009 and provides nationwide 3G coverage primarily utilising spectrum in the 850 MHz band.¹⁰¹ As a result of the launch of the XT network, Telecom and Vodafone are now competing in the mobile market using the same technology for the first time.
197. In February 2009, Vodafone announced plans to extend its 3G coverage to 97% of the population¹⁰² by 31 May 2009 using 900 MHz spectrum.¹⁰³ Vodafone had previously

⁹⁶ See paragraph 264 below.

⁹⁷ Telecom, *Investigation into Regulation of Mobile Termination: Submission in respect of the Issues Paper*, 19 July 2004, p 20-23.

⁹⁸ For example, video calling and mobile TV.

⁹⁹ <http://www.vodafone.co.nz/personal/about/media-centre/2006-media-releases/redefines-broadband-services.jsp>

¹⁰⁰ http://www.telecom-media.co.nz/releases_detail.asp?id=3455&page=14&pagesize=10

¹⁰¹ http://www.telecom-media.co.nz/releases_detail.asp?id=3593&page=1&pagesize=10

¹⁰² The Commission notes that land area coverage is significantly lower, being estimated at approximately 40% in 2007. See, for example, the file *Public version of results of 2005-06 and 2006-07 TCF telecommunications industry questionnaire*, cells A17-H17 on sheet 2006-07, at

announced that it would offer nation-wide 3G coverage by April 2010. The accelerated expansion of Vodafone's 3G coverage appears to have been in response to the launch of Telecom's XT network in May 2009.

Pricing and usage of voice services

198. In the Issues Paper, the Commission estimated the total volume of outgoing mobile minutes in New Zealand for the 2006/07 period to be approximately 3 billion minutes. Comparing the volume mobile minutes per subscriber in New Zealand to a number of other countries, the Commission noted New Zealand subscribers consume a much lower amount of outgoing minutes, as shown in Table 13 below.

Table 13: Outgoing mobile minutes per subscriber

	New Zealand	Australia	Germany	Sweden	Norway	UK	Finland
Mobile voice volume (in 000 min)	3,020,000	19,107,000	68,337,000	12,293,000	4,558,000	82,000,000	6,859,000
Subscribers (in 000)	4,522	21,300	97,151	9,811	5,211	69,700	6,080
Minutes per subscriber	668	897	703	1253	875	1176	1128

Source: Commerce Commission, 2008.¹⁰⁴

199. Table 14 presents information from Telecom and Vodafone in response to the Commission's data questionnaire on the total volume of outgoing mobile voice minutes in New Zealand over the period from 2006 to 2008. While there has been growth in the total volume over this period, it is notable that the overall growth between 2007 and 2008 is less than the growth in on-net minutes on Vodafone's network.

<http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/MonitoringandReporting/ContentFiles/Documents/Public%20version%20of%20results%20of%20Telecommunications%20Industry%20Questionnaire%20for%202005-06%20and%202006-070.XLS>.

¹⁰³ <http://www.vodafone.co.nz/about/media-centre/2009-media-releases/3g-coverage-for-all-new-zealanders.jsp>

¹⁰⁴ Commerce Commission, *Issues Paper*, 8 August 2008, page 16. Table 13 was sourced from desk research on the most recent regulatory reports available on-line as at August 2008.

Table 14: Total mobile voice minutes

	2006		2007		2008	
	Actual minutes	Billed minutes	Actual minutes	Billed minutes	Actual minutes	Billed minutes
Telecom outgoing mobile to mobile calls on-net national (million)	[] TCOI	[] TRI	[] TCOI	[] TRI	[] TCOI	[] TRI
Telecom outgoing mobile to mobile calls off-net national (million)	[] TCOI	[] TRI	[] TCOI	[] TRI	[] TCOI	[] TRI
Telecom outgoing mobile to fixed network calls national (million)	[] TCOI	[] TRI	[] TCOI	[] TRI	[] TCOI	[] TRI
Telecom outgoing mobile calls international (million)	[] TCOI	[] TRI	[] TCOI	[] TRI	[] TCOI	[] TRI
Telecom other outgoing mobile calls (directory, mob ext, voicemail, telecom services e.g., *333) (million)	[] TCOI	[] TRI	[] TCOI	[] TRI	[] TCOI	[] TRI
Telecom total volume of outgoing mobile calls (million)	[] TCOI	[] TRI	[] TCOI	[] TRI	[] TCOI	[] TRI
Vodafone outgoing mobile to mobile calls on-net national (million)	n/a	[] VRI	[] VCOI	[] VRI	[] VCOI	[] VRI
Vodafone outgoing mobile to mobile calls off-net national (million)	n/a	[] VRI	[] VCOI	[] VRI	[] VCOI	[] VRI
Vodafone outgoing mobile to fixed network calls national (million)	n/a	[] VRI	[] VCOI	[] VRI	[] VCOI	[] VRI
Vodafone outgoing mobile calls international (million)	n/a	[] VRI	[] VCOI	[] VRI	[] VCOI	[] VRI
Vodafone other outgoing mobile calls	n/a	n/a	n/a	n/a	n/a	n/a
Vodafone total volume of outgoing mobile calls (million)	n/a	[] VRI	[] VCOI	[] VRI	[] VCOI	[] VRI
Total volume from outgoing calls (million)	n/a	[] TRI / VRI	[] COI	[] TRI / VRI	[] COI	[] TRI / VRI

200. Table 15 presents information from Telecom and Vodafone in response to the Commission's data questionnaire on average prices for outgoing mobile voice minutes in New Zealand over the period from 2006 to 2008. While there have generally been reductions in per minute prices over this period, Telecom's average prices for MTM and MTF calls increased between 2007 and 2008, as did Vodafone's prices for MTF calls, while Vodafone's price for on-net MTM calls decreased significantly over the same time period.¹⁰⁵ This price reduction for Vodafone's on-net MTM calls occurred at the same time as the significant growth in on-net minutes on Vodafone's network.

¹⁰⁵ Telecom and Vodafone have indicated that some of these figures may have been affected by, for example, changes in the plans available for mobile customers or changes in the classification of calls, and should be treated with caution.

Table 15: Average mobile voice prices

	2006	2007	2008
Telecom average retail price for mobile-to-mobile on-net call national (cpm)	[] TCOI	[] TCOI	[] TCOI
Telecom average retail price for mobile-to-mobile off-net call national (cpm)	[] TCOI	[] TCOI	[] TCOI
Telecom average retail price for mobile-to-fixed on-net and off-net call national (cpm)	[] TRI	[] TRI	[] TRI
Telecom average retail price for fixed-to-mobile calls national (cpm)	[] TRI	[] TRI	[] TRI
Vodafone average retail price for mobile-to-mobile on-net call national (cpm)	[] VCOI	[] VCOI	[] VCOI
Vodafone average retail price for mobile-to-mobile off-net call national (cpm)	[] VCOI	[] VCOI	[] VCOI
Vodafone average retail price for mobile-to-fixed on-net and off-net call national (cpm)	[] VRI	[] VRI	[] VRI
Vodafone average retail price for fixed-to-mobile calls national (cpm)	[] VRI	[] VRI	[] VRI

Source: Telecom, Vodafone (2009).

201. The Commission is concerned that the price difference between on-net and off-net prices, and the above cost nature of MTM and FTM pricing, particularly for off-net MTM calls, is likely to create a significant barrier to market entry and therefore competition.
202. Vodafone have submitted that on-net pricing can be pro-competitive, stating that:¹⁰⁶
- “... Vodafone and Telecom have sought to compete on the basis of on-net discounting here in New Zealand for a number of years. Popular product offerings such as BestMate, Family and Talk Zone Zero are all ways in which Vodafone has offered consumers lower prices for calls made to other Vodafone consumers. Rather than being anti-competitive, we believe these product offerings have intensified the field of rivalry within which Vodafone and Telecom have competed.
- ...
 We believe consumers have benefited greatly from being able to enjoy on-net price discounting. Based on the data provided to the Commission, we estimate that consumers will enjoy a surplus of approximately [] [VCOI] million during the 2009 financial year, compared to the prices they would pay if calls were charged at average off-net rates.”
203. While there have clearly been reductions in prices for the majority of MTM and FTM, the most marked reduction in prices relates to Vodafone’s reduction in its price for on-net MTM calls, which has occurred at the same time as a corresponding marked increases in volumes of on-net MTM calls for Vodafone. Notwithstanding the general decrease in prices for MTM and FTM calls, the Commission remains concerned that the magnitude of the above cost-pricing for MTM and FTM termination rates is restricting the overall level of competition in the retail mobile services market.
204. The basis for Vodafone’s calculation of the surplus that consumers enjoy from lower on-net call prices is not clear.¹⁰⁷ However, this figure itself distracts from the Commission’s concern that above cost-pricing for MTM and FTM termination rates is restricting the overall level of competition in the retail mobile services market. If MTM and FTM

¹⁰⁶ Vodafone, *Telecommunications Act 2001: Submission on the Schedule 3A Undertakings provided on 12 January 2009*, page 47, para 145 and page 49, para 158.

¹⁰⁷ Vodafone appear to have compared average on-net mobile prices with average off-net mobile prices, and estimated the change in consumer surplus. Using 2008 data initially provided by Vodafone, the Commission has estimated a gain in consumer surplus of around \$[] VCOI million, which is slightly lower than Vodafone’s 2009 estimate of \$[] VCOI million. However, following further examination by the Commission, the average retail on-net prices initially supplied by Vodafone excluded important on-net retail revenues, resulting in too low an average on-net price. Correcting for this, the average retail on-net price increases. The estimated gain in consumer surplus using the corrected retail on-net price may therefore be considerably lower than Vodafone’s estimate.

termination rates were cost-based, then the Commission considers that competition would be likely to deliver even greater benefits to end-users than those Vodafone calculate have been delivered by on-net price discounting.

205. In addition, in the 2008 Telecommunications Market Monitoring Report, the Commission noted that in New Zealand mobile calls comprise around one quarter of all retail calling minutes on voice networks. The Commission noted that given mobile connections far exceeded fixed line connections, mobile calling volumes could be expected to be higher.
206. The Commission further noted that the proportion of total call minutes generated by mobile phones in New Zealand is much less than in other comparable countries. Specifically, the Commission noted that the Australian Communications and Media Authority (ACMA) has reported that in Australia nearly half of all voice minutes are mobile minutes.¹⁰⁸
207. The Commission considers that both the low volume of mobile minutes per subscriber in New Zealand, and the low proportion of mobile minutes to fixed line minutes, may be indicative of relative high prices in New Zealand.
208. An indicator of competitiveness in the retail mobile market that the Commission has reported in the past is New Zealand's ranking against other OECD countries in terms of the cost of various usage baskets.
209. In its submission on the Issues Paper, Telecom noted that the Teligen benchmarking¹⁰⁹ calculates the total spend for three usage profiles (low user, medium user and high user) based on mobile plans offered by the two largest mobile operators in each OECD country, and ranks these total spends. Telecom submitted that the Teligen OECD benchmarking has a number of limitations, including:¹¹⁰
- the usage baskets rely on a usage profile that may be indicative of the customer demand in some of the OECD countries, but it may not capture the usage profile of mobile customers in New Zealand;
 - the Teligen usage baskets do not capture the benefits of price caps, which are a common feature of mobile packages in New Zealand; and
 - the Teligen baskets attempt to compare retail prices, but they do not take into account a number of differences in the underlying cost of providing the mobile services relevant to the New Zealand context.
210. The Commission agrees that OECD benchmarking has a number of limitations. Specifically, the Commission has previously noted in its telecommunications sector monitoring reports that:
- OECD usage baskets will differ from New Zealand customer profiles and do not capture special or confidential deals; and

¹⁰⁸ ACMA, *Convergence and Communications Report 1: Australian household consumers' take up and use of voice communications services*, March 2009.

¹⁰⁹ The Commission notes that the OECD usage baskets include voice, SMS and MMS.

¹¹⁰ Telecom, *Submission on Issues Paper*, 5 September 2008, pp 15-17, paras 58-67.

- mobile plans that include the on-net offers that are restricted to traffic between certain subscribers (for example, Vodafone BestMates) cannot be benchmarked because the OECD calling baskets use only unrestricted on-net and off-net minutes. Internationally, on-net offers typically supply minutes that can be used to call anyone on the same network rather than being restricted to a small number of nominated numbers.
211. Although OECD benchmarking has its limitations, the Commission considers that it provides useful indicative bases on which to assess the relative prices of various mobile plans in similarly developed countries to New Zealand. The Commission notes that OECD benchmarking is only one of many factors it has considered in assessing the level of competition in the downstream market for mobile services.
212. In its 2008 Telecommunications Market Monitoring Report ('2008 annual monitoring report'), the Commission displayed New Zealand's historical performance in relation to the OECD low, medium and high mobile user baskets. This indicated that for the period from February 2007 to August 2008, New Zealand was typically ranked in the bottom third of the OECD for each usage basket.¹¹¹
213. The Commission noted in the annual monitoring report that, in analysing New Zealand's performance, it had previously excluded Vodafone's You Choose Base Plans (the 'Vodafone Base plans') due to various restrictive conditions.¹¹² The Commission acknowledged, however, that these conditions have eased in recent times, and that changes were implemented in late 2008 to promote the Vodafone Base plans in-store. Consequently, the Commission included Vodafone's Base plans in the OECD benchmarking process.
214. Accordingly, New Zealand's ranking for November 2008 improved to 11, 12 and 15 out of 30 in the low, medium and high user baskets, respectively. Furthermore, the Commission noted that the inclusion of these plans significantly improved the average New Zealand performance across all the baskets from 127 percent of the OECD average cost to 84 percent.¹¹³
215. The Commission has updated the OECD benchmarking using the February 2009 Teligen T-Basket, the results of which are set out in Table 16 below. Consistent with the findings in the 2008 annual report, this indicates that the Vodafone's Base plans are typically ranked in the top half of the OECD countries.

¹¹¹ Commerce Commission, *2008 Telecommunications Market Monitoring Report*, 14 April 2009, p 17.

¹¹² These restrictive conditions included a two year contract term, heavy early termination penalties, no handset rebate and no international roaming.

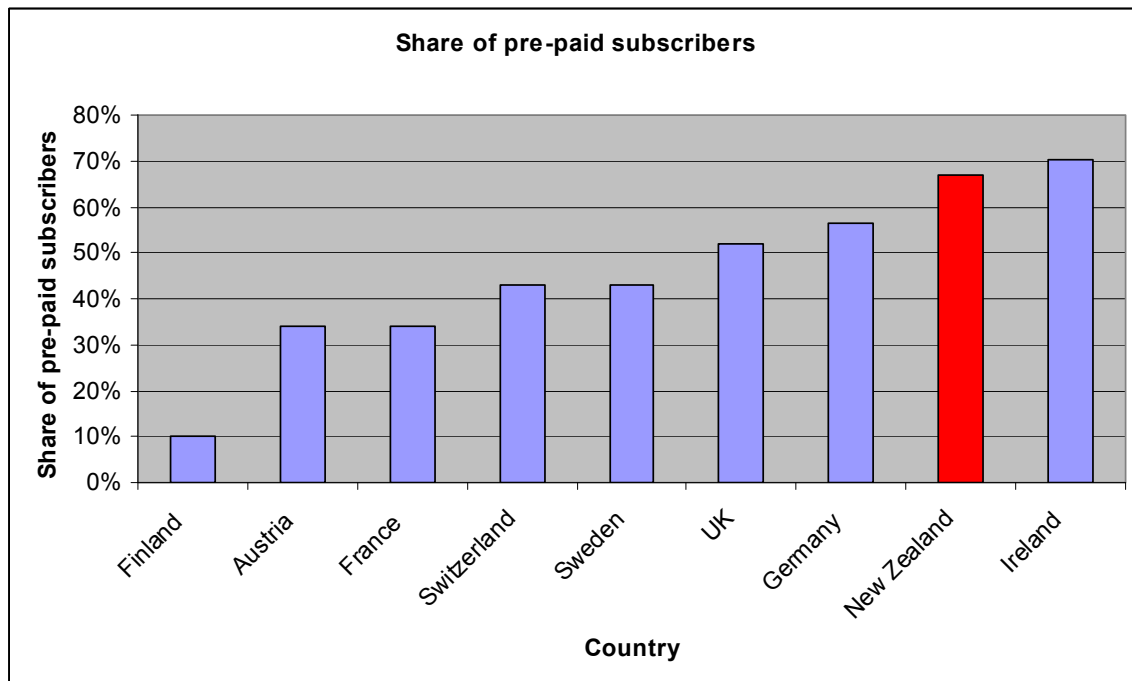
¹¹³ Commerce Commission, *2008 Telecommunications Market Monitoring Report*, 14 April 2009, p 17, para 43.

Table 16: OECD Benchmarking - February 2009

	Cheapest NZ Plan	Ranking (out of 30)	% of OECD average
Low user	Vodafone Base 20	11	88%
Medium user	Vodafone Base 60	13	89%
High user	Vodafone Base 150	15	95%

Source: Commerce Commission (2009).¹¹⁴

216. The Commission notes, however, that approximately 67 percent of mobile subscribers in New Zealand are on pre-paid plans, based on data from Telecom and Vodafone in response to the Commission's data questionnaire.¹¹⁵
217. The Commission has compared the share of pre-paid subscribers in New Zealand to a number of EU countries. The results are shown in Figure 5 below.

Figure 5: Share of pre-paid subscribers in EU countries

Source: Commerce Commission (2008).

218. Of these countries, only Ireland has a higher proportion of pre-paid subscribers than New Zealand.
219. Given the dominance of pre-paid subscribers in the retail mobile services market, the Commission has benchmarked the performance of New Zealand's pre-pay plans against those of other OECD countries. As set out in Table 17 below, when the benchmarking is limited to pre-paid plans only, New Zealand's ranking is in the late 20s for all three OECD usage baskets.

¹¹⁴ Based on analysis of data from Teligen T-Basket, February 2009.

¹¹⁵ Approximately 74% of Vodafone customers are pre-paid, while 61% of Telecom customers are pre-paid.

Table 17: OECD Rankings – February 2009 (Pre-paid)

	Cheapest NZ Plan	Ranking (out of 30)	% of OECD average
Low user	Vodafone Supa Prepay	27	165%
Medium user	Telecom Go Prepaid Mates Rates	26	168%
High user	Telecom Go Prepaid Mates Rates	27	182%

Source: Commerce Commission (2009).¹¹⁶

220. Although the results of the OECD benchmarking may appear mixed, there is some indication that the prices paid by New Zealand end-users are high relative to other OECD countries. In particular, New Zealand's poor ranking for pre-paid plans is of concern given the significance of pre-pay pricing plans in the New Zealand market.
221. In the Issues Paper, the Commission performed analysis of the relationship between voice volumes and the average revenue per minute ('ARPM'). In order to do this, publicly available data from Vodafone Group, as well as from Telecom New Zealand, was utilised. Comparing the data of Vodafone's international subsidiaries with the corresponding figures for Vodafone New Zealand and Telecom's mobile unit, the Commission noted that volumes in New Zealand are relatively low, whereas revenues per minute are relatively high.¹¹⁷
222. As discussed in paragraphs 199 and 200, while there has been growth in the total volume outgoing mobile voice minutes in New Zealand over the period from 2006 to 2008, the overall growth between 2007 and 2008 is less than the growth in on-net minutes on Vodafone's network. Similarly, while there have generally been reductions in per minute prices over this period, Telecom's average prices for MTM and MTF calls increased between 2007 and 2008, as did Vodafone's prices for MTF calls, while Vodafone's price for on-net MTM calls decreased significantly over the same time period.
223. These observations are consistent with the findings from previous analysis conducted by the Commission during its Schedule 3 investigation into the national roaming service. In that investigation the Commission noted that:¹¹⁸
- The evidence provided by this data suggests that Vodafone Group's mobile customers in other countries have enjoyed lower prices and higher average minutes of voice call usage than Vodafone mobile customers in New Zealand. For example, Vodafone's average revenue per minute in New Zealand exceeds that earned in all other Vodafone countries, with the exceptions being the Netherlands, Albania and Malta.
224. Parties have argued in the past that there are cost features of the New Zealand mobile market that contribute to relatively high prices and low usage.¹¹⁹ However, the Commission has previously noted that the high prices and low usage in New Zealand is unlikely to be explained by cost differences, and parties have not provided any evidence

¹¹⁶ Based on analysis of data from Teligen T-Basket, February 2009.

¹¹⁷ Commerce Commission, *Schedule 3 investigation into regulation of mobile termination: Issues paper*, p 17, para 53.

¹¹⁸ Commerce Commission, *Schedule 3 investigation into amending the roaming service*, 10 March 2008, p 19, para 101.

¹¹⁹ See Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Final Report*, 9 June 2005, p 53-53, paras 206 - 211.

that is the case. In its previous Schedule 3 Investigation into mobile termination, the Commission concluded that:¹²⁰

It is therefore unlikely that cost differences between New Zealand and other countries have driven what appear to be relatively high retail prices in New Zealand. While submissions contained some general discussion of likely mobile cost drivers, a comparison with geographically and demographically similar countries indicates that mobile prices in New Zealand are significantly higher than would be expected.

225. Notwithstanding the changes in the volumes of and prices for Vodafone's on-net MTM calls noted in paragraph 222, the Commission's preliminary view is that volumes of MTM voice calls in New Zealand remain relatively low and revenues per minute remain relatively high. The Commission remains concerned that the magnitude of the above cost-pricing for MTM termination rates is restricting the overall level of competition in the retail mobile services market.

Pricing and usage of SMS

226. In its submission on the Issues Paper, Vodafone submitted that the Commission provided no reason to suggest that end-users are experiencing excessively high prices for SMS services in New Zealand. Vodafone submitted that prices for SMS services in New Zealand are exceptionally low by world standards, and that usage levels per consumer are high. Consequently, Vodafone submitted that it is difficult to see how consumers of SMS services will benefit from regulatory intervention.¹²¹
227. Although SMS usage may be relatively high in New Zealand compared to other countries, the Commission considers that this is likely to be reflective of high retail prices for voice calls. In particular, the Commission considers that it is likely that, in the presence of high MTM calling prices and comparatively low SMS prices, some end-users are likely to use text messaging as a substitute for voice calls, particularly price-sensitive end-users, purchasers of bundles of SMS and younger end-users.
228. Table 18 below presents information from Telecom and Vodafone in response to the Commission's data questionnaire on SMS volumes, revenues and average prices for SMS in New Zealand over the period from 2006 to 2008. Table 18 illustrates the significant growth in the number of on-net SMS sent on both Telecom's and Vodafone's mobile networks, although both operators had reductions in off-net SMS sent on their networks. Both Telecom and Vodafone report an increase in overall revenue from SMS at the same time as decreases in revenue per SMS, particularly driven by decreases in prices for on-net SMS.

¹²⁰ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Final Report*, 9 June 2005, p 53, para 213.

¹²¹ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, p 14, paras 38-42.

Table 18: SMS volumes, revenues and average prices

	2006	2007	2008
Telecom SMS messages sent on-net (million)	[] TCOI	[] TCOI	[] TCOI
Telecom SMS messages sent off-net (national) (million)	[] TCOI	[] TCOI	[] TCOI
Telecom SMS messages sent off-net (international) (million)	[] TCOI	[] TCOI	[] TCOI
Telecom total SMS messages sent (\$million)	[] TRI	[] TRI	[] TRI
Telecom revenue from SMS messages sent on-net (\$million)	[] TCOI	[] TCOI	[] TCOI
Telecom revenue from SMS messages sent off-net (national) (\$million)	[] TCOI	[] TCOI	[] TCOI
Telecom revenue from SMS messages sent off-net (international) (\$million)	[] TCOI	[] TCOI	[] TCOI
Telecom total revenue from SMS messages sent (\$million)	[] TRI	[] TRI	[] TRI
Telecom average price per SMS message sent on-net (cpSMS)	[] TCOI	[] TCOI	[] TCOI
Telecom average price per SMS message sent off-net (national) (cpSMS)	[] TCOI	[] TCOI	[] TCOI
Telecom average price per SMS message sent off-net (international) (cpSMS)	[] TCOI	[] TCOI	[] TCOI
Telecom average price per SMS message sent (cpSMS)	[] TRI	[] TRI	[] TRI
Vodafone SMS messages sent on-net (million)	n/a	[] VCOI	[] VCOI
Vodafone SMS messages sent off-net (national) (million)	n/a	[] VCOI	[] VCOI
Vodafone SMS messages sent off-net (international) (million)	n/a	[] VCOI	[] VCOI
Vodafone total SMS messages sent (million)	[] VRI	[] VRI	[] VRI
Vodafone revenue from SMS messages sent on-net (\$million) ¹²²	n/a	[] VCOI *	[] VCOI *
Vodafone revenue from SMS messages sent off-net (national) (\$million)	n/a	[] VCOI *	[] VCOI *
Vodafone revenue from SMS messages sent off-net (international) (\$million)	n/a	[] VCOI *	[] VCOI *
Vodafone total revenue from SMS messages sent (\$million)	[] VRI	[] VRI	[] VRI
Vodafone average price per SMS message sent on-net (cpt)	n/a	[] VCOI *	[] VCOI *
Vodafone average price per SMS message sent off-net (national) (cpt)	n/a	[] VCOI *	[] VCOI *
Vodafone average price per SMS message sent off-net (international) (cpt)	n/a	[] VCOI *	[] VCOI *
Vodafone average price per SMS message sent (cpt)	[] VRI	[] VRI	[] VRI

229. Further, the Commission notes that prevailing wholesale SMS termination rate of 9.5 cptxt is significantly above both the Commission's cost-based estimate of providing the SMS termination service, which as discussed in paragraphs 525 to 527 is 0.95cents per SMS for 2009 declining over time, and the average retail price per SMS message sent on-net for both Telecom and Vodafone, as noted in Table 18 above.
230. The Commission considers that above cost pricing at the wholesale level has flowed through to the downstream retail market, particularly in relation to the average prices for off-net SMS messages, which for both Telecom and Vodafone are significantly in excess of the average prices for on-net SMSs. The Commission notes, however, that Telecom's average price for on-net SMS is below the prevailing wholesale SMS termination rate.
231. Both Telecom and Vodafone have reported significant gains in on-net SMS volumes, compared to overall volumes of SMS. For Telecom, the total volume of SMS traffic has increased by more than 60% between 2006 and 2008, less than the increase in national on-

¹²² Figures for Vodafone for the split in SMS revenue for on-net/off-net are indicative only, as they were sourced from a different Vodafone database to other figures. As a consequence, the average price per SMS for on-net/off-net messages for Vodafone should also be treated as being indicative only. These indicative figures are marked with *.

net SMSs. National off-net traffic increased by a comparatively modest 6.5% over the same time period. International SMS volumes have increased by at least 60% but constitute less than 1% of Telecom's SMS volumes in 2008.

232. Vodafone reported an increase in the total volume of SMS traffic of more than 25% between 2007 and 2008, also less than the increase in national on-net SMSs. National off-net SMS volumes for Vodafone have slightly decreased. International SMS volumes have increased by more than 30% but constitute less than 3% of Vodafone's SMS volumes in 2008.
233. The Commission is concerned that the price difference between on-net and off-net prices, and the above cost nature of SMS pricing, particularly for off-net SMSs, is likely to create a significant barrier to market entry and competition.
234. As noted above in paragraph 202, Vodafone has submitted that on-net pricing can be pro-competitive and has provided significant benefits to end-users.
235. While Table 18 shows that there have clearly been reductions in prices for on-net SMS and corresponding increases in volumes of on-net SMSs, the Commission remains concerned that the magnitude of the above cost-pricing for SMS termination rates is restricting the overall level of competition in the retail mobile services market. As discussed in paragraph 204 in relation to MTM and FTM voice calls, the Commission considers that, if SMS termination rates were cost-based, then competition would be likely to deliver even greater benefits to end-users than those Vodafone calculate have been delivered by on-net price discounting.

Barriers to switching networks

236. Barriers to customers switching mobile networks is another factor that is relevant to the level of competition in the retail mobile market in New Zealand.
237. In the past, there have been significant barriers to switching. For example, prior to the launch of Telecom's XT network in May 2009, Vodafone and Telecom were operating different technologies (GSM/UMTS and CDMA, respectively), meaning that in order to switch from one network to the other, an end-user would need to purchase a new handset.
238. As noted above, Telecom has now launched a new 3G UMTS network. This is the same technology used by Vodafone for its 3G network, although the Commission understands that Telecom primarily utilises 850MHz spectrum (with 2100MHz infill coverage provided in some urban areas). The Commission understands that Vodafone's 3G deployment, on the other hand, is largely based on the use of 2100MHz spectrum in urban areas, and 900 MHz spectrum in non-urban areas.¹²³
239. The deployment of UMTS networks by both Telecom and Vodafone has reduced barriers to customers switching networks. In particular, it is now possible for an end-user to purchase single handset that will operate on both networks¹²⁴. For example, the iPhone 3G

¹²³ See note 103.

¹²⁴ Providing that the handset is capable of operating in the relevant frequency bands.

provides quad-band 2G GSM functionality, and is also capable of operating on 850, 1900 and 2100 MHz 3G (W-CDMA) networks.¹²⁵

240. Although the launch of Telecom's XT network should make switching networks easier and less costly, thereby enhancing competition, the Commission expects that many of the GSM/UMTS handsets currently in operation in New Zealand (i.e., those supplied by Vodafone) will not be capable of operating on both networks. This is primarily due to the different spectrum used in the deployment of the two networks, and associated handset compatibility issues. The Commission notes, however, that existing Vodafone handsets will be able to operate on the new 2degrees network by simply inserting a 2degrees SIM card.¹²⁶
241. Mobile number portability was implemented in New Zealand in April 2007. As a result, it is now possible for an end-user to switch networks whilst retaining the same phone number. The Commission considers that the introduction of number portability has significantly reduced barriers to switching networks, potentially leading to increased competition.
242. The Commission notes that mobile number portability has the effect of reducing subscriber acquisition costs, and is likely to make switching less costly for end-users, especially those who are reluctant to change numbers (in particular, business customers). The take-up of mobile number portability has been relatively low comparative to the total number of mobile connections¹²⁷ since the introduction of mobile number portability in April 2007. The Commission notes that the take-up of mobile number portability is, however, likely to have been hindered in the past by the need for an end-user to change handsets in order to switch networks.

Commission's preliminary view of existing competition in the retail mobile services market

243. The Commission's preliminary view on the level of existing competition in the retail mobile services market in New Zealand is that the market remains highly concentrated with two established mobile network operators. This appears to have resulted in relatively high retail prices (especially for the important pre-paid segment), and relatively low call volumes. Although SMS usage may be relatively high in New Zealand compared to other countries, the Commission considers that this is likely to be reflective of high retail prices for voice calls.

Treatment of MMS and data services

244. While the Commission considers that MMS and data services form part of the national retail market for mobile services, it notes that the scope of the investigation was notified as being:¹²⁸

¹²⁵ See <http://www.apple.com/nz/iphone/specs.html>.

¹²⁶ See <http://www.2degreesmobile.co.nz/need-to-know.htm>

¹²⁷ The TCF report that, as at the end of May 2009, 87,959 mobile numbers have been ported since the inception of mobile number portability in April 2007. Based on the current total mobile subscriber numbers (see paragraph 182), approximately 1.9% of mobile numbers have been ported over that 26 month period.

¹²⁸ Commerce Commission, *Reasons for Commerce Commission decision to investigate mobile termination access services*, 6 November 2008, page 1, para 3.

“whether or not the MTAS (incorporating mobile-to-mobile (MTM) voice termination, fixed-to-mobile (FTM) voice termination and short-message-service (SMS) termination) should become designated or specified services under Schedule 1 of the Act.”

245. In the Commission’s comments letter it noted that:¹²⁹

“... it was argued that particular services (such as MMS) ... were beyond the scope of any proposed regulatory change, and that as a result the Commission is required to reject any undertakings containing such terms.

The Commission notes that the Act does not expressly restrict the scope of the undertakings, and considers that the undertakings regime is designed to provide flexibility to access providers in submitting undertakings.

For this reason the Commission’s preliminary view is that the scope of the undertakings are not limited to the scope of proposed regulation.”

246. Information from Telecom and Vodafone in response to the Commission’s data questionnaire in Table 19 below shows that data services are experiencing strong growth. Both Telecom and Vodafone have in recent years been focusing on growing the mobile broadband and both operators have expanded the capabilities of their networks in relation to mobile data services.¹³⁰

247. The Commission also notes that data services are also different in nature to other elements of the retail mobile services market, as they involve end-users purchasing data downloading and up-loading services directly from their service provider, that are provided over that operator’s mobile network, rather than involving a two-way exchange with other operator’s mobile networks.

248. In this regard, the ACCC recently stated:¹³¹

... that data interconnection is carried out differently to voice termination services, effectively with no data termination fees. In the process of sending and receiving data over mobile networks, both the sending and receiving parties effectively pay for the data transfer through their own mobile data allowances. The ACCC notes that mobile data services remain immature services and, whilst they are growing, are yet to be widely adopted by the market. As such, they have not exhibited any signs of a durable market failure in regards to termination of data services.

249. MMS is by contrast relatively stable in terms of volumes and in the case for figures from Vodafone [] VRI. The ratio of MMS in contrast to SMS is minimal, being [] TRI for Telecom and [] VRI for Vodafone.

250. Based on the above information, the Commission’s preliminary view is that both the data services and MMS markets are not appropriate for inclusion in the factual. In particular, the Commission considers that as the data services market is not yet mature, and the service is of a different nature to other services in the retail mobile services market, it is not appropriate for consideration as a regulated service at this point in time.

¹²⁹ See note 33, page 4.

¹³⁰ Including through Telecom’s launch of its XT network which provides for improved mobile broadband performance over all of its network’s geographic coverage and Vodafone’s planned expansion of its 3G network to cover all of its network’s geographic coverage by late 2009.

¹³¹ Australian Competition & Consumer Commission, *Mobile terminating access service - An ACCC Final Report on reviewing the declaration of the mobile terminating access service*, May 2009, page 11.

251. The Commission intends, however, to monitor the operation of the retail mobile services market in relation to MMS and data services to identify whether there are any signs of market failure that would suggest it should reconsider this view.

Table 19: MMS and data volumes, revenue and average prices

[

] VRI / TRI

Source: Telecom, Vodafone 2009).

Potential competition

252. In considering any constraint on existing participants arising from potential competition, the Commission seeks to identify barriers to entry or expansion. The Commission notes that a potential competitor in the mobile market will have four main requirements in order to be able to provide retail mobile services:
- access to spectrum, which is the frequency range over which a mobile network operator can transmit and receive signals between its network equipment and customer equipment;
 - a network of cell sites, in order to provide network coverage to end-users, thereby enabling end-users to send and receive calls and SMSs;
 - a national roaming agreement, to enable the provision of nationwide coverage to end-users whilst the entrant expands its own network deployment; and
 - interconnection agreements with other network operators, in order to enable traffic to be sent between networks.
253. These four elements of a mobile network can potentially give rise to a number of structural and regulatory barriers to entry. In particular, a potential entrant who does not have access to spectrum, roaming and interconnection on reasonable cost-reflective price and non-price terms is likely to face significant barriers to entry or expansion in the mobile market. Above-cost prices for these services is likely to deter what would otherwise be efficient facilities-based entry and expansion in the retail mobile services market.
254. Each of these potential barriers to entry or expansion are discussed below.

Spectrum

255. Access to radio spectrum is an essential requirement for the operation of a mobile network. Access to spectrum can be achieved either by acquiring management rights to a specified frequency range, or by the receipt of a licence to operate within a designated frequency. Management rights and licences can be obtained through a competitive process administered by the Ministry of Economic Development ('MED').
256. In a review of cellular mobile market entry issues during 2006, the Commission noted that 2 GHz spectrum, which is suitable for deployment of a 3G network, was the subject of an auction run by MED in 2000/01. The auction was for a total of 45 MHz, with no one party able to purchase more than 15 MHz. A further 15 MHz block was reserved for the pan-Māori Te Huarahi Tkia Trust, which was established to administer Māori telecommunications spectrum assets.¹³²
257. The Commission further noted that in order to provide coverage in remote/rural areas, access to spectrum in the 850 MHz and 900 MHz range is important to minimise site costs. This is because the propagation qualities of spectrum in these bands means that a lesser number of cell sites are required to provide a given level of coverage, when compared to higher frequency spectrum bands.
258. The current allocation of spectrum suitable for operating cellular mobile telephone networks is summarised in Table 20 below.

Table 20: Allocation of spectrum suitable for 2G/3G mobile networks

	Frequency (MHz)					
	800	900	1800	1900	2100	
Telecom	✓		✓	✓		✓
Vodafone		✓	✓	✓		✓
2degrees	✓	✓	✓			
TelstraClear			✓	✓		✓

Source: MED Spectrum Management and Registration Technology (2009).

259. The Commission notes that in terms of potential entrants to the market, only 2degrees and TelstraClear currently own spectrum suitable for a mobile network. TelstraClear, however, does not currently have any spectrum in the 800 and 900 MHz bands, which are likely to be more cost-effective for the deployment of a national network.
260. Furthermore, the Commission notes that TelstraClear had previously planned to launch a 3G wireless network in Tauranga, however, this was shut down prior to launch in April 2007.¹³³ The Commission is not currently aware of any plans for TelstraClear to build a mobile network in the foreseeable future.
261. 2degrees, on the other hand, has announced that it will be entering the market in August 2009, and has access to spectrum in the 800 MHz, 900MHz, 1800MHz and 2100MHz

¹³² Commerce Commission, *A review of cellular mobile market entry issues*, 10 October 2006, p 13, para 46.

¹³³ TelstraClear's pilot wireless network was referred to as 'Unplugged'.

bands.¹³⁴ 2degrees recently obtained spectrum in the 800 MHz and 900 MHz bands from Vodafone and Telecom.¹³⁵

Network deployment

262. Building a nationwide mobile network gives rise to substantial sunk costs. As the Commission noted in its mobile services review, the significance of sunk costs is that exit from the market is not costless, and a potential competitor may be deterred from entering if it believes that the incumbents will respond aggressively to entry. The Commission noted that this is likely to be particularly of concern where there are economies of scale and/or scope which lower the unit costs of the incumbents.¹³⁶
263. Consequently, the Commission has previously concluded that a new entrant was unlikely to deploy a national network.¹³⁷ This was primarily due to the significant capital expenditure required for cell sites in remote locations where user revenue is unlikely to cover the installation cost.
264. In its previous mobile termination investigation, the Commission noted that an entrant could partially avoid some of the sunk costs associated with deploying a national mobile network by entering into roaming arrangements with established national operators. Accordingly, the Commission considered that a more likely entry scenario was based on building an urban network, supplemented by a roaming agreement with an existing mobile operator.
265. The Commission understands that 2degrees' entry is premised on this basis. As discussed in paragraph 273 below, the Commission notes that 2degrees has a national roaming agreement with Vodafone.
266. Infrastructure sharing has the potential to reduce barriers to network deployment, by restricting the level of sunk costs involved and limiting the Resource Management Act 1991 (RMA) implications of building a mobile network.
267. In late 2008, the Commission released a standard terms determination ('STD') for co-location on cellular mobile transmission sites (the 'Mobile Co-location Service'). Access to the Mobile Co-location Service enables mobile network operators to share existing infrastructure, such as masts/towers, in order to avoid unnecessary duplication of these facilities, and reduce network deployment costs.
268. The Commission considers that access to the regulated Mobile Co-location Service should reduce barriers to network deployment faced by a new entrant. However, the Commission notes that there has been very little take-up of the Mobile Co-location Service since the STD was released last year.

¹³⁴ The Commission notes that although 2degrees does not currently hold any spectrum in the 2100 MHz band, Hautaki Ltd has an option to purchase the spectrum that has been reserved for Māori. However, 2degrees has not yet exercised this option/paid for this spectrum yet and it is still in the Crown's name.

¹³⁵ Both Telecom and Vodafone sold spectrum to 2degrees in 2008 in order to secure their long-term access to spectrum. See <http://www.beehive.govt.nz/release/government+improves+mobile+infrastructure>.

¹³⁶ Commerce Commission, *A review of cellular mobile market entry issues*, 10 October 2006, p 14, para 58.

¹³⁷ See Commerce Commission Decision 479.

National Roaming

269. National coverage is likely to be an important factor in enabling a new entrant to compete effectively in the mobile market, especially given that the incumbent operators already provide national coverage.¹³⁸

270. The Commission has previously noted the importance of comprehensive geographic coverage. In considering an application by Vodafone to purchase 900 MHz spectrum (Decision 479), the Commission noted that:¹³⁹

There are strong indications that national coverage is important to a significant portion of the mobile market. A U.S. study found that 58% of cellular users considered national coverage important. Ovum reported that entrants must be able to offer more than 90% national coverage before they are attractive to many segments of the market.

271. As a result, the Commission considered that the most likely means of entry would be a gradual deployment of an urban network, supplemented by roaming on an incumbent's existing mobile network, as noted at paragraph 191.

272. Similarly, the ACCC has previously found that:¹⁴⁰

... national geographic coverage is an important competitive dimension of the market for retail mobile services. Domestic inter-carrier roaming provides a means by which the impact of barriers to national network deployment (spectrum, economies of scale, sunk costs) can be ameliorated, thereby improving competitive conditions.

273. As noted above, the entry of 2degrees is premised on this basis. The Commission understands that 2degrees has deployed its own sites in Auckland, Wellington and Christchurch as part of its Tier 1 (pre-launch) network build. In November 2007, 2degrees entered into a national roaming agreement with Vodafone, enabling it to provide nationwide coverage to its subscribers.¹⁴¹ Under this agreement, when 2degrees' customers travel outside the coverage of 2degrees' network, they will be able to automatically roam on Vodafone's 2G GSM and GPRS network.¹⁴²

274. Although the Commission considers that roaming has a significant role to play in entry into the New Zealand mobile market, reliance on national roaming may have the potential to affect the degree of independent rivalry between the entrant and the incumbent providing the roaming access.

275. The Commission notes that it is currently considering whether there are reasonable grounds to commence a schedule 3 investigation into the national roaming service. On 30 March 2009, the Commission wrote to interested parties noting that while it welcomes the conclusion of a commercial roaming agreement between Vodafone and 2degrees, it has

¹³⁸ For example, Vodafone claims that around 97% of New Zealanders live, work and play within Vodafone coverage. In addition, the Commission understands that both the Telecom XT network, and Telecom's legacy CDMA network, provide coverage to approximately 97% of the population.

¹³⁹ Commerce Commission Decision 479, *Vodafone Mobile Ltd NZ and 900 MHz Spectrum*, 1 November 2002, paragraph 132.

¹⁴⁰ ACCC, *Mobile Services Review: Mobile Domestic Inter-Carrier Roaming Service*, December 2004, page 57.

¹⁴¹ The Commission notes that Vodafone and 2degrees agreed new terms for roaming services under a deed of variation to their existing commercial agreement.

¹⁴² See <http://www.vodafone.co.nz/about/media-centre/2007-media-releases/nz-communications.jsp>

significant concerns with the current state of the mobile market that suggest there may be a case to commence a national roaming investigation. These concerns included:¹⁴³

- the bilateral nature of current commercial roaming agreements, which may not be available to future potential access seekers wishing to enter the mobile market;
- questions as to whether the prices contained in current commercial roaming agreements align with the costs of providing the service, and the impact that pricing above cost will have on the ability of new entrants in the mobile market to compete with the on-net pricing plans offered by the incumbents;
- questions regarding whether current commercial roaming agreements will facilitate efficient network expansion, leading to increased facilities-based competition; and
- the inability of potential entrants to the market to negotiate competitive agreements in a timely manner, including roaming and interconnection arrangements.

276. Therefore, although 2degrees has reached a national roaming agreement with Vodafone, the Commission considers that access to national roaming may still form a barrier to efficient facilities-based entry in the mobile market.¹⁴⁴

277. The Commission understands that while Telecom will not allow rivals to resell connections on its new mobile network until 2011¹⁴⁵, Telecom would be willing to reach a commercial arrangement for national roaming on the XT network in accordance with its obligations under the Act in relation to the specified national roaming service.

Interconnection

278. Interconnection is a critical feature of telecommunications networks, as it enables subscribers on one network to call, and to be called by, subscribers on another network. In the absence of interconnection, a small network operator is unlikely to be attractive to potential customers, as they would be unable to communicate with a significant proportion of other subscribers.

279. Mobile termination is a key element of interconnection. To the extent that MTRs exceed the cost of terminating calls on a mobile network, this imposes additional costs on the network originating the call, and therefore represents a barrier to entry and expansion. As noted later in this draft, the Commission's preliminary view is that existing MTRs in New Zealand, as set out in the Telecom and Vodafone Deeds, are significantly above the likely cost of terminating calls on mobile networks in New Zealand. As a result, the current above-cost MTRs are likely to deter entry or inhibit the ability of a new entrant mobile network operator to expand and vigorously compete in the downstream retail mobile services market.

¹⁴³ Letter from the Commission to interested parties, *National Roaming – Deferral of decision on whether to commence Schedule 3 Investigation*, 30 March 2009, p 3, para 10.

¹⁴⁴ The Commission will be making an announcement regarding its decision on whether there are reasonable grounds to commence a schedule 3 investigation into designation of the national roaming service contemporaneously with the release of this draft Report.

¹⁴⁵ See *The Independent Newspaper*, 27 November 2008, page 4.

Strategic barriers

280. Strategic barriers arise where incumbent businesses intentionally act in such a way to discourage prospective entrants. In relation to the retail mobile services market, the Commission has considered whether subscriber acquisition costs and incumbent pricing practices may form barriers to entry.
281. Mobile network operators can incur substantial costs in acquiring new customers, which are commonly referred to as subscriber acquisition costs ('SAC'). In its 2006 review of the mobile market, the Commission considered that the level of SAC is likely to differ according to the level of market penetration.
282. The Commission noted that where penetration is low, subscriber growth generally comes from attracting new customers who do not yet own a mobile phone. Conversely, in a highly penetrated market, SAC are likely to relate to acquiring existing customers from a competing mobile network.¹⁴⁶
283. As noted in paragraph 181 above, the Commission estimates the level of mobile penetration in New Zealand to be approximately 108 percent. However, as outlined earlier:
- upon the entry of 2degrees into the market, Vodafone, Telecom and 2degrees will all be competing based on GSM/UMTS technology, meaning that many customers may not need to purchase a new handset in order to switch between networks; and
 - number portability was implemented in New Zealand in April 2007, so it is now possible for an end-user to keep their existing phone number when switching networks.
284. In terms of pricing practices of the incumbent operators, the Commission notes the emergence of pricing plans that offer cheap on-net calling in recent years, such as Vodafone Best Mates, Vodafone Family and Telecom My Favourites, which typically offer unlimited communications between certain on-net subscribers for a relatively low month fee.
285. As part of its submission accompanying its initial undertakings, Vodafone argued that:
- on-net pricing can be pro-competitive and has been used by new entrants in other parts of the world as a way to attract new subscribers to their networks;
 - on-net pricing is common throughout other retail mobile markets and on-net discounting in New Zealand is not high by world standards;
 - on-net pricing has been greatly welfare enhancing for consumers in New Zealand in recent years; and

¹⁴⁶ Commerce Commission, *A review of cellular mobile market entry issues*, 10 October 2006, p 15, para 64.

- consumers tend to have very small calling circles such that new entrants should be able to effectively target small closed user groups with competitive products of their own.¹⁴⁷
286. Although the Commission considers that plans offering discounted on-net prices are likely to offer significant benefits to end-users who subscribe to the same network, its preliminary view is that these barriers may also form a significant barrier to entry to the market, by making it difficult for a new entrant to attract subscribers to its own network. This is because so called ‘closed network pricing’ can have the effect of locking subscribers into a particular network as they, and other people in their calling circles, benefit from low on-net calling rates.
287. In response to Vodafone’s submission that end-users tend to have very small calling circles, the Commission’s preliminary view is that although this might be the case, it is also likely that many of these “small calling circles” are linked. For example, ‘Vodafone Family’ enables one subscriber to pay \$20 per month and nominate three other Vodafone customers who can all make as many calls and texts as they want to each other for no extra charge. However, the four individuals in this calling circle may also be members of other ‘Vodafone Family’ calling circles, or have ‘BestMates’ outside this calling circle.
288. In order to assess the possible impacts of closed network pricing in the New Zealand mobile market, the Commission has analysed on-net and off-net prices and volumes supplied by Vodafone and Telecom in response to the Commission’s MTAS information request. The Commission notes that:
- Vodafone’s average retail price for on-net MTM calls was approximately [] VCOI in 2008, while the corresponding average retail price for off-net calls was [] VCOI;
 - Telecom’s average retail price for on-net calls in 2008 was approximately [] TCOI, while the average off-net price was approximately [] TCOI;
 - Vodafone’s average retail prices for on-net and off-net SMSs in 2008 were approximately [] VCOI and [] VCOI, respectively¹⁴⁸; and
 - Telecom’s average on-net retail price for SMS in 2008 was approximately [] TCOI and the corresponding off-net price was approximately [] TCOI.
289. The above on-net/off-net prices demonstrate the prevalence of on-net price discounting the retail mobile services market. This is also reflected in the volumes of on-net and off-net traffic carried by the two networks. The volumes of on-net and off-net MTM calling minutes are displayed in Figure 6 below.
- Figure 6: On-net/off-net MTM calling volumes**
[] TRI / VRI
Source: Telecom, Vodafone (2009).

¹⁴⁷ Vodafone, *Submission on the Schedule 3A Undertakings provided on 12 January 2009*, 13 February 2009, p 45-52.

¹⁴⁸ Estimates of the average retail prices for SMS are calculating by dividing revenue received from on-net and off-net SMSs by the corresponding volume of SMSs sent.

290. Based on the traffic volumes for 2008, approximately [] **VRI** % of Vodafone's domestic MTM voice traffic is on-net. Approximately [] **TRI** % of Telecom's traffic is on-net. In terms of SMS, the Commission notes that the proportion of on-net traffic is even higher for both networks.
291. The Commission considers that the relationship between on-net and off-net prices outlined above is likely to have led to the development of calling circles on the networks of Telecom and Vodafone, which may create a significant barrier to entry. Furthermore, the Commission considers that such on-net price discrimination is only likely to be sustainable in the presence of mobile termination rates that are considerably above cost. A significant proportion of the retail price differentials summarised in paragraph 288 above is accounted for by the margin by which the prevailing MTRs exceed the likely cost.¹⁴⁹
292. The Commission's preliminary view is that current on-net pricing plans of Telecom and Vodafone are likely to act as significant barrier to subscriber acquisition and, therefore, will limit the ability of a new entrant to effectively compete in the market.

Likelihood of new entry

293. 2degrees has officially announced its facilities-based entry into the New Zealand mobile market in August 2009. In a media release relating to the launch of its brand, 2degrees stated that:¹⁵⁰

2degrees has committed over \$250 million and is building a 2G and 3G network that is HSPA+ capable. The 2degrees network uses technology from one of the world's leading mobile network providers, Huawei. It is capable of running on 900MHZ, 1800MHZ and 2100MHZ frequencies.

294. The Commission considers that the entry of 2degrees has been facilitated, in part, by the reduction of a number of barriers to its entry in the New Zealand mobile market. In summary:
- 2degrees now has access to spectrum in the 850, 900, 1800 and 2100 MHz bands, having recently obtained 850 and 900 MHz spectrum from Telecom and Vodafone, respectively;
 - 2degrees has signed a national roaming agreement with Vodafone. This has enabled 2degrees to initially enter the mobile market with nationwide coverage for its customers, despite having only deployed its network infrastructure in Auckland, Wellington and Christchurch; and
 - the Commission has set the terms for access to the regulated co-location service, through the release of the Mobile Co-location STD, enabling a new entrant to locate its equipment on the masts of the incumbent operators (thereby reducing network deployment costs).
295. Although these potential barriers have reduced to some extent in respect of 2degrees, the Commission notes that it took a substantial length of time for it to gain access to suitable spectrum and to reach a national roaming agreement. Consequently, the Commission's

¹⁴⁹ See table in Appendix 1.

¹⁵⁰ See <http://www.2degreesmobile.co.nz/documents/2degrees-press-release.pdf>.

preliminary view is that any future potential market entrants are unlikely to be able to resolve these issues in a timely manner.

296. Furthermore, as outlined above, the Commission still has a number of concerns in respect of the national roaming service, including in relation to the prices to be paid by 2degrees. The Commission also notes that there has been limited take-up of the Mobile Co-location Service since release of the STD in late 2008.
297. Importantly, while 2degrees is expected to enter the retail market within the next few months, the ability for the entrant to compete for retail customers with the established incumbent mobile network operators is likely to depend on the level of MTR. The Commission considers that existing MTRs are significantly above the cost of supplying mobile termination services, and that this is likely to limit the extent to which the entrant is able to compete and expand in the downstream retail mobile market.
298. In addition to the facilities-based entry of 2degrees, the Commission notes that a number of MVNOs are poised to enter the market. Specifically, Orcon and Slingshot/CallPlus have MVNO agreements with Vodafone, while Digital Island has reached an agreement with Telecom.
299. The Commission notes, however, that although these parties have reached MVNO agreements with Telecom and Vodafone, it has typically taken a substantial length of time for retail services to be launched. For example, Black+White, Compass and Orcon all signed MVNO agreements with Vodafone during 2006. However, it was not until October 2008 when Black+White entered the market, while Compass only launched in May 2009. Slingshot/CallPlus and Orcon are currently expected to enter the market in August 2009.¹⁵¹
300. Further, the Commission understands that Telecom's MVNO partners will be limited to operating on the legacy CDMA network. According to a recent NBR article, TelstraClear and Digital Island¹⁵² will not have access to the XT network for at least 18 months.¹⁵³

Commission's preliminary view on potential competition in the retail mobile services market

301. There is likely to be new facilities-based entry into the downstream retail mobile service market within the next few months. This is a significant development in the retail mobile market in New Zealand. However, while a number of entry barriers have been reduced, the Commission's preliminary view is that existing MTRs represent a significant barrier to entry and expansion, and are likely to impair efficient entry and expansion in the retail mobile services market.

Preliminary views on overall competition in the retail mobile services markets

302. The retail mobile services market in New Zealand is concentrated, with only two mobile network operators with roughly equal market shares. TelstraClear, Black+White and Compass are also offering retail services as MVNOs, however, the Commission considers that this is unlikely to place significant competitive pressure on Vodafone and Telecom. This is primarily due to constraints on the ability of an MVNO to engage in independent rivalrous behaviour, especially when compared to facilities-based entry.

¹⁵¹ <http://www.nbr.co.nz/article/compass-launches-mobile-service-with-1395month-business-plan-102401>

¹⁵² The Commission understands that Digital Island will begin offering retail services in July 2009.

¹⁵³ <http://www.nbr.co.nz/article/compass-launches-mobile-service-with-1395month-business-plan-102401>

303. The mobile networks of Telecom and Vodafone have evolved over time in order to gain a competitive advantage. Network upgrades have led to a greater range of services and improved functionality, for example in terms of speeds. The launch of Telecom's XT network is a positive development for the mobile market and should reduce barriers to switching.
304. The retail mobile services market is characterised by low volume of mobile minutes per subscriber and relatively high prices when compared to international Vodafone operating companies. Furthermore, New Zealand performs poorly in OECD benchmarking of pre-paid plans.
305. Although a number of barriers to entry to the market have been reduced to some extent in recent times, current pricing practises of the incumbent operators are of concern. In particular, closed network pricing that is prevalent in the market is likely to make it difficult for a new entrant to attract subscribers to its network.
306. The entry of 2degrees into the market later this year is expected to place competitive pressure on the incumbent operators in the retail market. However, the Commission does not believe that such entry will materially constrain mobile operators in respect of the provision of MTAS on their respective networks. Furthermore, in the presence of on-net price discrimination, the extent to which 2degrees is able to compete in the market is likely to be highly dependent on the termination rates it faces.
307. In summary, the Commission's preliminary view is that it does not consider that competition at the retail level is sufficient to constrain mobile operators in the supply of termination services on their respective networks. Faced with MTRs that are significantly above cost, new entry into the mobile services market is likely to be limited in its ability to constrain existing competitors in the retail market.

Retail FTM / tolls market

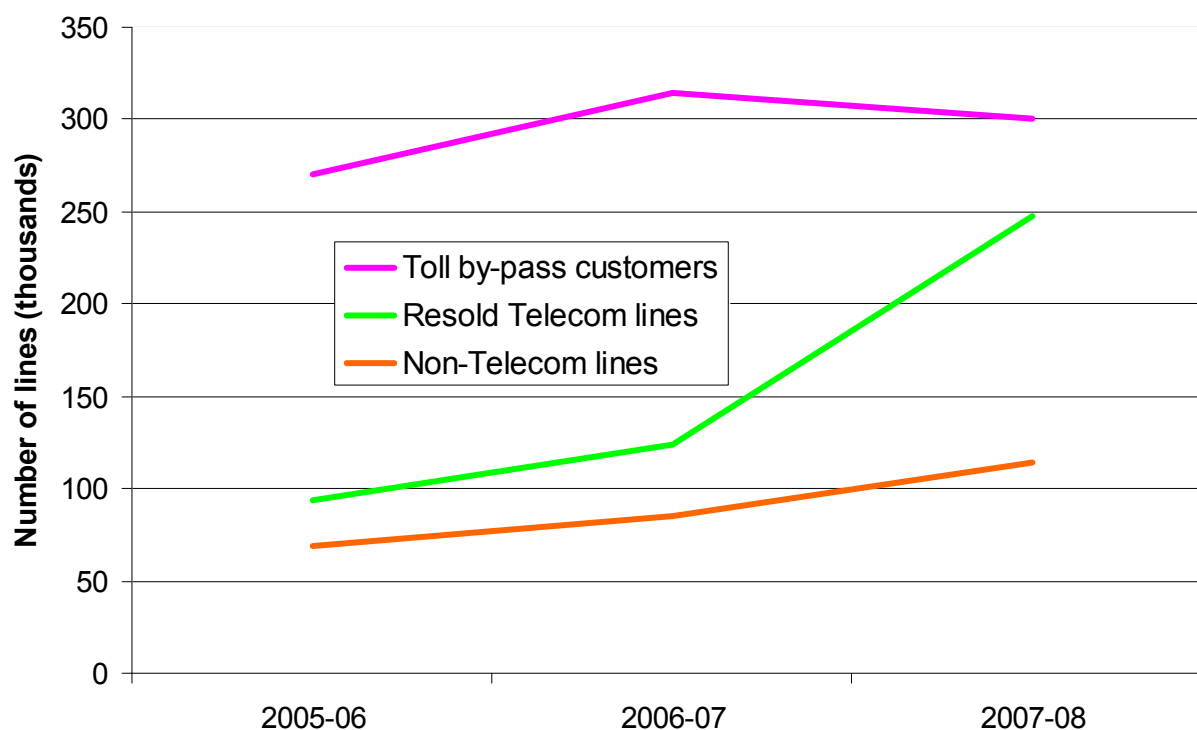
Existing competition

Market overview

308. In the retail FTM and tolls market, at least eight competitors provide FTM and toll calling services. The main participants include Telecom, TelstraClear, CallPlus, WorldxChange, Vodafone, Woosh, Orcon and Compass, along with a number of other smaller operators.
309. The majority of FTM and tolls services sold in New Zealand are based on re-sold Telecom lines. TelstraClear does, however, have a stand-alone copper-based voice network in Wellington, Kapiti and Christchurch to complement its hybrid fibre-coaxial network. Furthermore, the introduction of local loop unbundling in late 2007 has enabled the facilities-based provision of voice (and broadband) services to end-users without the need to replicate Telecom's copper local loop.

310. In its 2008 annual monitoring report, the Commission reported that retail fixed line connections in New Zealand totalled approximately 1.9 million, as at September 2008.¹⁵⁴ The Commission further noted that the number of fixed telephone connections supplied by Telecom (including those connections re-sold by Telecom's competitors), was approximately 1.75 million as at 31 December 2008, falling marginally from 1.76 million as at 31 December 2007.¹⁵⁵
311. In addition, the Commission noted that, by comparison, fixed telephone connections supplied using access infrastructure not owned by Telecom remained very small in number, but grew from around 85,000 in 2006/07 to 114,000 in 2007/08.¹⁵⁶
312. Figure 7 shows the number of fixed line customers who are served by Telecom's copper network, but are using a provider other than Telecom (i.e., toll by-pass customers) and the number of customers using fixed line voice services not provided using any Telecom infrastructure, including fixed wireless connections. The number of toll by-pass customers has started to decline to some extent while the number of non-Telecom lines used to provide voice services has continued to rise.

Figure 7: Non-Telecom Voice Customers



Source: Commerce Commission (2009).

313. The Commission has estimated the market shares for FTM and tolls services. The market shares are set out in Table 21 below, both by revenue and by volume of minutes.

¹⁵⁴ Commerce Commission, *2008 Telecommunications Market Monitoring Report*, 14 April 2009, p 9, para 21.

¹⁵⁵ *ibid*, p 20, para 50.

¹⁵⁶ *ibid*.

Table 21: Market shares (fixed-to-mobile and tolls)

	2004	2005	2006	2007	2008
<i>By revenues</i>					
Telecom	74.8%	72.9%	73.2%	73.5%	74.4%
Other	25.2%	27.1%	26.8%	26.5%	25.6%
<i>By volumes</i>					
Telecom	71.8%	67.8%	74.6%	74.2%	76.0%
Other ¹⁵⁷	28.2%	32.2%	25.4%	25.8%	24.0%

314. Telecom remains the most significant operator in terms of market share. Although its revenue market share has remained relatively constant in recent years (approximately 73% to 74%) its volume share has increased from 71.8% to 76%, over the five year period.

Retail pricing of FTM and toll calls

315. In the Issues Paper, the Commission presented the results of a search of industry websites for the standard ‘headline’ retail FTM rates. For all operators offering at least a non-code access residential service in New Zealand in both 2004 and 2008, this search yielded the results set out in Table 22 below.¹⁵⁸

Table 22: FTM standard rates¹⁵⁹

FTM standard rates	June 2004		July 2008	
	Residential	Business ¹⁶⁰	Residential ¹⁶¹	Business ¹⁶²
Telecom	71	47	65	38/35
TelstraClear	71	41	40	36
CallPlus (Slingshot tolls)	51 ¹⁶³	n/a	39	n/a
WorldxChange	42 ¹⁶⁴	39	35	36
Ihug/Vodafone	49	39	38	35/42

Source: Commerce Commission (2008).

316. As the Commission noted in the Issues Paper, mobile termination rates were approximately 28 cpm in June 2004 and 16 cpm in July 2008, indicating a decrease of approximately 12 cpm (-43%). The corresponding fall in headline residential FTM retail rates ranged from 6 cpm to 31 cpm (-13% to -44%).

¹⁵⁷ ‘Other’ includes TelstraClear, WorldxChange, CallPlus, Vodafone, Compass, Orcon and Woosh. The commission has estimated volumes for TelstraClear for 2006 and 2007 due to the unavailability of data for over this period.

¹⁵⁸ Commerce Commission, Issues Paper, 8 August 2008, page 20.

¹⁵⁹ cpm including GST.

¹⁶⁰ Standard business rates. Lower rates can possibly be achieved through commercial negotiation and lower rates are offered to large corporate customers.

¹⁶¹ Standard direct dial rate billing is per minute, rounded up to the nearest minute

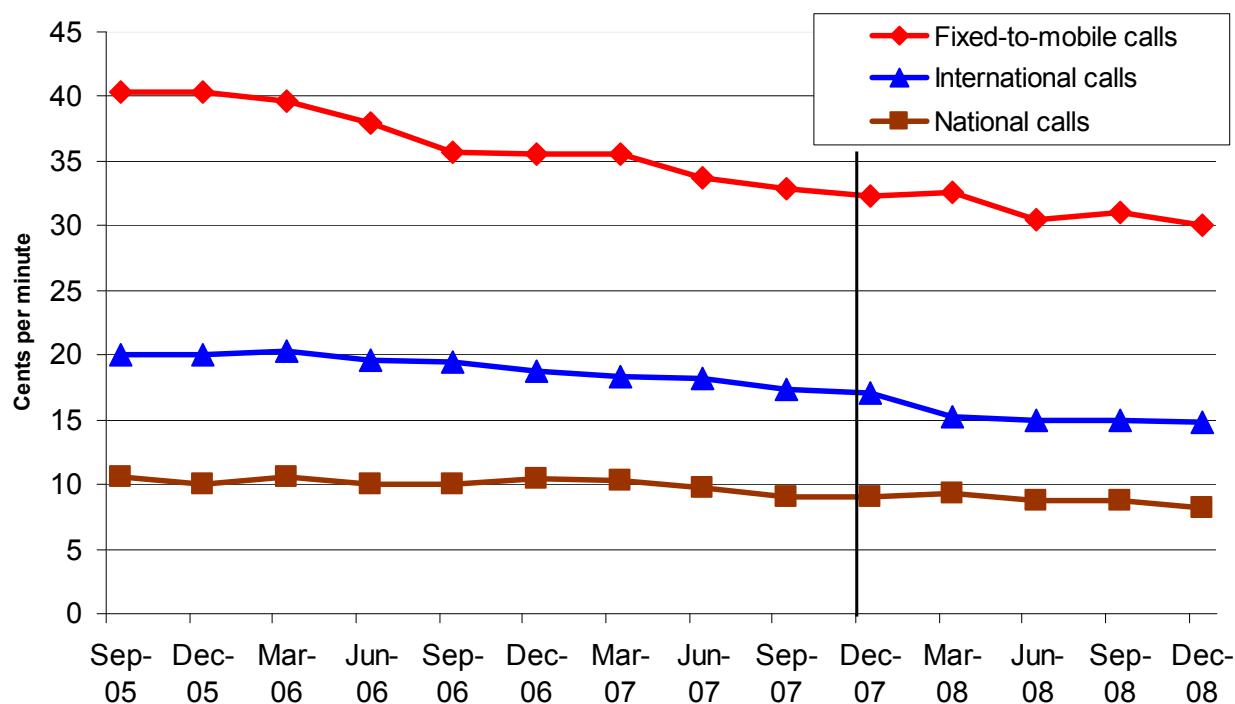
¹⁶² Standard direct dial rate, without bundling, billing is usually minute+second. If a split rate is given then the first rate is for calling Vodafone mobiles and second rate is for calling Telecom mobiles.

¹⁶³ A reduced rate of 47 cpm applies if also purchasing internet services from slingshot.

¹⁶⁴ This is advertised as a special deal but has no given expiry date.

317. In their respective Deeds, Telecom and Vodafone have committed to progressively reduce the wholesale cost of terminating FTM calls and pass through the reductions to retail FTM calling rates.
318. Figure 8 below displays Telecom's nominal average calling charges (excluding GST) for each quarter since September 2005. The first decrease in retail FTM calling rates in accordance with Telecom's Deed occurred on 1 September 2007. The decrease would therefore have first affected Telecom's average FTM calling charge in the December 2007 quarter. A vertical line has been drawn at this point in Figure 8 in order to assess the effect of Telecom's Deed.

Figure 8: Telecom Fixed Line Average Calling Charges



Source: Commerce Commission (2009).

319. The Commission notes that audits¹⁶⁵ of the pass-through that has occurred under the Telecom's Deed have shown that pass-through has exceeded the required reduction in headline rates for both retail consumer and retail business customers in both the periods 1 August 2007 to 31 March 2008 and 1 April 2008 to 31 March 2009.
320. Although all Telecom's standard retail FTM rates were adjusted downwards as per Telecom's Deed, the Commission notes that there has been no noticeable impact on the general downwards trend in the FTM average calling rate. This is likely to reflect the fact that the average charge is also affected by the unlisted FTM rates charged to larger business customers, other calling plan deals, and restricted on-net calling plans, like the Freedom

¹⁶⁵ Ernst & Young, *Special Purpose Auditor's Report – To The Directors of Telecom New Zealand Limited*, 2008 and Ernst & Young, *Auditor's Report – To The Directors of Telecom New Zealand Limited*, 2009. Available from <http://telecom.co.nz/binaries/telecomdeedauditreport.pdf> and <http://telecom.co.nz/binaries/deedaudit08010.pdf> respectively.

plan, which essentially allow unlimited FTM calls to nominated Telecom mobile numbers for a flat monthly fee.¹⁶⁶

321. Table 23 presents information on average retail prices for FTM calls (national) from Telecom, Vodafone, Orcon, TelstraClear, Woosh, WorldxChange and CallPlus in response to the Commission's data questionnaire. Table 23 shows that average FTM prices have decreased from 2006 to 2008 for Telecom, Vodafone, Orcon, WorldxChange (for some customer segments) and CallPlus.

Table 23: Average retail price for FTM calls (national)¹⁶⁷

[

] TRI / VRI / ORI / TCRI / WRI / WxCRI / CPRI

Source: Commerce Commission (2009).

322. Despite Telecom appearing to have higher standard residential rates than its competitors (as outlined in Table 22 above), Telecom's average retail prices are significantly lower for FTM calls (national) than those of Orcon, TelstraClear and Woosh, and for some segments of customers of WorldxChange and CallPlus. In 2008 Telecom's average retail prices for FTM calls (national) was similar to that of Vodafone and some segments of customers of WorldxChange and CallPlus. The average FTM price for Vodafone has fallen considerably over the period since Vodafone acquired the fixed-line business of ihug (in 2006).
323. The Commission notes that the average retail prices in Table 23 are likely to be significantly lower than standard 'headline' rates, due to lower rates for businesses and other special offers, which may be more prevalent in Telecom's business than its competitors. The Commission also notes that the relatively low FTM prices for the integrated fixed-and-mobile operators is likely to be explained at least in part by the ability of such operators to offer "on-net" FTM calls at relatively low retail prices, as these calls are not subject to high MTRs, as discussed further in paragraphs 329 to 334 below.

Relationship between retail prices and underlying costs

324. The Commission has considered the extent to which average retail prices for FTM and toll calls exceed the cost of supplying such calls at the retail level. Data received by the Commission in preparing its sector monitoring reports suggests that the industry average price of national toll calls has declined since 2004, from around 13.5 cpm to 10.0 cpm.¹⁶⁸ This represents a reduction of about 25% over the five years. For international toll calls, the industry average price has declined from 25.5 cpm in 2004, to 16.7 cpm in 2008, representing a reduction of around 35% over this period.
325. In terms of FTM calling prices, information collected as part of this investigation indicates that the industry average FTM price has fallen by 27% over 2004-2008, from 42.2 cpm to 30.7 cpm.

¹⁶⁶ Commerce Commission, *2008 Telecommunications Market Monitoring Report*, 14 April 2009, p 23, para 57.

¹⁶⁷ Where two figures are shown, the first figure is the price for residential customers and the second figure is the price for business customers.

¹⁶⁸ Industry average prices (for tolls and fixed-to-mobile services) are estimated by aggregating industry revenues and dividing by industry volumes of minutes.

326. As part of its fixed interconnection determination, the Commission has previously set a benchmarked cost-based price for the fixed origination/termination service to be 1 cpm. Furthermore, during its previous mobile termination investigation, the Commission estimated the cost of call transport between the handover points for the origination and termination services to be 1.2 cpm. Allowing for retail-related costs equal to 18% of the retail price¹⁶⁹, the Commission estimates the cost of a national toll call to be approximately 4 cpm. As noted above, the industry average retail prices for national toll calls is estimated to be 10.0 cpm, indicating that retail prices are around 250 percent of the cost of providing the service.
327. Similarly, based on the current benchmarked cost-based mobile termination rate of 7.2 cpm, a cost-based fixed origination rate of 1 cpm, transport costs of 1.2 cpm, and allowing for retail-related costs of 18%, the cost-based price of the retail FTM call would be around 11.5 cpm. Comparing this to the current industry average FTM retail price of 30.7 cpm suggests that retail prices are approximately 265 percent of the cost of providing the service.
328. The above analysis indicates that retail prices are currently significantly above the Commission's estimate of cost for national tolls and FTM services.

Impact of above-cost MTRs

329. The prevailing wholesale MTRs in New Zealand are set in accordance with the Deeds that Vodafone and Telecom entered into in April 2007. As noted in Table 6 at paragraph 5 above, the current rate for FTM termination in accordance with these deeds is 15cpm. This is significantly above the Commission's current cost-based estimate of 7.2cpm.
330. As long as MTRs exceed the MTAS cost, fixed network suppliers of FTM calls are likely to be constrained in their ability to compete in the retail market. Until Vodafone's acquisition of ihug, Telecom was the only supplier of FTM calls in New Zealand with both a fixed network and a mobile network. The other competitors have typically been non-integrated fixed competitors. In its previous MTR investigation, the Commission noted that for a non-integrated fixed competitor purchasing mobile termination at the MTR prevailing at the time (28cpm in 2004), the margins available on FTM calls for business customers¹⁷⁰ were likely to be small or even negative.¹⁷¹
331. In its submission on the draft undertakings received as part of the current investigation, CallPlus argued that:¹⁷²

'fixed to mobile' convergence means that integrated fixed & mobile providers can bundle and cross-subsidise if mobile termination rates are held 'artificially' high. The Commission has already noted that bundling, calling circles and on-net pricing are becoming increasingly prevalent in the market. In CallPlus' experience this has become the 'norm' particularly following Vodafone's purchase of iHug. By adopting a cost based approach to termination rates and aligning MTM & FTM rates the commission can create a level playing field for competition in the fixed line market.

¹⁶⁹ See, for example, the UBA STD.

¹⁷⁰ After allowing for other network- and retail-related costs.

¹⁷¹ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Final Report*, 9 June 2005, paragraph 270.

¹⁷² CallPlus submission, 13 February 2009.

332. In its annual monitoring report for 2007, the Commission observed that both Telecom and Vodafone were offering retail packages to business customers with retail FTM prices close to or below the wholesale MTR.¹⁷³ The Commission noted that this suggests that integrated fixed and mobile operators enjoy a significant premium on the termination of mobile traffic that is not available to other carriers.
333. This continues to be the case. For example, Vodafone currently offers a business landline and calling package called Business Tolls Plus.¹⁷⁴ Under this plan, the retail price for FTM calls to a Vodafone mobile subscriber is 13 cpm.¹⁷⁵ Under Vodafone's Deed, Vodafone currently charges 15 cpm for terminating FTM calls on its mobile network. Once the additional costs associated with call origination and other costs are included, Vodafone's retail FTM price for business customers appears to be even lower, relative to the costs that would be incurred by a competitor in supplying such a call.
334. The Commission considers that above-cost MTRs will continue to dampen competition in the supply of retail FTM calls, as fixed operators will be limited in their ability to compete with the integrated suppliers. The fixed operators must pay the above-cost MTR on all FTM calls, whereas the integrated operators only pay the above-cost MTR in respect of their 'off-net' calls (from their fixed subscribers to mobile subscribers on another network). The above-cost wholesale MTR will place a floor beneath which fixed operators will not be able to lower their retail prices, whereas as the example in the preceding paragraph shows, integrated suppliers will not be similarly constrained.

Potential competition in the retail FTM / tolls market

335. As noted earlier, in considering any constraint on existing participants arising from potential competition, the Commission is interested in identifying any barriers to entry or expansion that may exist.
336. Entry to the FTM and tolls market will generally rely to some extent on interconnection with Telecom's fixed PSTN. Fixed interconnection is regulated under the Act, which represents a cost-based regulatory constraint. This is likely to enhance conditions for new entry.
337. Furthermore, the introduction of local loop unbundling, which helps facilitate facilities-based competition, should enhance the prospects of further competition in the retail FTM market.
338. However, the Commission considers that current wholesale MTRs are significantly above the cost of supplying MTAS. As noted in paragraphs 330 and 334 above, the Commission considers that this is likely to limit competition in the supply of retail FTM calls, particularly for non-integrated operators.

¹⁷³ Commerce Commission, *2007 Telecommunications Market Monitoring Report*, 31 March 2008, paragraph 169.

¹⁷⁴ According to the Vodafone website, to be eligible for Vodafone Business Tolls Plus, the business must be a Vodafone mobile customer, as well as ensuring that all of its calling from its Vodafone Business landline is with Vodafone. See <http://www.vodafone.co.nz/business/fixed-line/plans.jsp>.

¹⁷⁵ Excluding GST.

Commission's preliminary views on overall competition in the retail FTM and tolls market

339. In summary, Telecom is the main supplier of retail FTM and toll call services in New Zealand, accounting for approximately three-quarters of the retail market in 2008. Telecom's retail market share appears to have been either static (based on revenue share) or increasing gradually (based on minutes) over the last 5 years.
340. Although prices for FTM and tolls services have been declining, they remain significantly above the Commission's estimate of the cost of providing these services. This is likely to be in part due to fixed competitors being constrained in their ability to compete retail prices down towards the cost of supply, which is what would be expected in a workably competitive market.
341. However, the Commission considers that current wholesale MTRs are significantly above the cost of supplying MTAS. As noted in paragraphs 330 and 334 above, the Commission considers that this is likely to limit competition in the supply of retail FTM calls, particularly for non-integrated operators.

Framework for assessing the potential benefits and costs of regulation

Introduction

342. As discussed earlier, in making a recommendation to the Minister as a result of a Schedule 3 investigation, the Commission must ensure that its recommendation best gives, or is likely to best give, effect to the purpose statement set out in section 18 of the Act.¹⁷⁶
343. Accordingly, for the Commission to recommend a regulatory change, the promotion of competition for the long-term benefit of end-users resulting from regulation needs to be assessed against the alternative of what might otherwise happen in the relevant markets in the absence of such regulation.
344. The Commission uses a factual and a counterfactual scenario to compare two states of the world, one with and one without regulation. The aim of such a comparison is to isolate the effects that are likely to occur as a result of regulation.
345. This section sets out the Commission's preliminary views on the relevant counterfactual and factual scenarios.
346. Having defined these scenarios, the differences between the two need to be assessed. These differences represent the potential benefits and costs of regulation, and can be measured in various ways. This section discusses the use of a consumer surplus measure and a total surplus measure of the benefits and costs of regulation.
347. The resulting framework is used in subsequent sections to evaluate the potential impact of regulation of the MTAS.

Counterfactual Scenario

348. The counterfactual scenario represents the Commission's view of what is likely to occur in the absence of regulation. As in previous cases, the Commission will base its view of a suitable counterfactual on a pragmatic and commercial assessment of what is likely to occur in the absence of intervention as a result of the Schedule 3 investigation.
349. The Commission has received undertakings from Telecom, Vodafone and 2degrees. These undertakings have been put forward as an alternative to regulation. For the reasons given in paragraphs 100 to 107, the Commission's preliminary view on 2degrees' undertaking is that it does not satisfy the requirements for an undertaking to be considered. The Commission has therefore based its counterfactual on the terms of the Vodafone and Telecom undertakings, as summarised in paragraphs 88 to 91.
350. The Commission also considers that it is appropriate to include the commercial agreement for MTAS between 2degrees and Vodafone, discussed at paragraph 8 as part of the counterfactual. The Commission notes that it appears that this commercial agreement would be able to continue to operate alongside the undertakings. The Commission also

¹⁷⁶ Telecommunications Act 2001, s19(c).

notes that as this is a bi-lateral commercial agreement between Vodafone and 2 degrees it will only affect a portion of the wholesale MTAS markets in relation to Vodafone's and 2degree's mobile networks and may have limited impacts on the retail mobile services market. In other words, the benefits of this bi-lateral agreement would not apply to traffic between other parties, i.e., traffic between Telecom and Vodafone, and traffic between Telecom and 2degrees.

Factual Scenario

351. The factual scenario represents the Commission's view of what is likely to happen where the service under consideration is subject to regulation. An important part of the factual analysis relates to the nature of the regulation, and the likely terms that would be set.
352. As noted earlier, under Schedule 3 of the Act, the Commission may, on its own initiative, commence an investigation into whether or not a telecommunications service should be regulated as a designated or specified service, and make a recommendation to the Minister.
353. The Commission's draft Report must include the detail of the proposed alteration to the Act if regulation is recommended.
354. In this section, the Commission sets out its preliminary views on the appropriate form of regulation and the pricing principles and any other relevant considerations.

Form of regulation: Designation or Specification

355. Under Schedule 1 of the Act, there are two broad categories of regulated services: *specified services*, where the Commission is responsible for determining non-price terms of access only, and *designated services*, where the Commission is responsible for determining both price and non-price terms of access.
356. For each service, Schedule 1 gives a description of the service, the access provider and access seeker, the access principles and any limits on these access principles, and for designated services the initial pricing principle and the final pricing principle.
357. In considering the form of potential regulation of the MTAS, the Commission notes that mobile network operators supply termination services on their networks, and have done so historically. Existing supply of FTM termination is in accordance with the Deeds, while MTM and SMS termination (and FTM termination previously) has been negotiated on a commercial basis. This indicates that access to MTAS has generally not been a significant issue, nor have non-price terms, and that specification of the service (where the price of the service is not subject to regulation) is therefore unlikely to promote competition for the long-term benefit of end-users, compared to the counterfactual of no specification.
358. The main issue around the MTAS is in relation to price. The Commission has already expressed concerns about the potential adverse consequences of MTAS prices that are significantly in excess of cost.¹⁷⁷
359. The Commission's preliminary view is therefore that the relevant form of potential regulation to be considered during this investigation is designation of the MTAS.

¹⁷⁷ See for example, Commerce Commission, *Issues Paper*, 8 August 2008.

Pricing principle

360. Each designated access service currently set out in Schedule 1 of the Act requires an Initial Pricing Principle (IPP) and a Final Pricing Principle (FPP). These pricing principles define the way in which the price of the designated service is to be determined by the Commission, with the IPPs based on benchmarking against pricing methods in other countries and the FPPs based on a defined cost standard.
361. There are several issues concerning the relevant pricing principle. The first relates to whether a cost-based principle should be used, or some other principle (such as bill-and-keep). The second relates to the definition of the cost standard, in the event that a cost-based pricing principle is used.
362. The Commission's preliminary view, based on the precedent of other designated services under the Act, is that the form of the IPP should reflect that of the FPP. If, for example, the FPP were to be based on the TSLRIC cost standard (as is the case for a number of existing designated access services in Schedule 1 of the Act¹⁷⁸), it will be appropriate for the IPP to refer to benchmarking against a similar cost standard in other jurisdictions, as the IPP is designed to be a relatively cost-effective and timely way of approximating the price for the service that would result under the FPP.

Cost-based or bill-and-keep (BAK) pricing principle

363. In this section, the Commission considers whether a BAK pricing principle or a cost-based pricing principle should be applied in respect of the MTAS that is the subject of the Commission's Schedule 3 investigation.
364. 2degrees' undertaking, which contains a proposal for BAK pricing, is summarised, followed by a brief synopsis of the submissions made by parties on BAK.¹⁷⁹
365. The Commission then considers whether the use of cost-based pricing or the use of BAK for mobile termination is likely to best promote competition and be consistent with economic efficiency.

2degrees' undertaking and BAK

366. 2degrees' undertaking proposes a BAK charging arrangement for termination of voice calls that originate on a mobile network, and for SMS termination. Under such an arrangement, the termination service for MTM calls and SMS would be provided at no charge.
367. 2degrees' undertaking does not cover FTM calls. As such, it appears that termination of FTM calls would not be subject to BAK and would instead be charged for at a non-zero price.
368. 2degrees argued that in other countries, there is strong downward pressure on mobile termination rates and a move towards BAK. 2degrees submitted that there are significant

¹⁷⁸ These include, for example, the fixed PSTN origination and termination service, and Telecom's unbundled copper local loop service.

¹⁷⁹ A more detailed summary of submissions on BAK is provided in Appendix 3.

costs and delays in determining regulated prices, and that there is “no real downside in adopting BAK yet considerable upside.”¹⁸⁰

369. In support of its undertaking, 2degrees provided a report by Concept Economics (CE), in which the application of BAK to MTM termination is compared to more complex pricing approaches, including the use of benchmarking and the use of cost models to directly estimate the optimal mobile termination rate. CE noted that the use of cost models can be a time-consuming and expensive process, while benchmarking is vulnerable to differences in regulatory approaches across jurisdictions.
370. CE also noted that BAK avoids the need to engage in any cost modelling, and is also less costly to implement as it avoids the need for reconciliation, billing and payment collection. CE argued that theoretically optimal mobile termination rates are likely to be low, which suggests that any distortion resulting from a MTR of zero is likely to be small.

Submissions on BAK and cost-based MTRs

371. The Commission received submissions from Vodafone, Telecom, 2degrees, CallPlus, Woosh/Orcon/Kordia, TUANZ, and TelstraClear on whether BAK or cost-based MTRs are appropriate for the MTAS.
372. A detailed summary of these submissions is set out in Appendix 3. Vodafone generally does not support the use of BAK, while Telecom submitted that it may be appropriate to further consider BAK over the longer term. 2degrees supported the use of BAK for MTM and SMS termination, while the views of other parties are mixed, with some in support of cost-based pricing, and others in support of BAK. Most parties submitted that the same pricing principle should apply irrespective of call origination.

Commission’s preliminary view on cost-based or BAK pricing principle

373. In considering whether BAK or a cost-based pricing principle is likely to best give effect to Section 18, the Commission has started from the position that an MTAS price that reflects the efficiently-incurred costs of supply is consistent with the promotion of efficient competition in the downstream markets. This starting point will also by definition enable access providers of the MTAS to recover efficiently-incurred costs (consistent with productive efficiency), and will maintain incentives for efficient investment over time (dynamic efficiency).
374. The Commission then considers whether there are justifications on welfare grounds for departing from efficient costs, either on the basis of network externalities (in which case the welfare-maximising MTR may exceed the cost-based MTR) or calling externalities (where the welfare-maximising MTR may be below cost). The use of BAK as an efficient pricing principle will depend on the relative magnitude of these externalities.
375. Following the discussion of externalities, the Commission discusses the relationship between MTRs and retail competition. In relation to the use of cost-based MTRs, consideration is given to the ability of an entrant to compete with the retail on-net prices of existing mobile operators. In relation to BAK, the potential implications for downstream competition are considered, in particular for competition for different customer segments.

¹⁸⁰ 2degrees letter to Commission, 22 December 2008.

376. Finally, the Commission reviews some of the potential advantages of BAK, and the circumstances in which BAK might be appropriate.
377. A concluding section sets out the Commission's preliminary view on the use of a cost-based or BAK pricing principle for the MTAS.

Efficient costs

378. The Commission considers that the appropriate starting point of any analysis of pricing principles for the MTAS is that the price for the MTAS should reflect the cost of supplying the termination service. The Commission has previously noted the importance of establishing a cost-based termination rate, and this has been reinforced in the recent submissions on the Vodafone, Telecom, and 2degrees undertakings. Any departure from a cost-based price should be justified on efficiency grounds, such as may be the case where externalities have been demonstrated.
379. For example, Vodafone noted that regulators almost universally use efficiently incurred costs as a starting point when determining the optimal price for regulated services, and that any departure from the economically efficient price (either above or below) will result in a reduction in economic welfare.
380. As submitting parties have noted, any departure from the economically efficient price is likely to create distortions. Submissions have noted that below cost pricing of termination, such as BAK, will incentivise mobile network operators ('MNOs') to attract customers who tend to make more calls than they receive, in order to replace the lost termination revenues on inbound calls with higher revenues on outbound services. Off-net calls may also be encouraged, as the MNO faces no cost for termination of calls on another network under BAK, whereas it incurs its own termination costs in respect of on-net calls that remain on its own network.
381. Encouraging MNOs to behave in such a manner is likely to be inefficient, as such behaviour does not reflect the underlying costs of supplying termination. Off-net volumes are likely to be stimulated, largely as a result of such calls receiving a subsidy. Although there is a real cost of terminating such calls, BAK sets the termination rate to zero, and hence the party originating these calls does not face the cost of delivering the calls.
382. Similarly, *above cost* termination rates are also likely to create distortions in the opposite direction. In this case, MNOs are likely to be incited towards subscribers who *receive* a proportionately large volume of calls, due to the termination profits that can be earned from other parties. On-net calls will now be less costly to deliver than off-net calls, as the MNO only faces its own costs of termination for on-net calls, whereas it faces a higher termination cost for off-net calls.
383. Frontier's report on behalf of Vodafone provided support for the use of what it refers to as 'cost-oriented' mobile termination rates, in the absence of any call or network externality. Frontier noted that, absent such externalities:¹⁸¹

¹⁸¹ Frontier, page 4.

“... optimal retail prices follow the CPP principle [and] termination fees are cost-oriented. Thus efficiency requires:

$$a_{\text{efficient}} = C_T$$

where $a_{\text{efficient}}$ is the efficient mobile termination rate, and C_T is the cost of termination.”

384. 2degrees also referred to the ‘optimal’ mobile termination rate, although submitted that this is likely to be close to zero.
385. The Commission’s preliminary view is therefore that in any analysis of efficient mobile termination rates, the appropriate starting point is establishing a rate that reflects the efficiently-incurred costs of supplying the MTAS. Such an approach should minimise any distortions by ensuring that MNOs and their subscribers are not faced with artificially inflated or deflated prices.

Externalities as a potential justification for departing from efficient costs

386. Any departure of the price for the MTAS from the level of efficiently-incurred costs may have a welfare justification where externalities are present. The issue of calling and network externalities is important in terms of assessing the circumstances in which BAK might be an efficient pricing arrangement for mobile termination, and considering any movement above or below the cost-based termination rate.
387. Positive network externalities arise where subscribers to a mobile network benefit from being able to communicate with a large number of mobile subscribers. Mobile subscribers therefore generate a private benefit (that accrues to themselves) from being able to make and receive calls, as well as an external benefit that accrues to others from being able to contact and be contacted by them. However, in making a decision whether or not to subscribe to a mobile network, customers generally take their own private benefit into account but not the external benefit. This difference is the source of a network externality.
388. A potential consequence is that the level of mobile subscription may be lower than the socially optimal level. This is because some customers may choose not to join a network as their private benefits do not cover the cost to them of becoming a subscriber, even though total welfare would be enhanced if they did subscribe.
389. One possible way of addressing this is to increase the mobile termination rate above cost (i.e., include a network externality surcharge), in order to make it more profitable for MNOs to attract or retain subscribers to its network. In effect, the above-cost termination rate would allow MNOs to cross-subsidise subscription services and stimulate subscription levels. This allows the positive network externalities that result from these additional subscribers joining (or remaining on) the network to be realized.
390. Calling externalities arise where the benefits of a call are enjoyed not only by the party making (and paying for) the call, but also by the recipient of the call. In a similar manner to that described above, the party making the call will typically take into account their own private benefit when deciding how many calls to make (and their duration). To the extent that the receiving party also benefits, the level of calling may be too low from a societal perspective.

391. In this case, it might be appropriate to reduce the termination rate below cost, in order to lower call prices and increase demand for calls and realize the positive calling externality effect.
392. Frontier noted that the efficient mobile termination rate will be above the cost of supplying the termination service when network externalities are present (in order to subsidise mobile penetration which generates the positive network effect on other subscribers), and will be below cost when call externalities are present (to subsidise calling volumes and the resulting positive effect on recipients). Frontier noted that:¹⁸²
- “The combination of both may lead to above or below cost efficient MTRs. The lack of contributions analysing the interaction of these two effects does not permit the drawing of a clear conclusion on how efficiency is affected by the level of MTRs. This is important because in most real situations call and network externalities will co-exist, although the call externality will tend to be internalised.”
393. In considering the likely relative effects of calling and network externalities, Vodafone submitted that previous mobile termination decisions by Ofcom and the UKCC have concluded that the network effect is likely to be more significant than the calling effect.¹⁸³
394. However, the Commission notes that while the UKCC had previously allowed for a network externality surcharge, it also recognised that any such mark-up should be either very small or not allowed at all. In its recent decision in relation to the H3G and BT’s appeal against Ofcom’s mobile termination rate statement, the UKCC found that it was no longer appropriate to include such a surcharge (which Ofcom had set at 0.3ppm¹⁸⁴) in the mobile termination rate. The UKCC justified its decision to exclude a network externality surcharge¹⁸⁵ on the basis that the termination profits resulting from the surcharge were not necessarily used to reduce subscription prices for marginal customers (which the surcharge was designed to do).¹⁸⁶
395. The Ofcom determination had been one of the few examples where a regulator had added a network externality surcharge to the cost-based MTR,¹⁸⁷ but this has now been reversed by the UKCC decision.
396. The Commission also notes that at high levels of mobile penetration, any such network effect may be relatively small (when compared to lower levels of penetration).¹⁸⁸ For example, the UKCC has previously noted that it was not convinced that a reduction in the level of network externality subsidy would necessarily have an adverse effect on subscription levels.¹⁸⁹

¹⁸² Frontier submission, page 1.

¹⁸³ Vodafone submission, paragraph 105.

¹⁸⁴ The UKCC had previously allowed for a network externality surcharge of 0.45ppm, in order to bring marginal mobile subscribers onto the mobile networks.

¹⁸⁵ See for example, UKCC paragraphs 4.150 and 4.160.

¹⁸⁶ This is referred to in the UKCC decision as ‘leakage’, where the termination profits are either retained as higher profits across the mobile operation, or are used to subsidise subscription prices for non-marginal customers who would be prepared to pay unsubsidised subscription prices in any event.

¹⁸⁷ As noted elsewhere, the Commission is aware that a similar surcharge has been included by the regulator in Israel.

¹⁸⁸ Albon and York (2006) also note that the significance of network externalities is likely to be limited where mobile networks are mature, as the marginal external benefit from additional subscribers is likely to be small.

¹⁸⁹ UKCC, *Vodafone, O2, Orange and T-Mobile: Reports on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks*, February 2003, paragraph 2.365.

“...factors such as the high levels of mobile usage, the utility of mobile ownership, and the perceived disadvantages of giving up a mobile phone after having used one would militate against subscribers leaving the network if subsidies were reduced.”

397. In terms of the likely presence or magnitude of a calling externality, the Commission notes that no evidence has been provided in submissions to suggest that such an effect is significant. For example, Vodafone submitted that parties tend to internalise any call externality themselves, with each party to a call or text tending to reciprocate. Vodafone also referred to Ofcom research, showing that consumers’ mobile subscription decisions placed little value on the possibility of being called.

398. In a 2006 paper,¹⁹⁰ Albon and York refer to differing views on the strength of call externalities. For example, they quote Ofcom:

Call externalities – while they almost certainly do exist ... are likely to be internalised by callers, as a high percentage of calls are from known parties and there are likely to be implicit or explicit agreements to split the origination of calls.

399. While Albon and York agree that some internalisation is likely, they suggest there remains a case to consider a call externality at the margin, which could justify a termination rate below TSLRIC:¹⁹¹

“...if mobile subscribers derive a benefit from incoming calls, then termination charges should be set below cost in order to encourage calls from the fixed networks. Unregulated operators, however, will price termination charges in excess of the socially optimal level.

...
 ... [if] mobile subscribers receive utility from receiving calls ... this lowers the socially optimal termination charge; something that may offset the need for a network externality surcharge.”

400. In light of the above, the Commission’s preliminary view is that neither calling nor network externality effects are likely to justify any departure from a cost-based mobile termination rate.

MTRs and retail competition

401. One of 2degrees’ concerns appears to be that it would not be able to compete with the on-net pricing offered by the existing MNOs, unless BAK is applied to MTM termination. Part of Vodafone’s response to this was that an entrant should have little difficulty in competing with the existing on-net plans, as such plans are typically based on relatively small calling circles, with the majority of Vodafone subscribers making a large proportion of their calls to a small number of other people. In other words, the entrant would only have to attract small groups of subscribers that regularly call one another. The Commission’s preliminary view is that Vodafone’s description of calling circles is likely to understate the significance of calling relationships, as on-net calling circles are likely to be linked to one another.

402. However, if termination prices are based on cost, then an efficient entrant should be able to offer competitive on-net/off-net pricing, as there will be no difference in the cost of

¹⁹⁰ Albon, R, and R York, *Mobile termination: Market power, externalities and their policy implications*, Telecommunications Policy 30 (2006), page 381.

¹⁹¹ *ibid*, page 382 (quoting Bomsel et al and Gans et al, respectively).

terminating an on-net call and an off-net call.¹⁹² As long as existing on-net prices cover the costs of delivering such calls (including the cost of originating and terminating the call), an entrant facing a cost-based termination rate should be able to offer on-net and off-net calling services at a price that is comparable to the incumbent's on-net service. As illustrated by Frontier in the absence of externalities,¹⁹³ where the termination rate (a) is set equal to the cost of termination (C_T), the cost of delivering on-net and off-net calls will be the same.¹⁹⁴

403. The EC has recently commented along similar lines:¹⁹⁵

“Symmetry at the level of truly cost-oriented (efficient) termination rates would reduce the payments of smaller market players, while rendering them capable of offering tariff packages and price plans with off-net prices comparable to that of the on-net charges of larger operators. This would in turn increase their ability to compete and thus encourage competition in the retail mobile markets to the ultimate benefit of consumers.”

404. In this regard, the Commission considers that it may be appropriate to have some regard to the average retail on-net price of the existing MNOs, and to compare this to the cost-based benchmark mobile termination rates. The average retail price refers to the end-to-end call from one mobile subscriber to another on the same network. As noted above, this could be expected to cover the costs of originating and terminating the call.¹⁹⁶

405. The Commission has been provided with revenue and volume information relating to different call types, including on-net and off-net mobile calls and SMS. The average revenue per on-net minute (and per on-net SMS) can be calculated using this information, and as discussed elsewhere in this determination, the Commission has used this data as a cross-check on the benchmarked estimates of efficient termination rates.¹⁹⁷

406. The implementation of a BAK termination payment system would effectively set the mobile termination rate at zero, as the originating MNO would pay no fee to the terminating MNO. As there is likely to be a non-zero cost of supplying termination services,¹⁹⁸ BAK will result in below cost pricing of termination, which as noted above is likely to distort competition.

407. For example, MNOs are likely to be incentivised to compete for mobile subscribers who are net originators of calls and who make more off-net calls than on-net calls (as the cost of providing an off-net call would be lower under BAK). As recognised by the UKCC,¹⁹⁹ this is likely to give rise to inefficiencies in traffic flows, as the volume of off-net traffic will be

¹⁹² There may be some incremental costs associated with off-net calls, for example the costs of establishing interconnection agreements between the originating and terminating networks. However, these costs are likely to be minimal, especially when expressed as a cost per minute.

¹⁹³ Frontier submission, page 3.

¹⁹⁴ The entrant (and the incumbent MNOs) may still decide to offer differentiated prices for on-net and off-net calls, if for example they are able to identify a difference in consumers' willingness to pay for such services and segment the retail market accordingly.

¹⁹⁵ EC Working Document, 7 May 2009, page 25.

¹⁹⁶ As well as other relevant costs, such as retail functions.

¹⁹⁷ With the expectation being that the wholesale MTR should be less than half of the retail on-net price for the end-to-end MTM call service (or SMS), on the basis that the retail price will cover *at least* the cost of call origination, call termination, and retail-related costs.

¹⁹⁸ See Commission benchmarking of cost-based mobile termination rates.

¹⁹⁹ UKCC, paragraph 14.78.

higher than what it would be under cost-based termination rates. In other words, the off-net volumes would be artificially stimulated by the below-cost wholesale termination of such calls.

408. BAK could result in substantial changes to the level and structure of retail prices. The wholesale termination revenue on incoming calls to subscribers would be eliminated under BAK,²⁰⁰ which could result in a number of significant consequences, as has recently been noted by the UKCC.²⁰¹

“At the same time, under [BAK] MNOs would no longer receive any revenue from the caller’s MNO to cover the cost of terminating M2M calls. This could have a number of detrimental consequences:

(a) MNOs may become less willing to serve customers who receive more calls than they make because a CPP system combined with [BAK] would make them less valuable. The impact on the pre-pay sector in particular could be significant.

(b) There may be pressure to move to an RPP system, where customers are charged for receiving calls by their own network, which Ofcom currently considers to be detrimental to consumers in the UK. Whilst we have not received evidence on this point (H3G arguing rather that [BAK] will not lead to RPP), no argument has been advanced that Ofcom’s assessment was incorrect in this respect. Again, we note that this is likely to have a significant effect on the pre-pay sector in particular.

(c) Alternatively, MNOs may increase the prices of other services or subscription fees. The former is likely to depress the consumption of such services below efficient levels, and the latter is likely to reduce demand for subscription, again with the pre-pay sector likely to be particularly affected.”

409. In New Zealand, there are a significant number of pre-pay mobile subscribers. Of Vodafone’s total subscriber base of 2.37 million customers as of 2008, 1.75 million (or 74%) are pre-pay subscribers; for Telecom, 1.33 million subscribers out of a total of 2.18 million (or 61%) are pre-pay customers. In aggregate, two-thirds of New Zealand mobile customers are on pre-pay plans. The Commission’s preliminary view is that the potential consequences of a move to BAK termination on the pre-pay customer segment could therefore be particularly significant in the New Zealand market.

Potential implications of BAK

410. BAK does have some advantages in terms of avoiding direct costs associated with setting a cost-based termination rate. These costs include the resources expended in developing cost models, as well as implementation costs associated with the metering and billing for termination services.
411. However, such cost and simplicity advantages of BAK could be offset to some extent by a number of factors.
412. First, the Commission notes that were BAK to be applied only to one form of traffic (such as MTM), mobile operators would still incur implementation costs for FTM termination,

²⁰⁰ The Commission notes that while the elimination of termination payments between operators could reduce the value ascribed to a mobile subscriber (as wholesale revenues earned on incoming calls would be removed), there is likely to be some offsetting reduction in termination costs on outgoing calls, which will tend to mitigate the loss in termination revenues.

²⁰¹ UKCC, paragraph 14.79. NPZ is “net payment zero”, which is a form of BAK.

such as billing and number identification systems. These costs may be avoided only where BAK is applied in respect of all mobile termination services.

413. In addition, the IPPs used in the Act typically involve benchmarking against prices for similar services in comparable countries. The use of benchmarking to determine an initial price for the regulated service avoids the direct costs that would be incurred if the Commission were to develop its own cost model in respect of mobile termination services. Such costs, which were referred to in 2degrees' submission (see paragraph 74, Appendix 3), would only be actually incurred in the event that parties requested a pricing review.
414. BAK may also lead to the "hot potato routing" problem, where originating mobile operators have an incentive to transfer traffic to the terminating mobile operator at the earliest possible point.²⁰² Such a strategy in effect pushes costs onto the terminating network, with these higher costs not being recovered as the termination rate is zero.
415. To address the hot potato problem, the use of BAK will require the specification and monitoring of the topology of interconnection points, which reduces the administrative simplicity of BAK arrangements.
416. The Commission also notes that Ofcom has recently released a consultation paper on possible options for future regulation of mobile termination, with one of these options being BAK.²⁰³ In its preliminary assessment of BAK, Ofcom raises a number of issues discussed above.²⁰⁴
- the main rationale for mandating BAK is the presence of uninternalised calling externalities. Ofcom concluded that it was unaware of any robust empirical work on this critical issue;
 - BAK has a relatively low regulatory burden, however, Ofcom noted that this must be balanced against the risks associated with departing from cost-based rates (including distortions to competition between fixed and mobile services); and
 - the *hot potato routing* may be an issue, although Ofcom noted that this does not seem to have been a significant concern in jurisdictions where low MTR regimes are in place.
417. Ofcom noted that it was unaware of any instance where a regulator had mandated BAK and that such payment regimes were typically a result of commercial negotiations.²⁰⁵
418. The Commission does note that the potential adverse consequences of adopting BAK may be mitigated where traffic flows between networks are balanced. Vodafone has argued that

²⁰² Frontier also referred to this issue. Frontier submission, page 20.

²⁰³ Ofcom, *Wholesale mobile voice call termination: Preliminary consultation on future regulation*, 20 May 2009.

²⁰⁴ *ibid*, paragraphs 6.146 to 6.156.

²⁰⁵ *ibid*, paragraph 6.145. The EC has also noted that "there is no record of Bill and Keep being imposed by a regulatory authority. It generally results from voluntary agreement between interested parties, which in certain circumstances choose to set these fees at zero, particularly where the net financial settlements are equal to or close to zero." EC, *Draft Commission Staff Working Document Explanatory Note: Accompanying document to the Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU*, page 24.

SMS traffic in particular tends to be balanced. If this is the case, the reduction in wholesale termination revenues on incoming traffic for any one mobile operator under BAK will be offset by the reduction in wholesale termination costs on outgoing traffic. This indicates that the net position of the mobile operator would be unaffected by the introduction of BAK, and that existing retail prices and pricing structures might be sustained.

419. The Commission has examined data collected as part of this investigation on MTM and SMS traffic between Telecom and Vodafone. For MTM traffic, the average level of imbalance over the past three years has been approximately [] **VRI / TRI** %. However, for SMS traffic, the average level of imbalance has been significantly lower, at around [] **VRI / TRI** %.
420. The Commission notes that these levels of net traffic flows relate to two established incumbent mobile network operators, and that these may not necessarily reflect traffic flows where a small entrant mobile network operator is involved. In the absence of such information, which will only emerge following the entry of a third network operator, the Commission's current view is that a cost-based pricing principle is likely to be appropriate, although BAK may merit further consideration in the future.
421. In the event that BAK were to be considered in the future, for the reasons discussed in paragraph 424 below, it may be appropriate to consider some margin of net traffic within which BAK would be applied, with a cost-based price applying for traffic outside of that margin. It is unlikely that traffic flows between networks will be perfectly symmetrical, and so a margin of, for example, +/- 10%, might be reasonable. This may reduce the instances in which the transactions costs associated with metered interconnection arrangements are incurred.²⁰⁶
422. The Commission does note that BAK arrangements have been discussed in the context of an NGN environment, and in particular as a possible mechanism for IP interconnection. If such arrangements were to be introduced for such interconnection, there may be practical implications if calls terminating on a mobile network are priced in a different manner, for example, in respect of VOIP services. However, at this stage it is unclear how IP interconnection will be addressed.

Commission's preliminary view on cost-based or BAK pricing

423. For the reasons given above, the Commission's preliminary view is that a cost-based pricing principle is likely to best give effect to the section 18 purpose statement in the Act. In particular, such a pricing principle is likely to promote efficient competition based on the underlying cost of supplying the MTAS, in the absence of externality effects. Absent such externality effects, a price for the MTAS that departs from the efficiently-incurred costs is likely to generate distortions by encouraging or discouraging competition for customers with a particular calling profile, as such competition would not be based on the underlying costs of supplying services to such customer groups.

²⁰⁶ Although once traffic flows exceed the threshold, such transactions costs (such as the costs associated with determining a regulated price) will be incurred.

424. However, the Commission does acknowledge²⁰⁷ that there may be circumstances in the future in which BAK might merit further consideration. These may include circumstances where there is evidence that:

- cross-network traffic is relatively balanced and the costs of administering a forward-looking cost-based pricing principle are not justified;
- bill-and-keep pricing has emerged as the prevailing commercially negotiated approach to the MTAS; or
- calling externalities are significant.

425. The Commission also notes that both the IPP and FPP for the existing fixed PSTN origination and termination service in Schedule 1 of the Act include cost-based and BAK pricing options. For example, the IPP for interconnection with Telecom's fixed PSTN is as follows:²⁰⁸

“Benchmarking against interconnection prices in comparable countries that result from the application to networks that are similar to the access provider's fixed PSTN of –

- (a) a forward-looking cost-based pricing method; or
- (b) if the Commission considers that a forward-looking cost-based pricing method does not best give effect to the purpose set out in section 18, whichever of the following methods that the Commission considers best gives effect to that purpose:
 - (i) a pure bill and keep method; or
 - (ii) a pure bill and keep method applied to two-way traffic in balance (or to a specified margin of out-of-balance traffic) and a forward-looking cost-based pricing method applied to out-of-balance traffic (or traffic beyond a specified out-of-balance margin).”

426. A common theme in submissions from parties on 2degrees' proposed use of BAK for MTM and SMS traffic has been that 2degrees' proposal would distort competition between fixed and mobile network operators in the supply of calling services that terminate on a mobile network. In particular, MTM calls would be terminated at no cost to the originating mobile network, whereas FTM calls would be terminated at a non-zero cost to the originating fixed network. Parties submitted that such an arrangement would favour the mobile operators in supplying such calls.

427. The Commission's preliminary view is that the MTAS should be subject to a pricing principle that is similar to that for the fixed PSTN origination and termination service, for the reasons discussed in paragraph 426 above. To adopt a different pricing principle could result in a distortion of prices that would favour either fixed network operators or mobile network operators. A consistent pricing principle is likely to minimise the risk of such a distortion and hence be consistent with section 18 of the Act.²⁰⁹

²⁰⁷ See also Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009, page 3.

²⁰⁸ Telecommunications Act, Schedule 1, Part 2, Subpart 1, *Interconnection with Telecom's fixed PSTN*.

²⁰⁹ This is not to say that the resulting prices for the MTAS would be the same as the price for the fixed PSTN interconnection services, but that the same pricing principle should be applied.

Relevant Cost Standard

428. Having concluded above that the relevant pricing principle for the MTAS involves cost-based pricing, it is appropriate to consider the relevant cost standard to be used in applying such a pricing principle.
429. In the Issues Paper, the Commission stated²¹⁰ that it is generally accepted in economic theory that welfare is maximised in the long-run in a perfectly competitive market when prices are set equal to long-run marginal cost.²¹¹ Setting prices according to long-run cost will lead to an efficient outcome in terms of incentives for market entry. Increased competition will result in more pressure to minimise costs over time, and lead to greater investment in innovative new technologies and service by operators. For example, mobile operators are more likely to deploy the latest technology in response to the increasing competitive pressure on the wholesale and the retail level.
430. In order to achieve the objectives laid down in the Act, the Commission's view is that prices in markets, where there appears to be an access bottleneck due to the existence of market power, should be geared to the costs of an efficient operator employing the latest available technology.
431. In the current literature and in overseas experience, there are a number of concepts for estimating the efficient cost of a service. The Commission considers that the basis for calculating costs for access bottleneck services should be forward-looking, long-run incremental costs (FL-LRIC). Such a methodology promotes efficient production and consumption, and minimises potential competitive distortions. In a competitive environment, operators would compete on the basis of current or forward-looking costs based on efficient technologies available in the timeframe considered.²¹²
432. The cost-based pricing principles for the existing designated access services in Schedule 1 of the Act require that prices be determined on the basis of the Total Service Long-Run Incremental Cost (TSLRIC) under the FPP. The Act defines TSLRIC in relation to a telecommunications service as:²¹³
- “the forward-looking costs over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, the service, taking into account the service provider's provision of other telecommunications services; and ... includes a reasonable allocation of forward-looking common costs.”
433. The Issues Paper²¹⁴ also referred to statements from the EU Commissioner for Information Society and Media, that mobile termination rates created “real distortions” in the EU single market. As a result, the EU Commission (EC) is currently considering publishing proposals that will encourage national telecom regulators to reduce termination rates across the EU. The EU Commissioner announced that the EU wants to see significant reductions

²¹⁰ Issues Paper, 8 August 2008, paragraphs 72 to 74.

²¹¹ See for example Kahn: “The Economics of Regulation” in John Wiley & Sons, Vol. 1, 1970, Vol. 2, 1971, reprinted by MIT Press, 1988.

²¹² In practice, the forward-looking long-run incremental costs are usually calculated as the average cost across the relevant increment of the service (FL-LRAIC).

²¹³ Schedule 1, Part 1, Subpart 1.

²¹⁴ Issues Paper, paragraph 78.

in voice call termination rates by 2012, and signalled that the EU is also considering steps to cut the costs for data (termination) services such as SMS and browsing.

434. In a recent working paper, the EC reiterated its view that mobile termination rates should be reduced to a level that reflects the costs of an efficient operator. The EC noted that:²¹⁵

“... a forward-looking LRIC methodology provides an analytical framework for estimating the service cost that would prevail in a competitive market.

... taking account of the specific characteristics of termination markets, and in particular their two-way access nature, mark-ups above the incremental cost can facilitate competitive distortions between fixed and mobile networks and between operators with asymmetric market shares (e.g. within mobile markets). The further termination rates move away from incremental or efficient cost, the greater the transfers and the associated competitive distortions become. Thus, LRIC is the most appropriate approach to reflect the efficient cost of wholesale termination services and to address these competitive distortions.”

435. The Commission notes that the EC has indicated its preference to exclude common costs from the LRIC of the termination service,²¹⁶ whereas the definition of TSLRIC in the Act includes a ‘reasonable allocation of forward-looking common costs’. The Commission has been mindful of this difference in the treatment of common costs when considering potential benchmarks for the factual price of the MTAS.²¹⁷
436. Throughout its submission on the 2degrees’ undertaking, Vodafone referred to the need to establish an efficient price for the MTAS that reflects the cost of supplying the service. For example, Vodafone referred to the concepts of incremental cost and common cost.²¹⁸ In paragraph 379 above, Vodafone pointed to the basic regulatory principle and common practice in other regulatory jurisdictions, of using efficiently-incurred costs as a starting point when determining the price for regulated services.

Final Pricing Principle

437. In light of the above, the Commission considers that the appropriate FPP for the MTAS should be based on forward-looking TSLRIC (which is consistent with the FPP for existing designated access services). The proposed FPP is:

Either –

- (a) TSLRIC; or
- (b) if the Commission considers that TSLRIC does not best give effect to the purpose set out in section 18, whichever of the following methods that the Commission considers best gives effect to that purpose:
 - (i) a pure bill and keep method; or
 - (ii) a pure bill and keep method applied to two-way traffic in balance (or to a specified margin of out-of-balance traffic) and TSLRIC applied to out-of-balance traffic (or traffic beyond a specified out-of-balance margin).

438. Under the FPP, the Commission would be required to directly estimate the efficiently-incurred forward-looking costs of supplying the MTAS in New Zealand.

²¹⁵ EC Staff Working Document, 7 May 2009, page 14.

²¹⁶ A number of regulators have questioned whether the EC’s proposed pure LRIC approach is consistent with cost recovery. See for example, ERG, *Response to Public Consultation on Termination Rates*, September 2008, page 4.

²¹⁷ In particular, the Commission has not used the EC estimates as a primary benchmark in this determination, but as discussed elsewhere, the Commission has had regard to these estimates as a cross-check.

²¹⁸ Vodafone submission, paragraph 111, 112.

Initial Pricing Principle

439. Under the corresponding IPP, the Commission considers that the price for the MTAS should be based on benchmarking against cost-based prices for similar services in comparable countries (consistent with existing IPPs). This would take into account, where possible, differences in cost drivers between countries, to ensure that the benchmarked cost-based price is a reasonable proxy for the cost-based price in New Zealand. When considering cost-based benchmarks, the Commission will be informed by the TSLRIC cost standard in the FPP outlined above. The proposed IPP is:

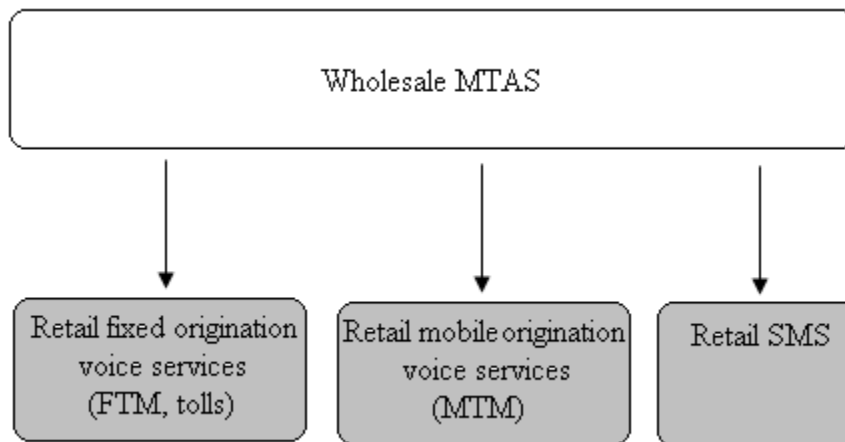
Benchmarking against MTAS prices in comparable countries that result from the application to networks that are similar to the access provider's mobile network of -

- (a) a forward-looking cost-based pricing method; or
- (b) if the Commission considers that a forward-looking cost-based pricing method does not best give effect to the purpose set out in section 18, whichever of the following methods that the Commission considers best gives effect to that purpose:
 - (i) a pure bill and keep method; or
 - (ii) a pure bill and keep method applied to two-way traffic in balance (or to a specified margin of out-of-balance traffic) and a forward-looking cost-based pricing method applied to out-of-balance traffic (or traffic beyond a specified out-of-balance margin).

Assessing the Potential Benefits and Costs of Regulation

440. Having defined the relevant counterfactual scenario based on the undertakings, and the factual scenario based on the above pricing principles, the Commission must then evaluate the potential impact of regulation, based on the differences between these two scenarios. In evaluating the potential impact of the proposed MTAS regulation, the Commission has focused on the extent to which regulation promotes competition in downstream markets for the long-term benefit of end-users.
441. The MTAS is an important input into the delivery of a number of 'downstream' retail services, including retail calls to mobile subscribers (FTM and MTM calls) and text message services (SMS). Figure 9 illustrates the relationship between the wholesale MTAS and the relevant downstream retail services.

Figure 9: Wholesale MTAS and Retail Services



Source: Commerce Commission (2009).

Promotion of competition

442. In looking at the potential benefits from regulation, the Commission has considered the extent to which regulation will promote competition in the relevant downstream retail markets. In respect of FTM calls, this involves considering whether regulation is likely to lead to increased competition between existing and potential suppliers of calls that originate on fixed networks and terminate on mobile networks. For retail MTM calls and SMS, the Commission has considered whether regulation would lead to increased competition, not only between existing retail competitors such as Vodafone and Telecom, but also in terms of lowering barriers to entry and/or expansion facing a new mobile entrant.
443. To the extent that regulation of MTAS does promote competition in the downstream markets, a reduction in MTRs is likely to be passed through into the hands of end-users in some form. This is typically considered in the form of a reduction in the retail price of the relevant service, for example the retail price of an FTM call. However, given that such services are often supplied in conjunction with other services, such as tolls, suppliers may choose to pass at least some of the reduction in MTR through into the retail price of those other services. It is also possible that end-users may benefit from other forms of pass-through, such as improvements in service quality.

Resulting benefits to end-users

444. The Commission has therefore taken into account a range of potential benefits to end-users that result from regulation of the MTAS. In addition, the Commission has taken account of the potential for a number of costs to arise as a result of regulation.
445. Where the Commission has estimated the possible quantitative effects of regulation, the Commission has taken into account the extent to which cost-based regulation of the MTAS will promote competition in the relevant downstream markets in which the MTAS is used to supply services to end-users. In attempting to replicate the outcomes of a competitive market, where the MTAS is supplied at cost-based prices into the downstream markets, the Commission considers that it is appropriate to place significant weight on the resulting gains in consumer surplus. In assessing the long-term benefit of end-users in this draft decision, the Commission has therefore included the price effects from the proposed regulatory change that result directly from the promotion of competition.
446. To the extent that regulation promotes competition for the long-term benefit of end-users, such regulation is likely to also increase efficiencies. The Commission considers that, in order to fully account for efficiencies, it should where possible attempt to quantify those efficiencies directly.
447. Accordingly, in considering the long-term benefit to end-users, the Commission has taken into account both the static price effects and the efficiencies resulting from the proposed regulation of MTAS.
448. The Commission has considered both qualitative and quantitative factors in assessing the potential impact of regulation. This includes the potential for regulation of the wholesale MTAS to lead to greater competition in the relevant downstream markets, and consequently to increased benefits for end-users.

449. In the Issues Paper, the Commission noted that these potential benefits include static allocative effects, in the form of lower retail prices and expanded demand for retail services.²¹⁹ In order to estimate these kinds of effects, several steps are involved:
- a price effect on the wholesale level;
 - a price effect on the retail level (which will reflect the wholesale price effect and the level of pass-through); and
 - a volume effect on both retail and wholesale level.
450. A decline in retail prices could be expected to lead to an expansion in demand for those retail services. The consequent increase in consumer surplus will include an increase in allocative efficiency as the infra-marginal units of additional demand experience a gain in surplus.
451. A significant reduction in mobile termination rates is likely to lead to a significant reduction in retail rates (“pass-through” effect) which again has an impact on call volumes (“volume effect”). Furthermore it could also be expected that any margin retention by operators providing retail mobile calls, as a result of reduced mobile termination rates, could attract new entry through higher margins.
452. In addition to price effects, consumers are likely to benefit from increased competition through increased quality of service and greater choice. Increased competition may lead to gains in productive efficiency, as greater competitive pressures increase the incentive to minimise costs, as well as to gains in dynamic efficiency, due to increased pressure to innovate and invest in order to gain and maintain an advantage over competitors.
453. The Commission has taken the above factors into consideration in its assessment of the potential impact of regulation. This assessment is set out in more detail in the following sections.

Consultation questions:

454. The Commission is seeking the views of interested parties on the appropriate counterfactual scenario against which to assess regulation.
455. The Commission is seeking the views of interested parties on the appropriate factual scenario, including the form of regulation, and the relevant pricing principle and cost standard. The Commission is particularly interested in parties’ comments on the Commission’s preliminary assessment of cost-based pricing compared to BAK as the pricing principle for the regulated service that would best give effect to section 18 of the Act.
456. The Commission is interested in parties’ views on the proposed assessment of the impact of regulation.

²¹⁹ Issues Paper, from paragraph 84.

Determining a Factual Price for the MTAS

Introduction

457. In undertaking a Schedule 3 investigation, the Commission must form a view as to the likely price of the service that would be set under the factual scenario of regulation. In such investigations, the Commission has typically based its view of the likely factual price on benchmarking as a reasonable estimate of the likely costs of the service.
458. In the previous section, the Commission outlined its views on the appropriate form of regulation for the MTAS to be considered as the factual, including the relevant pricing principles. The FPP proposed in paragraph 437 above would involve determining a price based on TSLRIC or a form of bill-and-keep if that was considered to better meet the purpose set out in section 18. The IPP proposed in paragraph 438 above would involve benchmarking against prices for similar services in comparable countries that use a forward-looking pricing method or a form of bill-and-keep if that was considered to better meet the section 18 purpose.
459. As discussed in paragraphs 423 to 427, the Commission's preliminary view is that cost-based pricing is likely to be more appropriate than bill-and-keep at the current time. In any event, the determination of a factual price for the MTAS under a BAK pricing principle would be straightforward, as no price would be charged for termination. Accordingly, the remainder of this section focuses on cost-based prices.
460. The purpose of benchmarking is to establish a reasonable approximation to the cost of supplying the regulated service in New Zealand, without having to resort to the development of a cost model. Instead, the benchmarking exercise establishes a price by identifying cost-based prices for similar services in other jurisdictions, taking into account any identifiable differences in conditions that are likely to influence the cost of the service.
461. The key components of the benchmarking required under the proposed IPP are:
- similar services;
 - comparable countries; and
 - forward-looking cost-based prices.

Similar services

462. Benchmarking needs to have regard to whether the overseas services whose prices are being compared, are similar to the service for which regulation is being considered.
463. In the current case, the MTAS is a relatively standardised service across different jurisdictions. For example, the ACCC has defined the MTAS as follows:²²⁰

²²⁰ ACCC, *Mobile Services Review: Mobile Terminating Access Service*, June 2004, Appendix A - Service description.

The Domestic Digital Mobile Terminating Access Service is an Access service for the carriage of voice calls from a point of interconnection, or potential point of interconnection, to a B-Party directly connected to the access provider's digital mobile network.

Comparable countries

464. Comparability is important where conditions or factors that are likely to influence the cost of supplying the service vary across jurisdictions. To the extent that such 'cost drivers' can be identified, a benchmarking exercise should consider adjusting for such cost differentials, in order to ensure that the resulting benchmarked prices reflect the conditions in which the service is supplied in New Zealand.
465. A key step in considering comparability is to identify the likely cost drivers for the service.
466. In order to assist in this, the Commission engaged WIK Consult to provide advice on the sensitivity of cost-modelled MTRs to changes in cost drivers. This enabled the key cost drivers of the MTAS to be identified, and has informed the Commission as to what adjustments could potentially be made to the cost-based benchmarks. According to the sensitivities conducted by WIK Consult, the most important cost drivers include the following:
- equipment and facilities prices;
 - volumes of voice calls and SMS;
 - quality of service;
 - spectrum band; and
 - cost of capital.
467. The WIK Consult report is discussed throughout this section of the draft Report.
468. The Commission notes that Covec has undertaken some analysis on behalf of Vodafone around potential comparability of MTAS prices.²²¹ In its submission, which is further discussed below, Covec examined a range of factors that it considered to be likely drivers of the cost of the MTAS, such as population, land area, population density, demand for services (as proxied by GDP per capita), and population per cellsite. Covec compared New Zealand with various other countries, based on these criteria.²²² In addition, Covec presented the results of some econometric benchmarking, in which statistical relationships between various potential cost drivers and MTRs are investigated, which it considers can be used to estimate the New Zealand price of the MTAS.
469. The Commission considers that comparability is an important element in any robust benchmarking exercise and econometric analysis can be an appropriate component on benchmarking. However, the Commission has a number of concerns with the Covec analysis of comparability, which are discussed further below.

²²¹ Covec, *Benchmarking Mobile Termination Rates*, 6 May 2009.

²²² *ibid*, see for example Table 5.

Forward-looking cost-based prices

470. The third key element of the benchmarking to be undertaken for the current investigation is to ensure that the prices in the benchmarked jurisdictions have been determined according to a forward-looking cost-based pricing methodology. If the benchmarked prices are inflated above the cost of supplying the MTAS in other jurisdictions, the results are unlikely to be informative as to the likely costs of supplying the MTAS in New Zealand.
471. In considering forward-looking cost-based MTRs in other jurisdictions, the Commission has identified those countries where updated and recent information on MTAS costs is publicly available. This has typically been in the form of LRIC-based MTRs, as such rates are considered to be consistent with the pricing principle being considered for the MTAS in New Zealand.
472. In a number of jurisdictions, cost-based MTRs have been estimated by the regulator over a period of time to reflect expected changes in costs over time, for example, as traffic volumes change (“cost-paths”).
473. The Commission has also had regard to developments in the European jurisdictions in particular, where there has been increasing regulatory attention turned to the level of MTRs. The EC has recently expressed concerns over the lack of harmonisation in the application of cost-accounting principles to termination services.²²³ The EC stated that the implementation of bottom-up cost models based on current costs and efficient technological choices is consistent with the concept of an efficient network, and that the costs of termination services should be based on forward-looking LRIC.²²⁴ According to the EC Recommendations.²²⁵
- “(2) It is recommended that the evaluation of efficient costs is based on current cost and the use of a bottom-up modelling approach using long-run incremental costs (LRIC) as the relevant cost methodology.”
474. The Commission notes that the EC has indicated that significant reductions in prevailing MTRs in European jurisdictions are likely to be warranted. In the EC Staff Working Document that accompanies the above EC Recommendation, the EC expects its Recommendation to result in a 70% reduction in MTRs by 2012.²²⁶ According to the EC, this would result in MTRs of around 2.5 euro cpm by 2012, compared to an average MTR of 9.67 euro cpm in 2007.²²⁷
475. In the Commission’s preliminary view, this raises significant questions as to whether the MTRs that currently prevail in the European jurisdictions are consistent with, or result in higher prices than would occur under, the pricing principles that the Commission is considering in benchmarking the MTAS in this investigation.

²²³ EC, *Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU*, 7 May 2009, paragraph (4).

²²⁴ *ibid*, paragraphs (9) to (13).

²²⁵ *ibid*, Recommendation (2), page 7. According to Recommendation (3), national regulators ‘may compare the results of the bottom-up modelling approach with those of a top-down model which uses audited data with a view to verifying and improving the robustness of the results and may make adjustments accordingly.’

²²⁶ EC Staff Working Document, 7 May 2009, page 18.

²²⁷ *ibid*, pages 18 and 19.

Commission's initial benchmarking

476. In commenting on the initial undertakings, the Commission informed parties of its preliminary view that the MTRs that had been proposed by Vodafone and Telecom were significantly above forward-looking cost-based rates from other countries. The Commission stated that:²²⁸

... the current cost-based MTR could be as low as NZ\$0.07 /min for FTM and MTM, and NZ\$0.01/SMS..

The Commission also expects that there will be downward pressure on cost-based prices over time, as volumes of MTAS increase and cost-drivers for MTAS decrease, and that the prices offered in the undertakings should reflect this.

Table 24: Commission's preliminary benchmarks

	MTR Home Currency (year of modelled rate)	Blended FX rate	MTR NZ cpm²²⁹
Australia	AU\$ 0.058 (2008)	0.8883	6.53
Denmark	kr 0.54 (2009)	4.5984	11.74
France	€ 0.029 (2008)	0.5516	5.26
Israel	NIS 0.161 (2008)	2.4190	6.66
Malaysia	MYR 0.0873 (2008)	1.6695	5.23
Netherlands	€ 0.056 (2008)	0.5387	10.40
Norway	NOK 0.48 (2008)	5.0299	9.54
Sweden	kr 0.3675 (2008)	5.2937	6.94
UK	£ 0.0492 (2009)	0.3811	12.90
		Median	6.940

Source: Commerce Commission (2009).

477. These benchmarks were based on long-run incremental cost models of the MTAS in the above jurisdictions, including an allowance for common costs. For example, in its report to the ACCC on mobile termination cost modelling, WIK-Consult allowed for common costs using an equiproportional mark-up on incremental cost, noting that Ofcom's costing exercise in the UK followed a similar approach.²³⁰ In the case of the Analysys models used in Denmark,²³¹ Sweden,²³² Netherlands,²³³ and Israel,²³⁴ common costs were also included by way of a mark-up on incremental costs.

478. The Commission notes that its cost-based rate of 7cpm was based on the median of the benchmarks in Table 24 above. The Commission's selection of the median result was

²²⁸ Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009, page 2.

²²⁹ Note: When converted into NZD the MTRs have been adjusted to be presented in cents per minute. This has been applied to all tables where benchmarking has been conducted.

²³⁰ WIK-Consult, *Mobile Termination Cost Model for Australia*, January 2007, for example pages 17-18.

²³¹ Analysys, *NITA's mobile LRAIC model – Final v4 cost model*, 9 June 2008, pages 72-74.

²³² Analysys, *Documentation for the upgraded hybrid mobile LRIC model*, 2 June 2008, page 66.

²³³ Analysys, *Mobile BULRIC model documentation*, 31 August 2006, page 41.

²³⁴ Analysys, *Report for the Israel Ministry of Communications – Response to issues raised concerning the Analysys cost model*, 15 December 2004, pages 81-84.

based upon its practice in the UCLL²³⁵ and Sub-loop (in the case of the Sub-loop MPF Service)²³⁶ STDs, and the two-way nature of interconnection access services.

Submissions on the Commission's initial benchmarking

479. Telecom and Vodafone and 2degrees provided submissions, following the Commission's comments letter, in which they commented on the Commission's initial benchmarking. These submissions are summarised in detail in Appendix 4. These submissions covered issues relating to whether benchmarking should be against cost modelled rates or regulated rates including:

- the supposed unrealistic efficiency associated with TSLRIC models;
- the asymmetric risk of regulatory error; and
- regulators decisions to set MTRs above the cost modelled rates.

Commission's preliminary views on benchmarking issues

480. The Commission has considered the benchmarking submissions received in conjunction with the revised undertakings.

481. In developing a preliminary view on benchmarking for the purposes of this draft decision, the Commission has addressed each of the key elements of benchmarking under the IPP below.

Forward-looking cost-based rates

482. The Commission's preliminary view is that it is appropriate to benchmark against cost modelled rather than regulated rates, as allowing for the adjustments that occur in regulated rates would not fully identify the benefits that would flow from an immediate movement to cost-based rates and would create or preserve distortions in the market.

483. The Commission refers to the analysis regarding its preliminary view on cost-based or BAK pricing principles and reiterates its opinion that the efficient MTR is cost-based.²³⁷

The benchmarks proposed by Vodafone and Telecom are not forward-looking cost-based rates

484. The benchmarks proposed by Vodafone and Telecom are based on the ERG survey of prevailing MTRs in Europe, along with MTRs from a number of non-European jurisdictions. In relation to the ERG rates, the Commission notes that these rates have been declining significantly in recent years, as illustrated in Figure 10 below. This was noted by the Commission in commenting on the initial undertakings, in which the Commission

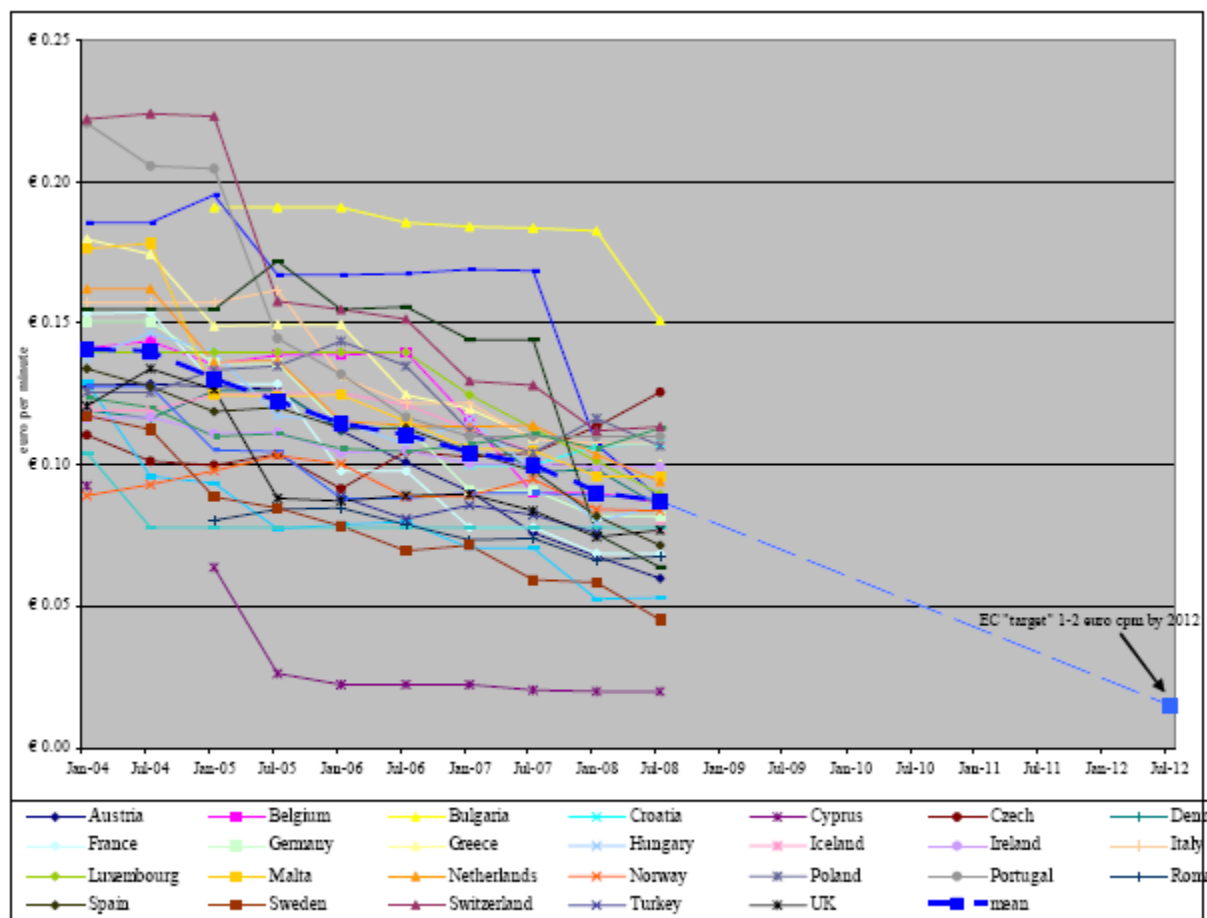
²³⁵ Commerce Commission, *Standard Terms Determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, p.6.

²³⁶ Commerce Commission, *Draft Standard Terms Determination for the designated services of Telecom's unbundled copper local loop network service (Sub-loop UCLL), Telecom's unbundled copper local loop network co-location service (Sub-loop Co-location), and Telecom's unbundled copper local loop network backhaul service (Sub-loop backhaul)*, 5 September 2008. p.47, para 124.

²³⁷ For further discussion refer to paragraphs 373 – 427 of this document.

provided the following diagram depicting the recent reductions in MTRs, along with the EC target for 2012.²³⁸

Figure 10: Summary of MTRs in Europe



Source: ERG MTR Snapshots (2004-2008).

485. The ERG has recently released the results of its latest MTR survey, showing MTRs as of January 2009. This shows that the average MTR has fallen from 8.7 eurocpm in July 2008, to 7.83 eurocpm in January 2009, a reduction of 10% over the six months. For individual countries, reductions of up to 48% (in the case of Poland) were reported.
486. The Commission considers that the above reductions, and the EC target for 2012, support the view that prevailing MTRs as surveyed by the ERG are likely to be significantly in excess of the forward-looking cost of providing MTAS.

Variation between cost-modelled rates and regulated rates

487. The Commission notes that while regulators generally explain their reasoning for regulating MTRs above the cost modelled rate, there remains considerable variation in the

²³⁸ Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009, page 14.

margin by which prevailing regulated MTRs depart from cost. The EC has raised this issue, for example noting that:²³⁹

Although some form of cost orientation is generally provided for in most Member States, a divergence between price control measures prevails across the Member States. In addition to a significant variety in the chosen costing tools, there are also different practices in implementing those tools. This widens the spread between wholesale termination rates applied across the European Union, which can only be partly explained by national specificities.

488. To illustrate this issue further, Table 25 and Table 26 illustrate the margin by which the prevailing MTRs referred to in the Covec and NERA submissions exceed the cost modelled rate for all countries used in the Commission's benchmarking.²⁴⁰

Table 25: Margin between Commission's benchmarks and Covec's benchmarks (NZ cpm)

	Commission benchmark	Covec Benchmark (May 2009) updated FX rate	Margin
Malaysia	05.24	5.24	0%
UK	12.52	13.35	7%
Denmark	11.77	12.86	9%
Sweden	6.96	8.14	17%
Norway	9.53	11.91	25%
Israel	7.16	9.10	27%
Australia	6.54	10.14	55%
Netherlands	10.44	18.09	73%
France	4.83	13.05	170%

Source: Commerce Commission (2009) and Covec (2009).²⁴¹

Table 26: Margin between Commission's benchmarks and NERA's benchmarks

	Commission benchmark	NERA Benchmark (Lower Bound) updated FX rate	Margin (Lower Bound)
UK	12.52	12.35	-1%
Norway	9.53	9.53	0%
Denmark	11.77	11.77	0%
Malaysia	5.24	5.26	0%
France	4.83	5.46	13%
Sweden	6.96	8.14	17%
Israel	7.16	8.65	21%
Netherlands	10.44	13.05	25%
Australia	6.54	10.14	55%
	Commission benchmark	NERA Benchmark (Upper Bound) updated FX rate	Margin (Upper Bound)
Malaysia	5.24	5.26	0%
UK	12.52	12.69	1%

²³⁹ EC, *Draft Commission Recommendation of [...] on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU*, paragraph (2).

²⁴⁰ Except in the case of the UK's lower bound.

²⁴¹ Covec, *Benchmarking Mobile Termination Rates*, 6 May 2009. p.25, Table 7.

Sweden	6.96	8.14	17%
Israel	7.16	8.65	21%
Denmark	11.77	16.13	37%
Netherlands	10.44	15.10	45%
Norway	9.53	14.09	48%
France	4.83	7.29	51%
Australia	6.54	10.14	55%

Source: Commerce Commission (2009) and NERA (2009).²⁴²

489. The NERA benchmarking highlights that the margin between cost modelled rates and prevailing MTRs can differ widely depending on the approach taken to benchmarking. NERA's benchmarking for Denmark and France clearly demonstrate this with the difference between their upper and lower bounds being more than 35%. Malaysia, on the other hand, regulates at the cost modelled rate with symmetry across all operators.
490. The Commission's benchmarks reflect the midpoint of cost modelled rates where operator specific costs have been calculated.²⁴³ The Commission's preliminary view is that the differences observed in the NERA benchmarks, are in part explained by operator specific factors which is more appropriate to consider as an implementation issue.
491. The Commission's preliminary view is that in light of the wide range of margins, it is difficult to conclude that there is a consistent approach applied when regulated MTRs deviate from the cost modelled rate, rendering reconciliation difficult. This reinforces the Commission's position that the most robust and transparent benchmarks are cost modelled rates.

Adjustments to initial benchmarks based on forward-looking cost-based rates

492. The Commission has made a number of minor changes to its initial benchmarks, to correct a minor error in exchange rate calculations, to reflect updated information and in response to submissions, as outlined below.
493. The Commission noticed a minor error in calculating PPP rates²⁴⁴ where the properties of the PPP rates were misinterpreted as being quoted in USD terms and as such had been 'converted' into NZD using the USD/NZD exchange rate.
494. The PPP rates used by the Commission were sourced²⁴⁵ with the United States of America as the base at a value of 1. To ensure comparability of benchmarks in a New Zealand context, the PPP rates have now been rebased with New Zealand as the base of 1.

²⁴² NERA, *MTAS Benchmarking Response to Commission Comments on Undertakings*, 6 May 2009, p.9, Table 3.

²⁴³ This occurs for France, Sweden and the UK.

²⁴⁴ A PPP rate is the rate at which the currency of one country would have to be converted into that of another country to buy the same amount of goods and services in each country. This relationship is more than a simple foreign exchange relationship.

²⁴⁵ IMF PPP (2007) rate, sourced from <http://www.imf.org/external/pubs/ft/weo/2008/02/weodata/weoselco.aspx?g=2001&sg=All+countries>, using the variable "Implied PPP conversion rate".

495. The Commission has updated the 10 year range used for the calculation of the average exchange rate from the initial period as set out in the comments letter²⁴⁶ 15/01/1999 – 14/01/2009 to the period 12/05/1999 – 11/05/2009.
496. The two adjustments above have had a marginal combined effect on the conversion rates, resulting in an overall change in the Commission's benchmarking of approximately 1%. The remainder of the difference between the benchmark published in the comments letter²⁴⁷ and the benchmark published here is due to the updated, or adjusted, rates for the UK, France and Israel.
497. The benchmark for the UK has been updated in light of more recent information following Ofcom.²⁴⁸ At the time of the Commission's first benchmarking exercise the British Competition Appeal Tribunal were considering appeals from Hutchison 3G ('H3G') and British Telecom against Ofcom's determination in the wholesale mobile voice call termination statement that they had significant market power (H3G only) and against the price controls. On 2 April 2009 Ofcom released its revised service conditions following the directions of the British Competition Appeal Tribunal. These updated termination rates have been used as the basis for calculating the UK rate.
498. Ofcom's revised service conditions provide for asymmetric termination rates. H3G has been afforded a termination rate significantly higher than the rest of the operators because of its recent entrance to the market. The incumbent operators have MTRs of either 4.71 or 4.84 pence per minute. The Commission has used the average rate of the incumbents in the benchmarking to ensure benchmarked rate represents the costs of termination for an established operator.
499. Vodafone submitted that the Commission chose to benchmark against the highest cost estimate in the case of Australia and France and the lowest cost estimate in the case of Sweden.
500. In Australia costs were modelled for a hypothetical operator with 25% and a hypothetical operator with 31% market share. The Commission has used the MTR estimated for the operator with 31% market share in the benchmarking because a market share of 31% is most comparable to the New Zealand environment. No change has been made to the Australian benchmark in response to this submission.
501. In France a cost of between 2.4€/min and 2.9€/min was estimated for voice termination for an efficient operator. In the Commission's initial benchmarking the rate of 2.9€/min was used, this has been adjusted such that the average of the two bounds has been used. The Commission believes the midpoint of the two bounds presents a balanced representation. This is consistent with the treatment of the Swedish rate.
502. NERA submitted that the Commission subtracted the Israeli externality surcharge from a cost modelled MTR that was already net of the externality surcharge. The Commission accepts this and has adjusted the Israeli MTR accordingly.

²⁴⁶ Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009, page 7.

²⁴⁷ Ibid.

²⁴⁸ Ofcom, *Adoption of Revised SMP Services Conditions following the Competition Appeal Tribunal's Directions of 2 April*, 2 April 2009.

503. Covec submitted that upon further consultation the Israeli regulator re-estimated the cost of termination, after inflation adjustment, as NIS 0.207. However, the information that Covec refer to was published on 18/11/2004, prior to the source used by the Commission for benchmarking, which was published on 15/12/2004. No change has been made to the Israeli rate in relation to this point.
504. Covec also submitted that Israel should be excluded from the benchmarking for the same reasons as South Korea, namely that its cost-modelled rates are out of date. The Commission notes that South Korea was excluded from the Commission's benchmarks on the basis that the previous data was based on termination rates estimated for 2004 and the Commission was unable to procure updated information or confirm rates with the South Korean regulator. By contrast, while the Israeli rate was calculated in 2004, the same year as the Korean rate, the Israeli model estimated termination costs for the period 2005 - 2009 and these have been confirmed by the Israeli regulator. The Commission has retained the Israeli rates in its benchmarks.

Commission's preliminary view on forward-looking cost-based rates

505. As stated in paragraphs 482 and 483, the Commission is of the preliminary view that benchmarking against cost modelled rates is likely to better reflect the forward-looking costs of supplying the MTAS in other jurisdictions.

Voice Benchmarks

506. The Commission's revised benchmarking against cost-modelled rates, reflecting the adjustments noted in paragraphs 492 to 504, is displayed in Table 27 below. The median initial cost-based MTR in the Commission's revised benchmarking is 7.2 cpm. This is based on benchmarks that have been determined in other jurisdictions for 2009.

Table 27: Commission's revised voice benchmarks

	MTR Home Currency	Blended FX rate	MTR (NZcpm)	MTR effective
Australia	\$0.058	0.8872	6.54	2009
Denmark	kr 0.54	4.5881	11.77	2009
France	€0.0265	0.5490	4.83	2008
Israel	0.173	2.4171	7.16	2009
Malaysia	MYR 0.0873	1.6669	5.23	2008
Netherlands	€0.056	0.5364	10.44	2008
Norway	NOK 0.48	5.0379	9.53	2008
Sweden	kr 0.3675	5.2834	6.96	2008
UK	£0.0478	0.3813	12.52	2009
		Median	7.16	

Source: Commerce Commission (2009).

Movements in cost-based MTRs over time

507. The Commission considers that it is appropriate to take into account cost-paths, where these are reflected in the available benchmark information. In the comments letter, the Commission noted:²⁴⁹

The Commission also expects that there will be downward pressure on cost-based prices over time, as volumes of MTAS increase and cost-drivers for MTAS decrease, and that the prices offered in the undertakings should reflect this. In this regard, the Commission considers that forward-looking changes in modelled cost-based rates, such as the example of Sweden noted in Appendix One, illustrate the magnitudes of cost changes that may be expected in the future.

508. The Commission has identified cost-paths in relation to the available benchmark information for Sweden and Denmark.

509. In Sweden, the regulator has estimated the cost of the MTAS going forward over a number of years. This is shown in Table 28.

510. The cost-based MTRs have been released for each year out to 2012/13. These indicate that the cost-based MTRs are expected to decline by approximately 10% per annum over the next few years, due to expected increases in demand over the period.

511. For example, the cost-based MTRs in Sweden are summarised in Table 28.²⁵⁰

Table 28: Mobile Termination Rates – Sweden (SEK)

	2008/09	2009/10	2010/11	2011/12	2012/13
High	0.428	0.375	0.358	0.341	0.325
Low	0.307	0.244	0.196	0.167	0.149

Source: Swedish Post and Telecom Agency (PTS) (2008)²⁵¹

512. The LRIC model for Sweden has been used to determine the costs for each of the four mobile network operators in Sweden. As noted by Analysys who developed and updated the Sweden model, the market shares of the four operators are projected to slowly converge to 25% in the long-term, with equality being achieved around 2026.²⁵² For 2008, the smallest operator in Sweden has a market share of just over 5%, while the 2008 market share of the largest mobile operator in Sweden was just under 45%.²⁵³

²⁴⁹ Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009, page 3.

²⁵⁰ <http://www.pts.se/upload/Ovrigt/Tele/Bransch/Kalkylarbete%20mobilnät/prisrekommendation-fran-1-juli-2008.pdf>. The Commission notes that according to the Swedish regulator, the cost estimates are to be updated regularly. For 2009/10, Analysys-Mason has published an overview of the updated LRIC model and results at <http://www.pts.se/upload/Ovrigt/Tele/Prisreglering/presentation-mobil-lric-090206.pdf>. These results, which appear to be preliminary and subject to consultation, indicate potentially greater reductions (of 40%-50% over 4 years) than were previously estimated, due to greater data traffic volumes (for example, see slides 27-29).

²⁵¹ PTS, *Uppdatering av prisrekommendation för terminering av röstsamtal i mobilnät*, 11 June 2008.

²⁵² Analysys, *Model documentation for the National Post and Telecom Agency (PTS): Documentation for the upgraded hybrid mobile LRIC model*, 2 June 2008, page 40.

²⁵³ These market shares are broadly consistent with the 2007 market shares for the smallest and largest operators in Sweden that are reported in Table 28 above (3.1% and 52% respectively).

513. The Commission notes that the Swedish regulator recommended a MTR for 2008 of 0.43SEK, which corresponds to the upper bound of the range for 2008/09. The upper bound is the LRIC-based estimate for the highest cost mobile operator in Sweden, while the lower bound refers to the estimate for the lowest cost operator.
514. In the case of Sweden, the Commission has used the average of the upper and lower bounds,²⁵⁴ as this is likely to better reflect the costs of an efficient operator in New Zealand (on the basis of three operators each having a market share of 33%). The resulting midpoints are summarised in Table 29 below.

Table 29: Mobile Termination Rates – Sweden (SEK)

	2008/09	2009/10	2010/11	2011/12	2012/13
High	0.428	0.375	0.358	0.341	0.325
Low	0.307	0.244	0.196	0.167	0.149
Midpoint	0.3675	0.3095	0.2770	0.2540	0.2370
change		-16%	-11%	-8%	-7%

Source: Commerce Commission (2009) and PTS (2008)²⁵⁵.

515. In the case of Denmark, the cost-based MTR declined from 0.62DKK in 2008, to 0.54DKK in 2009. This is a reduction of 13%.

Commission's preliminary view on movements in cost-based MTRs over time

516. The Commission's preliminary view is that reductions of 10% per annum should be applied to its cost-based benchmark of 7.2cpm for 2009, based on the forward-looking cost-path in the Swedish benchmark.
517. Table 30 summarises the Commission's preliminary view on likely movements in cost-based MTRs over time, applying the Commission's current benchmark of 7.2cpm for 2009 and reductions of 10% per annum.

Table 30: Factual Voice MTRs (NZ cpm)

	2009	2010	2011	2012	2013	2014	2015
Factual MTR for Voice	7.2	6.5	5.8	5.2	4.7	4.3	3.8

Source: Commerce Commission (2009).

SMS Benchmarks

518. The Commission has identified two cost modelled SMS termination rates that it considers are appropriate benchmarks. As noted in relation to the voice benchmarks, the Commission considers that Israel and Malaysia are comparable countries for the purposes of MTAS benchmarking. The Commission recognises that the small sample size restricts the

²⁵⁴ As noted in the Commission *Comments on undertakings received in relation to the MTAS investigation*, 25 March 2009, page 11.

²⁵⁵ PTS, *Uppdatering av prisrekommendation för terminering av röstsamtal i mobilnät*, 11 June 2008.

robustness of any analysis conducted on these benchmarks. The two benchmarks identified are displayed in Table 31 below.

Table 31: SMS benchmarks

	SMS rate (home currency)	FX Rate	SMS (NZcpSMS)
Israel	0.023 ²⁵⁶	2.4171	0.95
Malaysia	0.0027 ²⁵⁷	1.6669	0.16

Source: Commerce Commission (2009), Israel Ministry of Communications (2004), Malaysian Communications Commission and Multimedia Commission (MCMC) (2005).

Capacity based conversion rates

519. The Commission notes that the WIK Consult report²⁵⁸ refers to a standard conversion rule that one minute of voice calling is sufficient to carry 432 SMS messages. This conversion ratio appears to be a pure capacity based measure. WIK Consult go on to estimate the cost of SMS termination as being between 0.025€/SMS and 0.063€/SMS for large sparsely populated and small densely populated countries respectively.²⁵⁹
520. In their report of 9 June²⁶⁰ WIK Consult highlight that these estimated figures were derived from models they have built for foreign regulators, those models had been homogenised to some extent to increase comparability and as such the estimated rates should be used as indicative rates rather than actual costs.
521. WIK Consult also state²⁶¹ that the largest share of the MTR for an SMS is its share of the cost of the SMS centres, meaning that the capacity based conversion factor of 432 SMS per voice minute may be too efficient.
522. The Commission also notes that conversion factors are included in the model documentation for the mobile termination models Analysys built for Sweden²⁶² and Israel.²⁶³ Table 32 displays the Analysys conversion rates.

²⁵⁶ Analysys, *Response to Issues Raised Concerning the Analysys Cost Model, Report for the Israel Ministry of Communications*, 15 December 2004, p.V, exhibit 0.4. The Israeli SMS benchmark has been adjusted for inflation in the same manner as the voice rate.

²⁵⁷ Malaysian Communications Commission and Multimedia Commission (MCMC), *Access Pricing, A report on a Public Inquiry*, 30 November 2005, p.92, Table 6.3.

²⁵⁸ WIK Consult, *Cost Driver Sensitivity Analyses with Mobile Cost Models*, 22 December 2008, p 8.

²⁵⁹ Ibid, p.8.

²⁶⁰ WIK Consult, *Review of Submissions by Operators and Consultants relating to the NZ Commerce Commission's MTAS Investigation*, 9 June 2009, p.7.

²⁶¹ WIK Consult, *Cost Driver Sensitivity Analyses with Mobile Cost Models*, 22 December 2008, p 8.

²⁶² Analysys, *Model documentation for the PTS – Documentation for the hybrid mobile LRIC model*, 29 March 2004.

²⁶³ Analysys, *Report for the Israel Ministry of Communications – Response to issues raised concerning the Analysys cost model*, 15 December 2004.

Table 32: Capacity based voice to SMS conversion rates

	GSM	CDMA	UMTS
Israel ²⁶⁴	2702 (0.00037)	1786 (0.00056)	N/A
Sweden ²⁶⁵	102 (0.0098)	N/A	3030 (0.00033)

Presented in SMS per voice minute (equivalent voice minutes per SMS)

Source: Israel Ministry of Communications (2004), PTS (2008)

523. The Commission has calculated implied conversion ratios for the Israeli and Malaysian SMS benchmarks. These have been calculated by dividing the benchmarked voice rate by the benchmarked SMS rate. These rates, in Table 33 are considerably below the stated capacity conversion ratios stated.

Table 33: Implied conversion rates

	Voice Benchmark (NZD)	SMS Benchmark (NZD)	Implied SMS per voice minute
Israel	0.0716	0.0095	7.522
Malaysia	0.0523	0.0016	32.315

Source: Commerce Commission (2009), Israel Ministry of Communications (2004), MCMC (2005).

524. The Commission has also calculated the implied conversion ratios from the WIK Consult sensitivity report, which are presented in Table 34.

Table 34: Implied WIK conversion rates

	Voice (Euro cpm)	SMS (Euro cpm)	Implied conversion rate
WIK Consult SD	3.51	0.063	55.714
WIK Consult LS	4.18	0.025	167.200

Source: WIK Consult (2008).

Commission's preliminary views regarding SMS benchmarks

525. The Commission notes the degree of variation in the benchmarked rates and the small sample size generates a large degree of uncertainty around the benchmarking exercise. Due to these two factors the Commission is of the opinion that caution is necessary in establishing a benchmark and it is appropriate to benchmark SMS termination rates using the upper bound observation of the data set. This gives an initial benchmark of 0.95cents per SMS.
526. The Commission also notes that there is wide variation between the conversion factors WIK Consult and the various Analysys models report and the implied conversion rates calculated in Table 33 and Table 34. The Commission's preliminary view is that limited weight should be placed on these cross-checks, however, it is reasonable to conclude that the SMS MTR should be orders of magnitude lower than the voice MTR.
527. Applying the same cost-path as the Commission has used for voice MTRs gives the preliminary SMS cost-path for SMS MTRs presented in Table 35.

²⁶⁴ Ibid.

²⁶⁵ Analysys, *Documentation for the upgraded hybrid model*, 2 June 2008, p.62, table 4.8.

Table 35: Factual SMS MTRs (NZ cents per SMS)

	2009	2010	2011	2012	2013	2014	2015
Factual MTR for SMS	0.95	0.86	0.77	0.69	0.62	0.56	0.50

Source: Commerce Commission (2009).

Cross-checks on the Commission's benchmarking re voice and SMS

528. The Commission has considered a number of 'cross-checks' on its cost-based benchmarks. The first cross-check relates to the EC's recommendation for a pure LRIC-based MTR target by 2012. The second cross-check is based on the retail on-net prices in New Zealand, which would be expected to recover costs associated with both origination and termination of mobile-originated voice and SMS communications.

EU recommendation for 2012

529. The Commission's benchmark, applying a forward-looking cost-path, of 5.2 cpm in 2012 is comparable to the EC's recommendation that average MTRs in Europe should be reduced to 2.5 euro cpm by 2012.²⁶⁶ The EC rate, which the EC has indicated would reflect the LRIC of the MTAS, is equivalent to around 4.5 cpm. The EC target does not appear to include a contribution to common costs, and so a higher rate would be appropriate where such a contribution is allowed (as per the definition of TSLRIC in the Act).²⁶⁷

530. The Commission has previously used a common cost mark-up of 10% in a number of STDs. A 10% mark-up to allow for a contribution to common costs, applied to the EC's pure LRIC target for 2012 of 4.5 cpm, results in a cost-based MTR for 2012 (including common costs) of 4.95 cpm. This is close to the Commission's 2012 benchmark of 5.2cpm shown in Table 30. As a result, the EC cost-based target for 2012 supports the Commission's benchmarking, and indicates that benchmarking against prevailing European MTRs (as suggested in submissions from Vodafone and Telecom) will result in an MTR that is substantially above cost.

Retail on-net prices in New Zealand

531. The Commission has examined retail on-net prices in New Zealand. The retail on-net price is expected to cover the origination and termination of the call or SMS, as well as retail-related costs such as marketing and retail billing.

532. The Commission has looked at a number of current retail offerings in order to estimate implied retail prices for voice and SMS. In addition, the Commission has examined retail on-net revenues and volumes that have been supplied by Vodafone and Telecom.

533. Table 36 below displays a number of current SMS plans offered by Telecom and Vodafone, and estimates the implied price per SMS if all allocated text messages are consumed.

²⁶⁶ EC Staff Working Document, 7 May 2009, page 19.

²⁶⁷ As noted earlier, the benchmarks used by the Commission do include an allowance for common costs.

Table 36: Effective retail SMS prices

SMS plan	Description	Price per month (excl GST)	Implied on-net retail price per SMS (excl GST) ²⁶⁸	Implied on-net termination cost (excl GST)
Vodafone – TXT2000	2000 on-net SMS	\$8.89	0.44cptxt	0.1804cptxt
Telecom – XT – TXT150	150 any network SMS	\$5.33	3.6cptxt	1.476cptxt
Telecom – XT – TXT600	600 any network SMS	\$10.67	1.8cptxt	0.738cptxt
Telecom – XT – TXT1500	1500 any network SMS	\$16.00	1.1cptxt	0.451cptxt
Telecom – CDMA - \$10TXT	500 any network SMS	\$8.89	1.8cptxt	0.738cptxt
Telecom – CDMA - BoostTXT	2000 on-net SMS	\$8.89	0.44cptxt	0.1804cptxt

Source: Commerce Commission (2009).²⁶⁹

534. This indicates that some current retail SMS plans, such as Vodafone’s TXT2000 and Telecom’s BoostTXT (available on Telecom’s CDMA network), offer on-net SMS prices as low as 0.44cptxt (excluding GST).²⁷⁰ This is contrasted by a standard off-net SMS rate of 17.8cptxt (excluding GST) on these plans.
535. Of the pre-paid SMS plans listed in Table 36, Telecom XT’s ‘TXT150’ has the highest implied retail price per SMS, at a rate of 3.6cptxt (on-net and off-net). Allowing for retail-related costs equal to 18% of the retail price, and splitting the origination and termination legs of the SMS evenly, indicates an implicit termination ‘price’ of approximately 1.5cptxt under this plan.
536. Applying the same methodology to Vodafone’s TXT 2000 and Telecom’s BoostTXT plans indicates an implicit termination price of approximately 0.18cptxt. This compares to the Commission’s current benchmarked SMS termination rate of 0.95cptxt.
537. In terms of post-paid calling plans, the Commission notes that Vodafone’s on account ‘Mega 20’, for example, includes the following for \$35.51 per month (excluding GST):
- 20 anytime minutes (calls to any NZ landline or mobile number from within New Zealand);
 - One BestMate (unlimited calling, texting and video calling to a nominated Vodafone number);
 - TXT2000 (up to 2000 SMSs to Vodafone mobiles); and

²⁶⁸ Excluding BoostTXT and Vodafone TXT2000 these prices apply to both on-net and off-net SMS.

²⁶⁹ Data sourced from Telecom New Zealand and Vodafone New Zealand websites.

²⁷⁰ This assumes that the maximum allocation of text messages is used for each plan.

- Anytime 200 (200 minutes of anytime calls to Vodafone mobiles).

538. Due to difficulties associated with bundling of the various services offered as part of plans such as this, it is difficult to isolate estimates for voice and SMS rates. However, as an upper bound for voice, if it is assumed that all \$35.51 is allocated to the ‘anytime’ calling components of the bundle, and that all 220 minutes are used on-net, the resulting implied on-net price per minute would be approximately 16.1cpm (i.e., \$35.51/220). Allowing for retail-related costs equal to 18% and splitting the origination and termination legs of the call equally²⁷¹ leads to an implied termination ‘price’ of approximately 6.6cpm.
539. This compares with the Commission’s benchmarked voice termination rate of 7.2cpm.
540. However, as noted above, Vodafone Mega 20 also includes TXT2000 and one BestMate within the monthly price of \$35.51, indicating the actual implied termination price is likely to be *significantly* lower than 6.6cpm.²⁷²
541. Telecom XT’s standard plans offer the same rate regardless of whether calls are made on-net or off-net. As an example, the Commission notes that Telecom XT’s ‘One Rate 400’ includes 400 minutes (on-net and off-net) for \$133.29 per month (excluding GST), indicating an implied retail price of approximately 33.3cpm. Allowing for retail-related costs equal to 18%, and splitting the origination and termination legs of the call equally leads to an implied termination price of approximately 13.7cpm.
542. The Commission has also examined information supplied by Vodafone and Telecom relating to on-net retail revenues and volumes. Allowing for the fixed monthly subscription revenues of plans such as Vodafone’s BestMates and Telecom’s My Favourites, the Commission has estimated the average on-net retail revenue per minute to be [] COI cpm, and [] COI cptxt for 2008.²⁷³ These retail rates imply termination rates of no more than [] COI cpm for voice, and [] COI cptxt for SMS respectively in 2008.²⁷⁴
543. The Commission’s preliminary view is that both of the cross-checks discussed above support the Commission’s benchmarking used in this draft decision.

Comparable countries

544. The Commission’s median benchmark of 7.2cpm for a forward-looking cost-based voice call MTR in 2009 is based on the median observation, prior to any consideration of comparability. This section discusses comparability, and whether there may be grounds for adjusting the benchmarks to better reflect potential differences in cost conditions between New Zealand and the overseas jurisdictions.

²⁷¹ See the Commission’s Schedule 3 Investigation draft report on Roaming and Co-location services for further discussion on the use of call termination as a proxy for call origination. p.36. para.180.

²⁷² For example, if the retail price of a BestMate plan (\$5.33 excluding GST) and a TXT2000 plan (\$8.89 excluding GST) are deducted from the \$35.51 price of the Meag20 plan, the resulting price (\$21.29 per month) could be taken to recover the 220 voice minutes associated with the Mega20plan. Allowing for retail costs of 18% of the retail price, this implies that \$17.45 would recover the origination and termination costs of 220 minutes, which in turn implies a termination share of around 4 cpm.

²⁷³ See Table 49 for further detail.

²⁷⁴ To the extent that the on-net retail prices used contain excess margins, the implied termination rates will also exceed the cost of supplying termination services.

545. In any benchmarking exercise, the issue of comparability is potentially an important issue. If the other jurisdictions used in a benchmarking exercise exhibit significantly different characteristics to New Zealand, and these characteristics are expected to influence mobile costs, then the value of these benchmarked observations may be reduced. To the extent that such differences in cost drivers can be identified and adjusted for, the resulting benchmark is likely to better reflect the costs faced by the access provider in supplying the MTAS in New Zealand.
546. Covec's submission notes that the Commission has not taken account of such differences across countries that may drive differences in mobile costs. Covec attempts to adjust for such differences by using an econometric approach²⁷⁵ to estimate the relationship between MTRs ('dependent variable') and potential mobile cost drivers ('independent variables') across countries, and then adding in the New Zealand values of the cost drivers. In principle, the resulting MTR will reflect New Zealand conditions that are relevant to the supply of the MTAS.
547. However, the Commission has identified a number of concerns with Covec's proposed approach, which are discussed below.

Data limitations

548. Covec submitted that an econometric approach will generally be superior to the alternative approach of using ad-hoc judgements when deciding whether to include or exclude a country from the benchmarking sample on the grounds that it is or is not comparable to New Zealand.
549. The Commission notes that the reliability of econometric estimates will depend on the size and quality of the underlying dataset from which the estimates are derived.
550. The econometric analysis undertaken by Covec is based on information from 16 countries in which Vodafone operates. This is a relatively small dataset for the purposes of conducting econometric analysis. While a relatively small benchmark sample may be an issue for any benchmarking approach,²⁷⁶ the Commission's preliminary view is that econometric results generated by Covec must be interpreted with some caution due to the small data set used.

Dependent variable

551. Having considered various model specifications, Covec concluded that the appropriate model has the MTR as the dependent variable, and urbanisation and population per cellsite as the relevant independent variables or cost drivers. The MTRs used by Covec are largely sourced from the European Regulators Group (ERG) survey as of July 2008. Covec add the MTRs applying to Vodafone in Australia and New Zealand.
552. In principle, the objective of the econometric analysis performed by Covec is to estimate a relationship between the dependent variable (in this case, the MTR) and various other

²⁷⁵ Covec submitted that its approach is consistent with the use of "comparable countries" for benchmarking. Covec, paragraph 109.

²⁷⁶ As discussed elsewhere, the Commission considers that the set of jurisdictions for which cost-based mobile termination estimates are available is even smaller.

factors that are expected to influence that variable. This relies on the MTR being a cost-based rate. If the MTR is not a cost-based rate, this may raise some doubt over the results.

553. The Commission notes that the ERG surveys have recorded significant declines in MTRs in recent years. This has continued with the most recent ERG results, in which the reported average MTR as of January 2009 (7.83 eurocpm) represents a 10% reduction from the average reported six months earlier for July 2008. For a number of European jurisdictions used by Covec, the reduction in MTR over the six months has been significant, with cuts of 48% reported for Poland, 34% in Portugal and 26% in Hungary. Eight of the thirteen MTRs that recorded reductions of 10% or more are from countries that Covec used in its econometric analysis.
554. In the five years to January 2009, the average MTR reported by ERG has fallen by almost 50%. Despite this, the EC has recommended further significant reductions in European MTRs over the next couple of years.
555. This indicates that the prevailing MTRs as reported by ERG may not reflect the costs of supplying termination services on the mobile networks.
556. The Commission also notes that Covec has included New Zealand in its dataset, with an MTR of 16cpm. This reflects the MTR in the Vodafone Deed that applied at the time. However, the Commission considers that this rate exceeds the cost-based rate, based on the Commission's current median benchmark for the MTAS is 7.2cpm²⁷⁷, which raises the same concern about the use of this figure for New Zealand as is the case with the use of the prevailing rates reported by the ERG.
557. The Commission has not attempted to re-run the Covec analysis using the cost-based MTRs identified by the Commission in its benchmarking, as this would further reduce the number of observations. Of the 16 countries used by Covec, only three countries, the Netherlands, UK, and Australia, appear in the Commission's benchmark set. These three countries are discussed further below. However, the MTRs used by Covec for these three countries exceed the Commission's cost-based benchmarks for these countries by 84%, 22% and 61%, respectively.

Independent variables

558. Covec's independent variables or 'cost drivers' are the level of urbanisation and the population per cellsite in each country. According to Covec, both these drivers exhibit the expected negative influence on the MTR, as higher urbanisation and/or higher population per cellsite are expected to reduce the per-minute costs due to economies of scale.²⁷⁸

Urbanisation

559. The Commission considers that the level of urbanisation may be a relevant driver of mobile costs.²⁷⁹ Urbanisation is a measure of population concentration, and a more concentrated population is expected to make it less costly for a mobile network operator to gain high levels of population coverage.

²⁷⁷ See Table 27.

²⁷⁸ Covec, paragraph 117.

²⁷⁹ In the UCLL STD, the Commission used urbanisation as one factor to identify comparable countries. In that STD, the Commission noted that New Zealand's urbanisation was 86%, and it considered that any country whose urbanisation was within a range of 60% to 100% would be comparable to New Zealand.

560. The Commission has gathered urbanisation statistics for the countries in the Commission's initial set of benchmarks. This information is summarised in Table 37.

Table 37: Urbanisation rates

	Urbanisation
Israel	92%
UK	90%
Australia	88%
New Zealand	86%
Denmark	86%
Sweden	84%
Netherlands	81%
France	77%
Norway	77%
Malaysia	68%

Source: UNICEF²⁸⁰

561. Each of the countries used in the Commission's benchmarking lies within the range of urbanisation rates (60%-100%) that was used by the Commission in the UCLL STD.
562. Based on the above, New Zealand has a relatively urbanised population compared to the set of cost-based benchmarks used in this investigation. In addition, the number of subscribers per cellsite in New Zealand is relatively high, as a result of the relatively high market shares of each of the mobile operators in New Zealand.
563. For example, in comparing New Zealand to Australia, where the cost-based estimate of the MTAS is around NZ6.5cpm, New Zealand has a similar level of urbanisation (86%, compared to Australia's 88%). However, the average number of subscribers per cellsite is higher in New Zealand than in Australia, indicating that the average cellsite cost per subscriber is lower in New Zealand..

Population/subscribers per cellsite

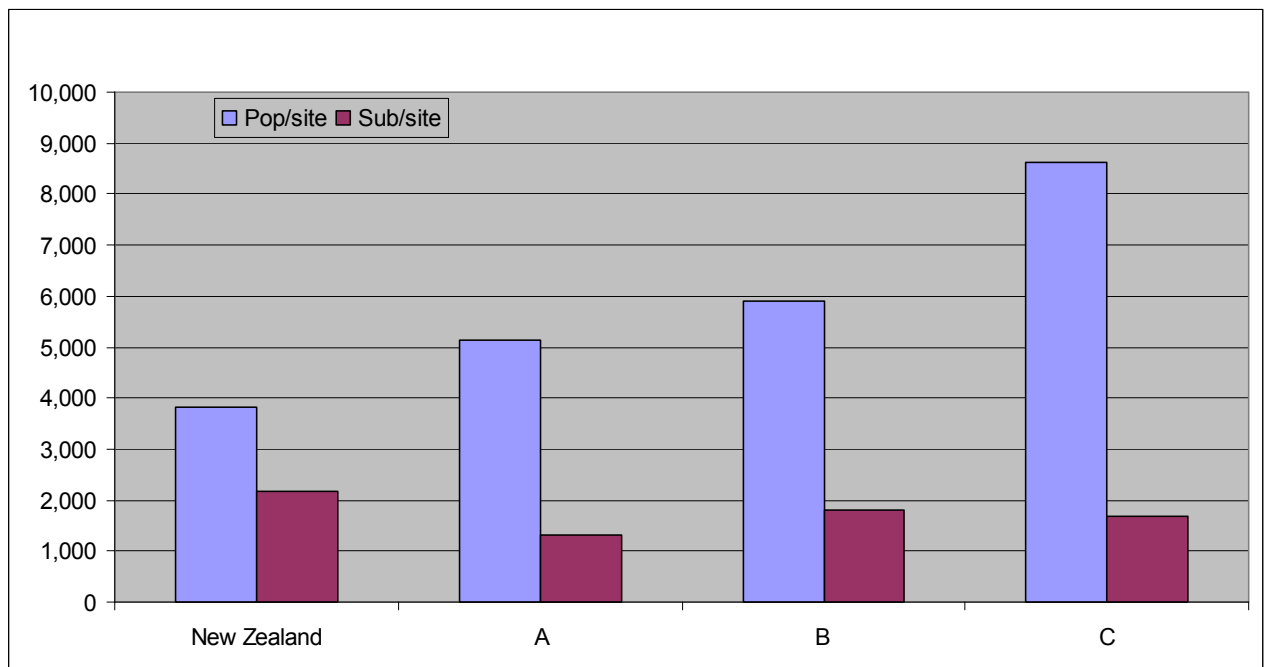
564. Covec claim that New Zealand has a relatively low population per Vodafone cellsite. Covec compares New Zealand to three countries included in the Commission's benchmarking, Australia, the UK, and the Netherlands, and submit that New Zealand has 40% fewer residents per cellsite. According to Vodafone, the level of traffic generated per cellsite is therefore likely to be lower in New Zealand, and per-minute costs higher.
565. The use of population per cellsite assumes that the entire population in each jurisdiction is served on the Vodafone network. However, Vodafone has been one of only two mobile network operators in New Zealand, whereas in most other countries, there are at least three mobile networks. This suggests that Vodafone has a relatively high share of mobile subscribers in New Zealand, compared to other jurisdictions. For example, in New Zealand Vodafone has an estimated subscriber market share of around 53%, whereas in the UK Vodafone's subscriber market share is 24%.²⁸¹

²⁸⁰ UNICEF, *The State of the World's Children 2008*, Table 6.

²⁸¹ http://www.ofcom.org.uk/research/cm/tables/q4_2008/q4_2008.pdf, Table 4.

566. As a result, the number of subscribers per cellsite is relatively high in New Zealand, due to the relatively high market shares of the New Zealand mobile operators. This can be seen from Figure 11 which reproduces a similar figure presented by Covec, but adds in the Vodafone subscriber per cellsite numbers.²⁸²
567. The Commission considers that subscribers per cellsite is likely to be a more relevant driver of mobile costs than population per cellsite, as the latter takes specific account of the relative market shares in each jurisdiction. A higher average number of subscribers per cellsite will enable the mobile operator to spread the fixed costs of each cellsite over a greater number of customers, reducing the average cost.

Figure 11: Population per Vodafone cellsite and Vodafone subscribers per Vodafone cellsite in New Zealand, Australia, the UK, and the Netherlands



Source: Commerce Commission (2009).²⁸³

568. While New Zealand has a relatively low population per Vodafone cellsite, Figure 11 shows that Vodafone has a relatively high number of subscribers per cellsite in New Zealand with approximately 35% more subscribers per cellsite than the average of the other three jurisdictions. This suggests that average mobile costs in New Zealand should be relatively low when compared to the UK, Australia and the Netherlands.
569. According to its submission, Covec ignored the number of mobile subscribers on the basis that subscription levels may depend on the MTR through the ‘waterbed effect’.²⁸⁴ However, the Commission considers that the number of mobile subscribers is likely to have

²⁸² The subscriber information provided by Vodafone did not include Australia. The Commission has, therefore, used mobile subscriber information for all countries from the Merrill Lynch, Global Wireless Matrix, 13 April 2009 (the average of calendar 2007 and 2008).

²⁸³ Based on information supplied by Vodafone and from Merrill Lynch, *ibid.*

²⁸⁴ Covec submission, 6 May 2009, paragraph 114.

an important influence on average costs, and that the impact of the waterbed effect on subscription levels is likely to be relatively weak.

570. The information provided above suggests that New Zealand is likely to have, on average, a higher number of subscribers per cellsite relative to the benchmarked countries, however this evidence is not conclusive and as such the Commission's preliminary view is that it does not consider adjusting benchmarks on the basis of subscribers per cellsite to be appropriate.

Comments from WIK Consult on the Covec Submission

571. In their latest report WIK Consult review the submission made by Covec and make a number of comments.²⁸⁵
572. WIK Consult clarify that the earlier report they had completed for the Commission was not intended to provide estimates of the cost levels for termination on particular mobile networks, rather to conduct cost driver sensitivity. In order to do this WIK Consult homogenised, where applicable, the models to allow for increased comparability. WIK Consult note that the differences in the costs of termination between such diverse territories are not dramatically different, with the two most different territories shown to have a cost differential of less than 20%.
573. WIK Consult note that their results depend crucially on local conditions and note that their own cost modelling experience with Australia arrived at a cost of AUD5.8cpm. WIK Consult consider this to be the closest to what would be expected from a similar exercise for New Zealand. WIK Consult note however, that using Covec's own criteria, the New Zealand rate would tend to be lower than that in Australia. While New Zealand and Australia have similar levels of urbanisation and penetration the share of cellsites that are coverage driven rather than traffic driven would most likely be much higher in Australia.
574. WIK Consult discuss the relative costs of 2G and 3G technology and state that 3G technology offers greater scope for services and lower costs of existing services and 2G technology should be treated as obsolete. In the event that there is no pure 3G operator in the market, 2G technology should be used to estimate costs until such time as a pure 3G operator is present.
575. WIK Consult state that in a number of cases the cost modelled rates in some jurisdictions are biased upwards due to regulators conducting their modelling exercise in close cooperation with operators.
576. WIK Consult raise methodological questions about the applicability of assuming a linear relationship between the coefficients and the regulated MTRs used in Covec's econometric benchmarking. WIK Consult state that the results suffer from the fact that the MTRs from Vodafone sample appear to be high relative to the actual cost levels that have recently been determined. Adjustment for this would, in WIK Consult's opinion have the most dramatic downward effect on the econometric results.

²⁸⁵ WIK Consult, *Review of Submissions by Operators and Reports by Consultants relating to the NZ Commerce Commission's MTAS Investigation*, 9 June 2009, p.8.

Commission's preliminary view on comparability of benchmarks

577. The Commission has considered the issue regarding comparability of the countries used in the benchmarking of cost-based MTRs in this investigation. Based on the information available to the Commission on the likely cost drivers of the MTAS, the Commission's preliminary view is that it is reasonable to regard the countries within the Commission's benchmark sample as being comparable to New Zealand. The Commission has therefore not excluded any of the countries or made adjustments to its benchmarks on comparability grounds.

Other benchmarking issues

578. In this section, the Commission considers a number of other benchmarking issues, such as currency conversion, the selection of a price point, the use of glidepaths, and the pricing structure for MTRs (including whether costs are recovered on a per minute or per second basis).

Currency conversion

579. Discussion regarding the suitable method for converting foreign currency termination rates focuses on whether the NZD has experienced a "step change" in its value and the appropriateness of the inclusion of the PPP rate in the Commission's currency conversion calculation .

580. Covec believe there has been a fundamental shift in the equilibrium value in the NZD,²⁸⁶ stating that the NZD has depreciated significantly against a basket of currencies. Covec reference a number of sources to reinforce their statement that the NZD has undergone a shift in equilibrium value.

581. The Commission notes the sources referenced by Covec are dated from between December 2008 and February 2009. Since the start of March 2009 the NZD has appreciated against the USD by 21% according to the exchange rates published on the Reserve Bank of New Zealand website.²⁸⁷

582. The Commission's preliminary view is that the volatility of the foreign exchange market over the past 9-12 months strengthens the appropriateness of using the 10 year average exchange rate in its calculations. The depreciation in the value of the NZD over the time period cited by Covec is hardly surprising given the world economic environment at that time and the fact that New Zealand is a small open economy that is heavily reliant on trade. However, the Commission considers that the marked appreciation in the value of the NZD since March 2009 makes it difficult to conclude that there has been a change in the equilibrium value of the NZD.

583. Telecom have submitted that the Commission's use of an evenly weighted 10 year exchange rate and PPP rate is not appropriate, as discussed in paragraph 139 of Appendix 4

584. The Commission notes the practice of using an evenly weighted 10 year exchange rate and PPP rate is consistent with the methodology used in the UCLL STD.²⁸⁸

²⁸⁶ Covec (2009) p.26. para.106.

²⁸⁷ Reserve Bank of New Zealand, <http://www.rbnz.govt.nz/statistics/exandint/bl/hbl.xls>, accessed 12 June 2009

²⁸⁸ Commerce Commission, *Standard Terms Determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, page 59.

585. The Commission's use of PPP rates in converting foreign MTRs into NZD is based on the fact that non-traded goods are a significant input in providing MTAS. The inclusion of PPP rates account for the country specific properties of non-traded goods of each benchmarked country. Labour costs in Malaysia are unlikely to be comparable to those in the UK. The inclusion of PPP rates adjusts the pure exchange rate to account for these differences.
586. The Commission's preliminary view is that the reasoning offered in the UCLL STD for the implementation of an evenly blended rate is applicable to, and it is appropriate to use an evenly weighted 10 year exchange rate and PPP rate for, the MTAS Investigation.

Selection of a price point for voice benchmark

587. In considering whether to use some measure of the average benchmarked observation, such as the mean or median value, or whether to move above or below the average, the Commission has had regard to the risks of setting an access price that is either too high or too low, and in particular the implications of setting such an access price on respective investment incentives for the access seekers and access providers.
588. In recent determinations in which access prices have been set according to an IPP, the Commission has selected the median benchmarked observation (such as in the UCLL STD, and the Sub-loop STD in the case of the Sub-loop MPF Service) and has also moved above the median to the 75th percentile (in the Sub-loop STD in the case of the Sub-loop Backhaul Service). This reflects the Commission's view that the selection of a price point must be undertaken on a case-by-case basis.
589. In both the UCLL STD and the Sub-loop STD, the Commission focused on the potential asymmetric outcomes from setting a price that was either too high or too low. Where an access price is too high, the take-up of the regulated access service by access seekers may be impaired; with the result that competition in the downstream markets will be adversely affected. Where an access price is set too low, the access provider(s) of the regulated service may be discouraged from making further investments, as they would be unable to recover their costs in supplying the regulated service. The long-term consequences of under-investment are generally regarded as being more severe, giving rise to the potential for asymmetric outcomes.²⁸⁹
590. In the UCLL STD, the Commission noted that UCLL-based entry in other countries had led to access seekers making significant investments in DSLAM equipment in order to be able to offer new and differentiated broadband services to end-users. Examples included the emergence of higher speed services through the introduction of ADSL2+ technology, as well as new services such as IPTV.
591. The Commission also noted that UCLL-based entry has driven a competitive response from incumbents, such as in Australia where Telstra followed access seekers in undertaking similar investments in unbundled exchanges.

²⁸⁹ For example, in the UCLL STD, the Commission noted that it had previously stated that where tensions exist between static efficiency and dynamic efficiency, the Commission will generally place more weight on dynamic efficiency, as this is considered to better promote competition for the long-term benefit of end-users. Commerce Commission, *UCLL STD*, paragraph 207.

592. In light of the significant investments that access seekers for the UCLL service were expected to make, the Commission adopted the median benchmarked observation in the UCLL STD.
593. In the case of the Sub-loop Backhaul service, the Commission again considered the respective investments by the access seekers and access provider in respect of the regulated service. In that case, the Commission noted that Telecom was undertaking significant investment in new distribution cabinets and fibre, and that the potential access seeker investment in cabinet-based active equipment was likely to be comparatively small. As a result, the Commission decided to move above the median benchmark in that case.²⁹⁰
594. The MTAS relates to interconnection between mobile networks. The access provider of the service (where traffic is terminated on its mobile network) will also be an access seeker (where its traffic is terminated on another mobile network).
595. The Commission accepts that there is a degree of uncertainty associated with any benchmarking exercise (as there would also be in a TSLRIC modelling exercise conducted under an FPP). However, when considering the potential consequences of moving above the median as proposed by Vodafone and Telecom, it is relevant to consider the investment incentives of not only the two established incumbent mobile operators (who advocate a move above the median), but also those of the new entrant (whose proposed use of BAK effectively represents a move below the median cost-based benchmark).
596. While both Telecom and Vodafone have made significant investments in their respective mobile networks, the Commission notes that 2degrees has also made a substantial investment in deploying its mobile network.²⁹¹ 2degrees has submitted that mobile termination regulation is a critical issue for its investment case.
597. In addition, the Commission has previously commented that the primary drivers for ongoing investments by Telecom and Vodafone (such as in 3G technology) are the incentives for each to gain a competitive advantage over the other, through functional and technological differentiation and through lower costs:²⁹²
- The view of both vendors and purchasers of 3G equipment, including Hutchison in Australia, is that 3G networks have lower unit costs. It appears the greater capacity offered by 3G networks is being used to broaden the range and improve the quality of data services that can be offered to end-users, and will allow voice calling costs to be significantly reduced as volumes increase.
598. The Commission notes that to the extent that cost-based MTRs enable a new entrant mobile network operator to compete more vigorously in the downstream retail mobile services market, this is likely to increase the competitive pressure on the mobile network operators to continue to innovate and invest.
599. WIK Consult state that where a regulator has not adhered to the FL-LRIC standard the cost modelled rates will display an upward bias. WIK Consult use the examples in the UK, the

²⁹⁰ In the case of the Sub-loop Backhaul Service, the Commission used the 75th percentile feeder proportion of the UCLL price.

²⁹¹ Tex Edwards of 2degrees is quoted in the NBR saying the operator has invested \$250m building their network (*Tex Edwards: I'm sticking with Two Degrees*, 15/05/09).

²⁹² Commerce Commission, *Reconsideration Final Report*, 21 April 2006, paragraph 328.

Netherlands, Norway and Denmark where the regulator has not strictly adhered to the FL-LRIC standard. In these four cases, WIK Consult argue that cooperation between operators and regulators has resulted in an upward bias in the cost modelled rates.²⁹³ WIK Consult note there are a number of reasons regulators may not strictly adhere to applying the FL-LRIC standard, but doing so will create an upward bias.²⁹⁴ WIK Consult recommend using the average value from the three lowest figures in the benchmarking data set to compensate for the risk of an upward bias in benchmarked rates.²⁹⁵

Commission's preliminary view on selection of a data point

600. The Commission's preliminary view is that for voice services the use of the median, rather than the 75th percentile or the average of the lowest three benchmarked rates, is appropriate for the current investigation. For SMS the Commission's preliminary view is that the upper bound of the data set should be used.
601. The Commission notes that the European Commission recently released a report outlining its expectations that MTRs in the EU should fall to between 0.015€/0.03€/min by the end of 2012.²⁹⁶ The Commission is also aware that three of the regulators from countries in the Commission's benchmark sample set are currently updating their cost modelling, and that Ofcom has recently released a review of MTRs examining how rates could be set from 2011 to 2015.²⁹⁷ The Commission believes that these developments mitigate the risk that the current benchmarked rates are below cost.
602. The Commission recognises the cases put forward for benchmarking above and below the median value. The two-way nature of interconnection lends the Commission to believe the benchmarked rate should be set below the 75th percentile for voice services. However, the Commission believes that benchmarking against the average of the lowest three figures in the benchmarking data set, as recommended by WIK Consult, unduly risks setting the benchmark too low and disregards relevant benchmarks.

Glide-path vs cost-path

603. The Commission notes that there appears to be an element of confusion regarding the definition of a glide path. This is highlighted in NERA's submission in Table 4.²⁹⁸ NERA contend glide paths were used in the case of both Israel and Malaysia. The Malaysian Communications and Multimedia Commission (MCMC) comment that "prices will be on a 24 hour weighted averaged basis determined based on LRIC".²⁹⁹ The Commission has confirmed with MCMC that the regulated rate is in fact the LRIC rate.

²⁹³ WIK Consult, *Review of Submissions by Operators and Reports by Consultants relating to the NZ Commerce Commission's MTAS Investigation*, 9 June 2009, p.6.

²⁹⁴ Ibid. p.2

²⁹⁵ WIK Consult, *Review of Submissions by Operators and Consultants relating to the NZ Commerce Commission's MTAS Investigation*, 9 June 2009, p.7.

²⁹⁶ European Commission, *Telecoms: Commission acts on termination rates to boost competition*, 7 May 2009 p.2.

²⁹⁷ Ofcom, *Mobile termination rates: options to benefit UK consumers*, 20 May 2009.

²⁹⁸ NERA, *MTAS Benchmarking Response to Commission Comments on Undertakings*, 6 May 2009, p.12.

²⁹⁹ Malaysian Communications Commission and multimedia Commission, *Access Pricing, A report on a Public Inquiry*, 30 November 2005, p92.

604. The case for Israel is much clearer. Exhibit 0.2 in NERA's referenced document states "Voice termination cost for GSM new entrant"³⁰⁰ as the title for the table containing the voice termination charges. This is clearly a cost rate.
605. To avoid further confusion the Commission clarifies that it is using the following definitions for 'glide path' and 'cost path' in this draft Report and the MTAS Investigation:
- A glide path is a regulated price trajectory over time which heads towards a cost based/modelled rate.
 - A cost path is a cost trajectory over time estimated by a cost model for a jurisdiction over a period of time.
606. The Commission's preliminary view is that it is appropriate to allow for cost-paths, as such paths reflect changes in costs over time. The Commission does not consider it to be appropriate to incorporate a glide-path into the benchmarks, as glide-paths do not reflect costs and therefore delay the potential benefits to end-users arising from increased competition in the downstream markets. The Commission believes that the appropriateness of a glide path is an implementation issue only, and will consider arguments such as those in paragraphs 97 to 101, 142 to 143 and 155 of Appendix 4 in relation to the implementation of any regulation of MTAS, if that is recommended by the Commission, agreed by the Minister and a STD process undertaken by the Commission.
607. The Commission recognises the time value of money and the timeframes involved with regulation. As such, the Commission notes the opportunity for operators to utilise this window to offer undertakings where the implementation of a glide-path may fall within the bounds of acceptability, provided the undertaking yields similar benefits to end-users to that of regulation.

Minute+Second vs Second+Second Pricing

608. The Commission notes that both Telecom's and Vodafone's undertakings provide for minute+second pricing.
609. As discussed in paragraphs 884 to 891, the Commission's preliminary view is that pricing structure is an implementation issue and as such it will consider pricing structure in relation to the implementation of any regulation of MTAS, if that is recommended by the Commission, agreed by the Minister and a STD process undertaken by the Commission.
610. The Commission notes, however, that its comments letter stated that its:³⁰¹
- "... preliminary view is that there would need to be a strong economic basis for the factual of regulation ... to apply "minute + second" prices, and that this has not clearly been demonstrated to the Commission."
611. The Commission understands that the cost-based benchmarked rates used in this draft Report are average per minute costs, although the prevailing rates may be implemented on

³⁰⁰ Analysys, *Response to Issues Raised Concerning the Analysys Cost Model, Report for the Israel Ministry of Communications*, 15 December 2004.

³⁰¹ Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009, p.4.

a minute+second or a second+second basis. For the purposes of benchmarking, the Commission's preliminary view is that, in order to maintain consistency, an adjustment should be applied to any MTRs where pricing structure is not second+second.

2G/3G

612. Dominating the discussion regarding the difference between the cost of 2G and 3G networks are comments on the appropriateness of benchmarking against 2G models and the true costs of transitioning from a 2G network to a 3G network.
613. The Commission notes WIK Consult, in their modelling report provided for the ACCC in 2007, stated:³⁰²
- “If carriers have the discretion to choose a certain technology to deliver voice calls, it is fair to assume that the introduction of 3G as a new technology should therefore not increase the cost and price of the MTAS. **If in this environment carriers decide to migrate traffic from 2G to 3G networks, regulators should assume from this market behaviour that the costs of traffic migration (if any) are equal or lower than the cost differences of delivery of voice calls between 2G and 3G.**”
(emphasis added)
614. In a report prepared for the Commission, WIK Consult state that 2G technology should be considered obsolete and regulated prices should be based on 3G technology.³⁰³ WIK Consult acknowledge that in a market with no pure 3G operator there will still be uncertainties regarding operators 3G costs, if the 3G networks are not fully operational. In this situation WIK Consult suggests in the interim costs be based on 2G technology.
615. This lends weight to the Commission's preliminary view that the no allowance that should be made for the cost of transitioning from 2G to 3G networks.³⁰⁴ The Commission notes that the decision to migrate from a 2G network to a 3G network is based on the provision to supply data services. SMS and voice services remain the same. As such the incremental cost of supplying data services includes the cost of migrating from a 2G network to a 3G. Voice and SMS services should not be used to subsidise such a move.
616. A significant cost of building a network is borne by the cost of erecting base stations. Both Vodafone and Telecom are currently running a network and are therefore able to 'co-locate' their 3G equipment with their current 2G equipment. This will significantly decrease the cost associated with building the network compared to the hypothetical new entrant that is modelled. Understandably co-location is not available for the whole network, however for a non-insignificant proportion of the network co-location will be possible.
617. A number of jurisdictions have conducted modelling of only 2G networks when a number of operators in their jurisdiction are either migrating to 3G or operating solely 3G networks as Analysys have done for OPTA the Dutch regulator. Analysys³⁰⁵ observe that by modelling 2G only, operators retain the benefits of migration because the long run cost of 3G termination is below that of 2G termination. This effectively grants the operator a margin when terminating on their 3G network.

³⁰² WIK-Consult, *Mobile Termination Cost Model for Australia*, January 2007, at p.50.

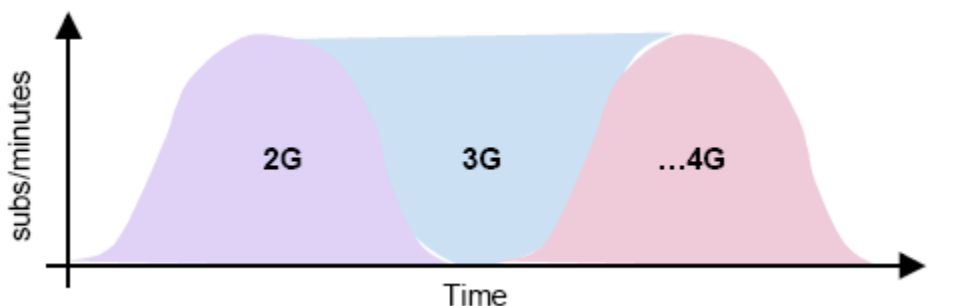
³⁰³ WIK-Consult, *Review of Submissions by Operators and Reports by Consultants relating to the NZ Commerce Commission's MTAS Investigation*, 9 June 2009, p.12

³⁰⁴ This should not be confused with transitioning between technologies, for example transitioning between CDMA and W-CDMA.

³⁰⁵ Analysys, *Conceptual design document, Final report for OPTA*, 31 August 2006 at page 42.

618. Analysys suggest that the cost of migrating from 2G to 3G and beyond can be illustrated by Figure 12 below:

Figure 12: Migration from 2G to 3G and beyond



Source: Analysys (2006).³⁰⁶

619. This highlights that migration from one technology to another is conducted simultaneously, and with both technologies in parallel and with the conservative assumption that subs/minutes are constant.
620. The Commission's preliminary view is that, as voice and SMS services are not impacted by the migration from 2G to 3G networks and migration is a commercial decision made on the basis of a cost benefit analysis of the additional services 3G networks allow, any extra cost of running two networks concurrently should not be borne by the voice and SMS services.

Consultation questions:

621. The Commission is seeking the views of parties on the proposed approach to determining a regulated price for the MTAS under a factual of cost-based regulation.
622. The Commission is seeking information about whether there are any additional cost-modelled MTRs, to those discussed in paragraph 506, that should be used in benchmarking a cost-based factual price for the MTAS.
623. The Commission is seeking the views of parties on how cost-based MTRs are expected to change over time, including whether the Commission's approach to a downward cost-path over time described in paragraphs 516 and 517.
624. The Commission is seeking the parties' views on what significance should be placed on the cross-checks discussed in paragraphs 528 to 543 above.
625. The Commission is seeking the parties' views on the extent to which the Commission's benchmarks are likely to be comparable for the MTAS in New Zealand.

³⁰⁶ Ibid at page 44.

Assessment of Benefits and Costs of regulation

Background

626. In the earlier sections, the Commission has set out its preliminary views on the appropriate form of regulation to be considered in this investigation. This includes the pricing principles, and the likely prices for the MTAS that would result from the application of a forward-looking cost-based pricing method to the MTAS in New Zealand.
627. In this section, the Commission considers the potential impact of the proposed MTAS regulation. This impact is likely to be felt in a number of downstream markets, in the form of benefits and costs to end-users.
628. In considering whether or not to recommend regulation of the MTAS, section 19 of the Act requires the Commission to consider the purpose set out in section 18 of the Act. Section 18 of the Act provides:

18 Purpose

- (1) The purpose of this [Part 2] and Schedules 1 to 3 is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers.
- (1) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term interests of end-users of telecommunications services in New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.

Potential Benefits

629. The potential benefits of regulation for end-users are first considered. These include potential benefits from increased competition in the downstream retail FTM/tolls market and the downstream retail mobile services market. As shown in Figure 9, the MTAS is an input into the delivery of a number of retail services, including retail calls to mobile subscribers (FTM and MTM calls) and SMS.
630. In looking at the potential benefits from regulation, the Commission has considered the extent to which regulation will promote competition in the relevant downstream retail markets. In respect of FTM calls, this involves considering whether regulation is likely to lead to increased competition between existing and potential suppliers of calls that originate on fixed networks and terminate on mobile networks. For retail MTM calls and SMS, the Commission has considered whether regulation would lead to increased competition, not only between existing retail competitors such as Vodafone and Telecom, but also in terms of lowering barriers to entry and/or expansion facing a new mobile entrant.
631. To the extent that regulation of MTAS does promote competition in the downstream markets, a reduction in MTRs is likely to be passed through into the hands of end-users in some form. This is typically considered in the form of a reduction in the retail price of the relevant service, for example the retail price of an FTM call. However, given that such services are often supplied in conjunction with other services, such as tolls, suppliers may

choose to pass at least some of the reduction in MTR through into the retail price of those other services. It is also possible that end-users may benefit from other forms of pass-through, such as improvements in service quality.

632. The Commission has therefore taken into account a range of potential benefits resulting from regulation of the MTAS.

Potential Costs

633. Having discussed the potential benefits of regulation, the Commission then considers the potential costs that might result from regulation of the MTAS. These costs include the potential for some of the regulated reduction in MTRs to be recovered through offsetting increases (or smaller decreases) in other retail prices, such as for subscription services and/or handsets. The Commission has also allowed for costs directly associated with the regulatory process for determining terms of access for the regulated service.

Long-term Benefit to End Users

634. Having considered the potential benefits and costs of regulation, the Commission considers whether regulation of the MTAS or acceptance of the undertakings is likely to best give effect to promoting competition for the long-term benefit of end-users. In considering whether regulation has promoted competition for the long-term benefit of end-users, the Commission has examined the likely static and dynamic effects of regulation, compared to what is likely to occur under the undertakings.

Potential benefits – Retail FTM/tolls market

635. As discussed earlier, the Commission considers that one of the relevant downstream markets is the retail market for FTM/toll services.³⁰⁷
636. In considering the potential benefits in this downstream market, the Commission has first compared the MTRs that are contained in the undertakings with the Commission's preliminary view on the likely MTR that would emerge, were the MTAS to be designated. As discussed earlier, the Commission would determine an initial price for the designated MTAS by way of benchmarking against cost-based prices for similar services in comparable countries. Under the FPP, the price would be set according to TSLRIC.
637. The Commission has also taken into account the extent to which reductions in MTRs over time are likely to be passed through into retail prices. For example, the Vodafone undertaking dated 6 May 2009 contains a specific pass-through condition that requires the access seeker to pass the benefit of the reduction in the MTR through to its fixed calling customers in the form of a lower retail FTM price.³⁰⁸ A similar reciprocal condition also requires Vodafone to pass on to its fixed calling customers any reduction in the MTR paid by Vodafone to the access seeker.
638. In considering the potential benefits in the downstream FTM/tolls market, the Commission has updated the quantitative cost-benefit model that it used in its previous MTR investigation. The Commission considers that this model remains an useful analytical tool for considering the potential impact of regulation in the downstream FTM/tolls market for the current investigation. The model was developed in the context of the Commission's previous consideration of the same issue, namely the impact of MTR regulation in the

³⁰⁷ See paragraph 147.

³⁰⁸ The pass-through condition only applies in respect of the FTM Call Termination Service.

downstream FTM/tolls market. This model compared the likely retail FTM prices and quantities that would emerge under a “factual” scenario in which MTRs were subject to cost-based regulation, with the likely prices and quantities under a “counterfactual” of no regulation (which in the current case is represented by the undertakings). As one of these scenarios involves regulation and the other does not, the difference between these two scenarios can be attributed to the proposed regulation.

639. As discussed below, the key inputs into the quantitative model that have been updated, include the following:
- the period over which benefits and costs are assessed has been adjusted to allow for the regulatory standard terms determination (STD) process;
 - the counterfactual wholesale MTR (based on the Undertakings);
 - the factual wholesale MTR (based on the Commission’s latest benchmarking);
 - the rate at which MTR reductions are passed through into retail prices under the counterfactual and factual; and
 - the starting average retail FTM price and FTM volume (for 2008), as well as the starting mobile ARPU.
640. The Commission has also considered a number of key sensitivities to establish a potential range of benefits.
641. The Commission’s quantitative assessment has evaluated the benefits (and costs) that are likely to result from regulation over a number of years. The Commission has assumed that the regulated price for the MTAS would be available from early 2011. This is on the basis that the Commission’s recommendation is accepted by the Minister in early 2010, at which point the Commission would commence its STD process for the MTAS and produce a final STD by the end of 2010. The first year in which the benefits from regulation would be seen is 2011, and the Commission has considered potential benefits and costs out to 2015.³⁰⁹
642. The Commission considers such a timeframe to be a reasonable period over which to assess the potential impact of regulation, although notes that a shorter price-setting period may be more appropriate when determining a price in the context of an STD.³¹⁰

Retail FTM Service and wholesale MTAS

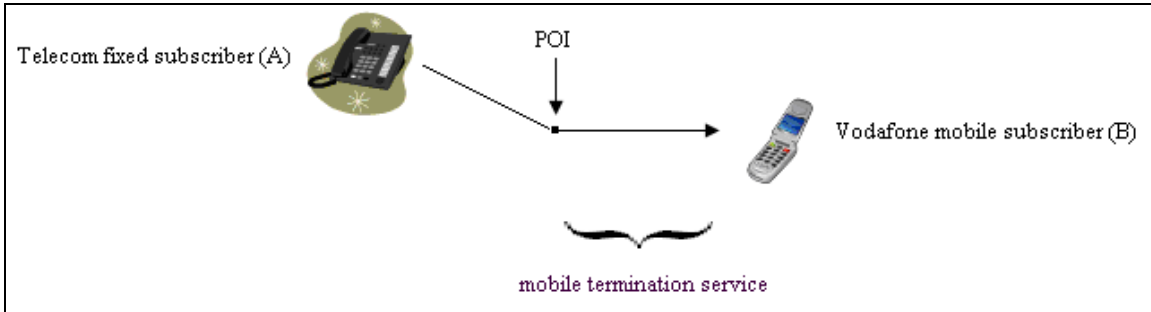
643. A retail FTM call service involves a call from a fixed subscriber to a mobile subscriber. A key component in the delivery of such a call therefore involves the termination of the call on the mobile network to which the call recipient subscribes. Figure 13 illustrates the relationship between the mobile voice call termination service, which in this case is

³⁰⁹ In quantifying the potential benefits and costs of regulation, the Commission has estimated such benefits and costs each year, and expressed the results in net present value (NPV) terms, using a discount rate of 6% (based on the previous MTR investigation).

³¹⁰ The Commission notes that existing regulated services are subject to a five-year review to ensure that the level of regulation remains appropriate. However, in setting a regulated price, the Commission may review the price level over a shorter period.

supplied by Vodafone, and an end-to-end FTM service from a Telecom fixed subscriber to a Vodafone mobile subscriber.

Figure 13: Mobile Termination and FTM



Source: Commerce Commission (2009).

644. As discussed below, the wholesale costs of terminating a FTM call on a mobile network represent a significant proportion of the costs of providing such a call. The other relevant costs include the costs of originating the call on the calling party’s fixed network,³¹¹ the costs of transporting the call between points of interconnection (POIs), and the costs associated with marketing and other retail-related functions.

Wholesale Mobile Termination Rates

Counterfactual

645. The counterfactual scenario represents the Commission’s assessment of what is likely to happen in the absence of regulation. In the Commission’s previous investigations, the counterfactual mobile termination rates were based on historical data, prevailing interconnection agreements, and commercial offers that had been made by the mobile network operators.
646. As part of the current investigation, the Commission has received undertakings from Vodafone, Telecom and 2degrees. The undertakings from Vodafone and Telecom propose MTRs for the termination of FTM calls, while the 2degrees undertaking only applies in respect of MTM calls.
647. Table 38 summarises the MTRs for FTM calls in the Telecom and Vodafone undertakings, expressed on a calendar year basis to be consistent with the timeframe discussed above. In addition, the average MTR is calculated, based on the respective 2008 mobile subscriber market shares of Telecom (47%) and Vodafone (53%).

Table 38: Counterfactual FTM Termination Rates (NZcpm)

	2009	2010	2011	2012	2013	2014	2015
Telecom	15.25	14.25	12.50	11.25	10.25	10.00	10.00
Vodafone	15.25	14.55	14.10	13.25	12.25	11.25	11.00
Average	15.25	14.41	13.35	12.31	11.31	10.66	10.53

Source: Telecom, Vodafone and Commerce Commission (2009).

³¹¹ This is currently a designated service under the Telecommunications Act.

648. The average MTRs shown in Table 38 represent the MTRs that would prevail if the Undertakings were to be accepted in lieu of the proposed regulatory change.

Factual

649. Under the factual scenario, the MTAS is subject to cost-based regulation. Under this scenario, the Commission has based its view of the likely MTR on benchmarking against cost-based MTRs in other jurisdictions.³¹² The basis for the Commission's benchmarking is set out above, and the results are summarised in Table 39.

Table 39: Factual Mobile Termination Rates (NZcpm)

	2009	2010	2011	2012	2013	2014	2015
Cost-based MTR	7.20	6.50	5.80	5.20	4.70	4.30	3.80

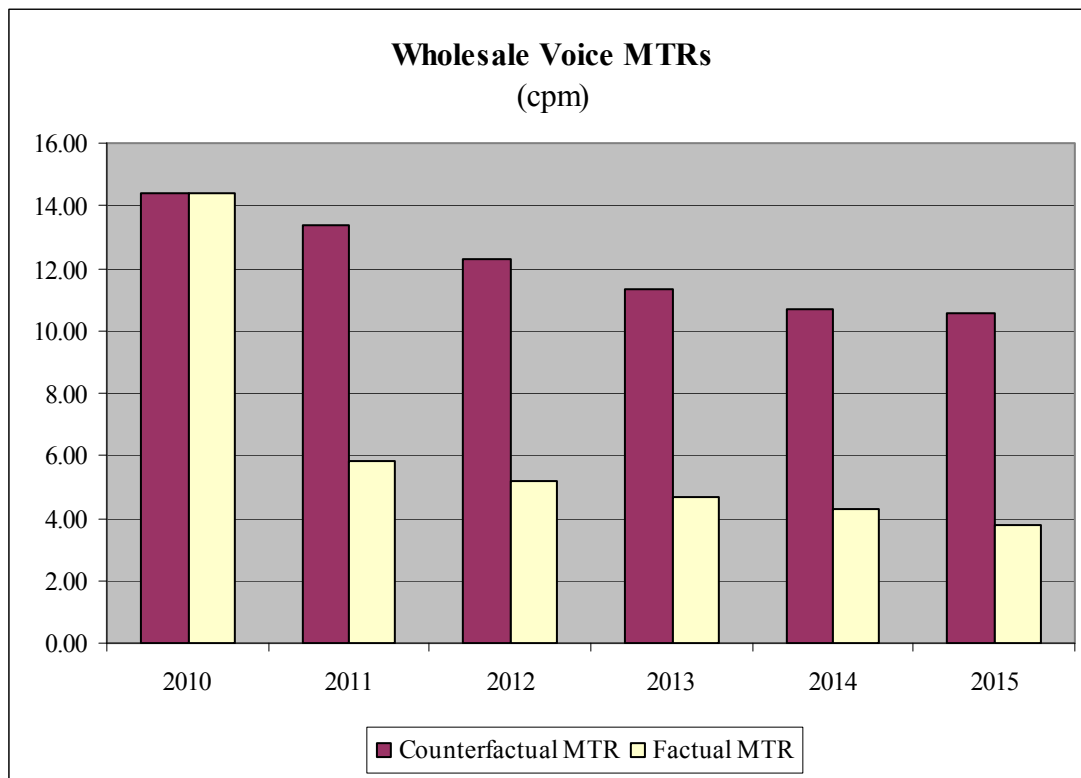
Source: Commerce Commission (2009).

650. The MTRs set out in the Telecom and Vodafone undertakings are significantly above the Commission's estimate of a cost-based MTR. For example, the Commission's current cost-based benchmark of 7.2cpm is 53% below the MTR of 15.25cpm contained in the Undertakings for 2009. In the first year of regulation (2011), the benchmarked cost-based MTR is 5.8 cpm, which is 57% below the average MTR in the undertakings; by the end of the period, the benchmarked cost-based MTR is 64% below the average MTR in the Undertakings.

Impact of lower MTRs on retail FTM/tolls market

651. As noted above, the Commission's preliminary view is that cost-based regulation of the MTAS would result in a significant reduction in MTRs, compared to the undertakings. Figure 14 compares the MTRs in the undertakings with the Commission's cost-based benchmarks over the period.

³¹² See earlier discussion of the relevant cost standard for the regulated MTAS.

Figure 14: MTRs in the undertakings and cost-based regulation

Source: Commerce Commission (2009).

652. The reduction in MTRs under the regulatory factual is likely to result in lower retail prices for FTM calls and other services that are supplied in the same retail market.
653. The extent to which the reduction in the wholesale MTR leads to a reduction in retail prices will depend on the level of cost pass-through. For reasons set out below, the Commission's preliminary view is that cost-based MTRs will lead to increased competition in the downstream FTM market, and that the level of pass-through will therefore increase from the levels historically observed in the FTM market.
654. The following sections therefore examine the historical levels of pass-through of MTR reductions into retail FTM prices and the likely influence of competition on pass-through levels.

Historical levels of pass-through

655. The Commission has gathered information on the retail revenues earned by suppliers of FTM calls, FTM call volumes, and revenues and volumes from supplying mobile call termination services. The Commission has combined recent data for the period 2006 to 2008 with similar data collected as part of its previous investigation into MTRs, with the results shown in Table 40 below.
656. The FTM price is the average retail revenue per minute of FTM calls supplied by Telecom and other competitors. The MTR is the average wholesale termination revenue per minute.

657. Table 40 shows that over the period from 1997 to 2008, the average retail price of a FTM call has declined from 56.52 cpm in 1997, to 30.66 cpm in 2008. Over the same period, the average MTR declined from 50.00 cpm, to 16.70 cpm.
658. Over the full period shown, the reduction in the average retail FTM price was -25.86 cpm, and the reduction in the average MTR was -33.30 cpm. This equates to a pass-through rate of 78% over the period.

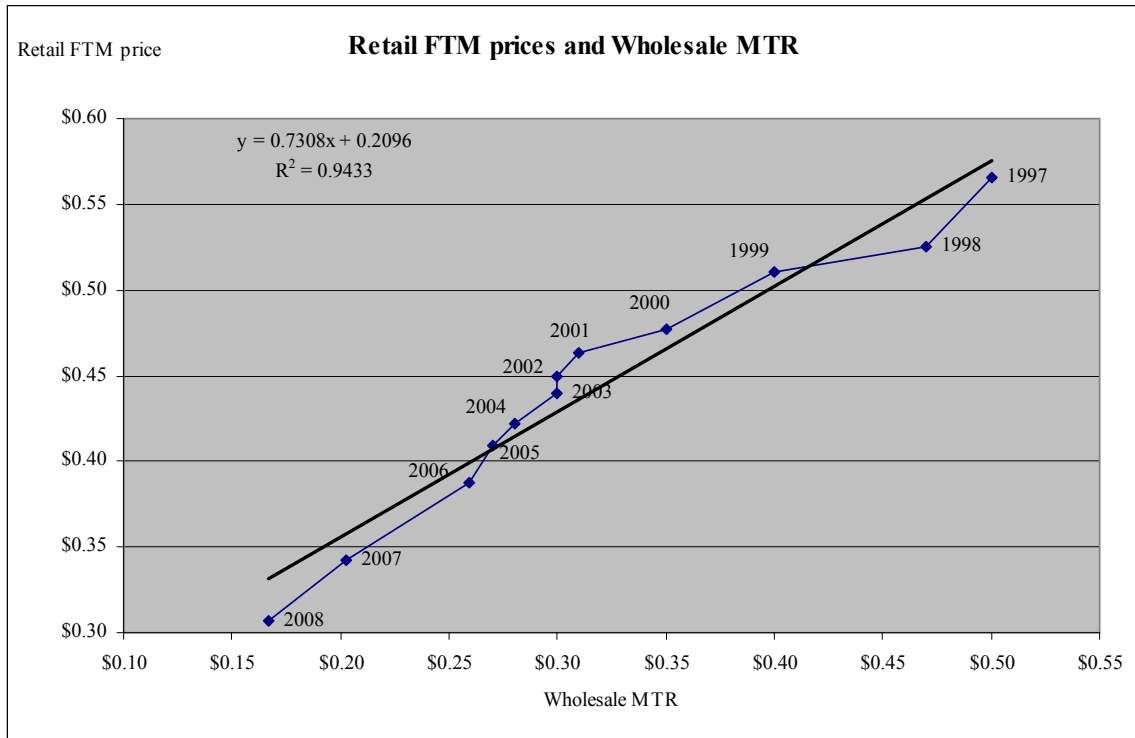
Table 40: Average Retail FTM price and MTR, 1997-2008 (NZcpm)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MTR	50.00	47.00	40.00	35.00	31.00	30.00	30.00	28.00	27.00	25.96	20.23	16.70
FTM	56.52	52.49	51.05	47.71	46.35	44.96	43.99	42.21	40.96	38.73	34.25	30.66
Δ MTR (p.a)		-3.00	-7.00	-5.00	-4.00	-1.00	0.00	-2.00	-1.00	-1.04	-5.73	-3.53
Δ FTM (p.a)		-4.03	-1.44	-3.34	-1.36	-1.39	-0.97	-1.78	-1.25	-2.23	-4.48	-3.59
Δ MTR (total)	-0.333											
Δ FTM (total)	-0.259											

Source: Commerce Commission (2009).

659. The relationship between the wholesale MTR and retail FTM prices is illustrated in Figure 15. The observation at the top right-hand end of the line represents the retail FTM price and MTR in 1997, with movements down the line showing subsequent reductions in the retail and wholesale prices (with the 2008 prices shown at the bottom left-hand end).

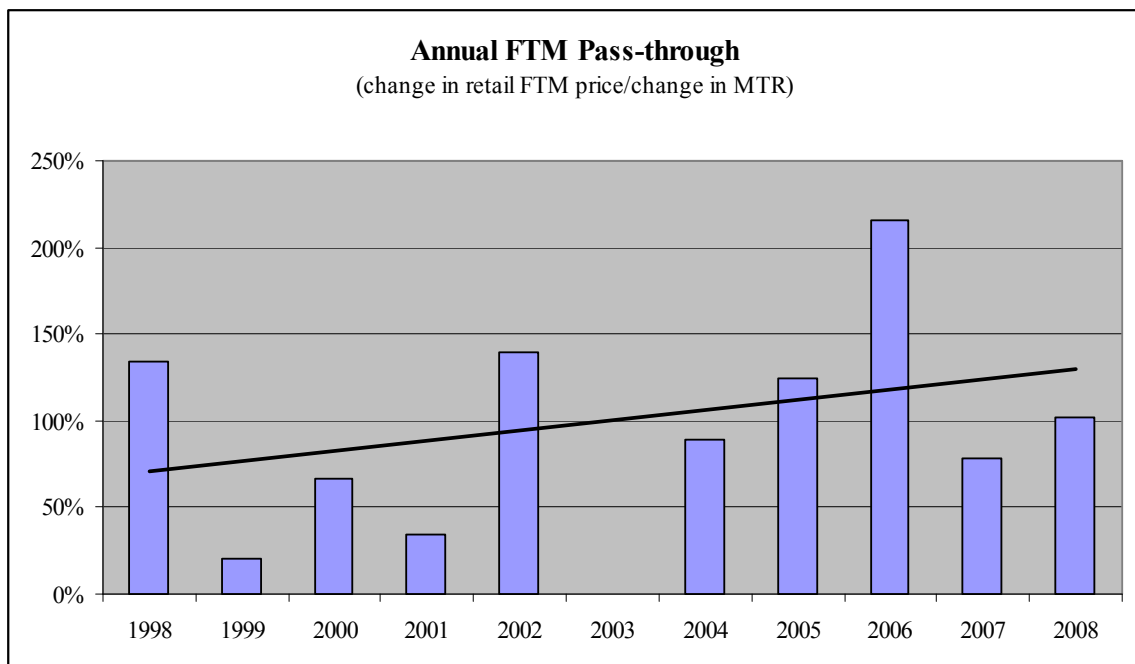
Figure 15: Retail FTM prices and Wholesale MTRs



Source: Commerce Commission (2009).

660. The steeper parts of the line in Figure 15 represent relatively high levels of pass-through, with retail prices falling significantly relative to the wholesale MTR. Using a simple linear regression, the estimated level of pass-through over the period is 73%, although as shown in Figure 16, the actual level of pass-through occurring in any one year can vary considerably.

Figure 16: Annual FTM Pass-through



Source: Commerce Commission (2009).

661. The Commission has previously observed that pass-through levels have been increasing over the period from 1997 to 2005.³¹³ The Commission noted a number of developments that were likely to have increased competition in the downstream market over this period, including the advent of carrier pre-selection (which allows customers to more easily switch suppliers) and the availability of regulated resale access (allowing retail competitors to offer bundled services, including for example an access line rental).³¹⁴
662. The Commission considers that the long term average level of pass through is a more accurate indicator of the likely future levels of pass through than the level of pass through that occurs in individual years. The pass through rate in any individual year could be affected by a range of factors, for example, particular retail offers over a certain period of time evidencing a period of active competition may lead to a high level of pass through occurring in one year.
663. Of the last three years, there appears to have been a significant relative reduction in retail FTM prices in 2006, while in 2008, the pass-through rate of just over 100% appears to reflect the Deeds committed to by Vodafone and Telecom. These Deeds have been in effect from the second quarter of 2007, and both the Deeds contain commitments by Telecom and Vodafone to reduce termination rates for FTM calls, as well as commitments to fully pass MTR reductions through into retail FTM prices.
664. In considering historical levels of pass-through, it is important to have regard to the effect of the Deeds, which were put forward as an alternative to regulation. To do this, the Commission has split the historical period into the period up to the commencement of the Deeds, and the period since the Deeds. The average rate of FTM pass-through up to the commencement of the Deeds (i.e., from 1997-2007) is 75%, with this increasing to 102% during 2008 alone. In the event that the Deeds were to become superseded by regulation, the pass-through commitment made as part of the Deeds would be of limited relevance. Of more relevance would be the extent to which downstream competition (rather than a commitment given to avert regulation) would deliver reductions in retail FTM prices. This is further discussed in the following sections.
665. In a recent EC staff working paper on the impact of regulated reductions in MTRs, the EC assumes a relatively low level of FTM pass-through of 20%, reflecting the relatively weak competitive pressures in the fixed markets.³¹⁵ The EC notes that Ofcom had found that that fixed operators had directly passed around 64% of MTR reductions through to consumers.
666. Elsewhere in the EC paper, it is noted that termination rates have fallen in recent years by an average of over 10% p.a., while over the same period, the retail price of FTM calls has

³¹³ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Reconsideration Final Report*, 21 April 2006, paragraph 374. The Commission noted that caution should be exercised when examining pass-through over short periods. For example, there is likely to be a lag in adjusting retail prices in response to changes in wholesale MTRs, which would explain the variation in pass-through rates from one year to the next.

³¹⁴ *ibid*, paragraph 375.

³¹⁵ Commission of the European Communities, *Commission Staff Working Document accompanying the Commission Recommendation on the Treatment of Fixed and Mobile Termination Rates in the EU: Implications for Industry, Competition and Consumers*, 7 May 2009, SEC (2009) 599, page 20. The EC paper also considers a wide range of pass-through sensitivities (0%, 50%, 80%).

declined by an average of more than 5% p.a. (implying a pass-through level of around 50%).

667. The 20% assumption therefore appears to be relatively low, given the recent level of FTM pass-through reported by the EC. Given that retail FTM prices are likely to be higher in absolute terms than the wholesale MTR, the above changes imply an FTM pass-through in excess of 50%.
668. In its determination on MTAS pricing principles for 2007/08, the ACCC observed that the reduction in MTAS prices had been a factor in Telstra's reducing retail FTM prices, and that FTM pass-through had increased since 2004.³¹⁶ The ACCC also noted that while retail FTM price reductions are important, such reductions are just one indicator of increased competition in the downstream markets. The ACCC concluded that:³¹⁷
- ... there is retail FTM pass-through and that while there is debate as to the influence of lower MTAS rates on the full extent of this pass-through, there is strong support that the indicative price path in the *MTAS Pricing Principle Determination* through the regulatory processes that have occurred since 2004 have directly contributed to the FTM retail price reductions.
This has also been achieved without the need to mandate retail pass-through of any sort.
669. In a subsequent determination on MTAS pricing principles for the period from 2009 to 2011, the ACCC again considered the evidence on FTM pass-through. The ACCC noted that since 2004, the MTAS indicative price had fallen from 21 cpm to 9 cpm. While Telstra's average retail FTM price had declined through to 2007 (as noted by the ACCC in its June 2007 determination), the ACCC noted that the level of pass-through had weakened in recent years, with Telstra's residential FTM prices actually increasing since 2007.
670. The ACCC acknowledged that the reduction in MTAS rates may have been passed through into the retail prices of other services provided in the bundle of pre-selected fixed line services, observing that the prices of bundled fixed services had been declining. However, the ACCC concluded that the degree of FTM pass-through is lower than expected, given the reductions in MTAS prices.
671. While the level of FTM pass-through exhibited in Telstra's retail FTM prices may have been limited in Australia, the Commission has noted above that historical levels of FTM pass-through across all FTM operators in New Zealand have been around 75%, prior to the implementation of the Deeds.
672. In addition, the Commission notes that while the level of competition between fixed networks is likely to be limited (as identified by the EC), the supply of calling services (such as FTM and toll calls) is generally regarded as being open to greater competitive pressure, for example through the availability of carrier pre-selection which enables subscribers on Telecom network to easily select other competitors to supply calling services.
673. In addition to changes in the retail price of FTM calls, the Commission notes that retail customers often purchase retail FTM and toll call services as a bundle from the same supplier. This was one consideration that led the Commission to define a single retail

³¹⁶ ACCC, *MTAS Pricing Principles determination 1 July 2007 to 31 December 2008*, June 2007, page 22.

³¹⁷ *ibid*, page 23.

market for FTM and toll call services. A reduction in the wholesale MTR, which is used as an input into the supply of retail FTM and toll call services, may therefore result in a reduction in the retail price of toll services.

674. The average retail price of a national toll call has fallen from 15.39 cpm in 2000, to 10.07 cpm in 2008, a reduction of 5.32 cpm (or 35%). While other factors may have contributed to this reduction,³¹⁸ the average MTR fell from 35.00 cpm to 16.70 cpm over this period, and it is likely that some of this reduction has flowed through into retail toll prices.³¹⁹
675. End-users may also benefit from a reduction in MTRs as a result of improvements in non-price terms, such as a higher quality of retail service and support.³²⁰ Such benefits would not be captured by focusing solely on changes in retail prices.

Competition and pass-through

676. The level (and speed) at which changes in costs of an upstream input are passed through into downstream retail prices will be positively related to the level of competition in the retail market.³²¹ This can be illustrated by considering a simple model of competition under conditions of linear demand, as shown in Figure 17.
677. In Figure 17, the initial cost of supplying a retail FTM call is shown as C_0 . Given the demand for retail FTM calls, a profit-maximising monopoly supplier of retail FTM calls would set a retail FTM price of P_m , which equates its marginal cost and its marginal revenue. If the cost of supplying a retail FTM call falls to C_1 , for example as a result of a move to cost-based termination rates, the monopolist would be able to increase its profits on FTM calls by reducing its retail price and allowing demand to expand along the demand curve, from A to B.³²² Profits will be maximised by reducing the retail price to P'_m .
678. The reduction in retail price from P_m to P'_m is equal to 50% of the reduction in cost from C_0 to C_1 . In other words, for a downstream monopolist, a reduction in cost would be expected to result in a pass-through rate of 50%.

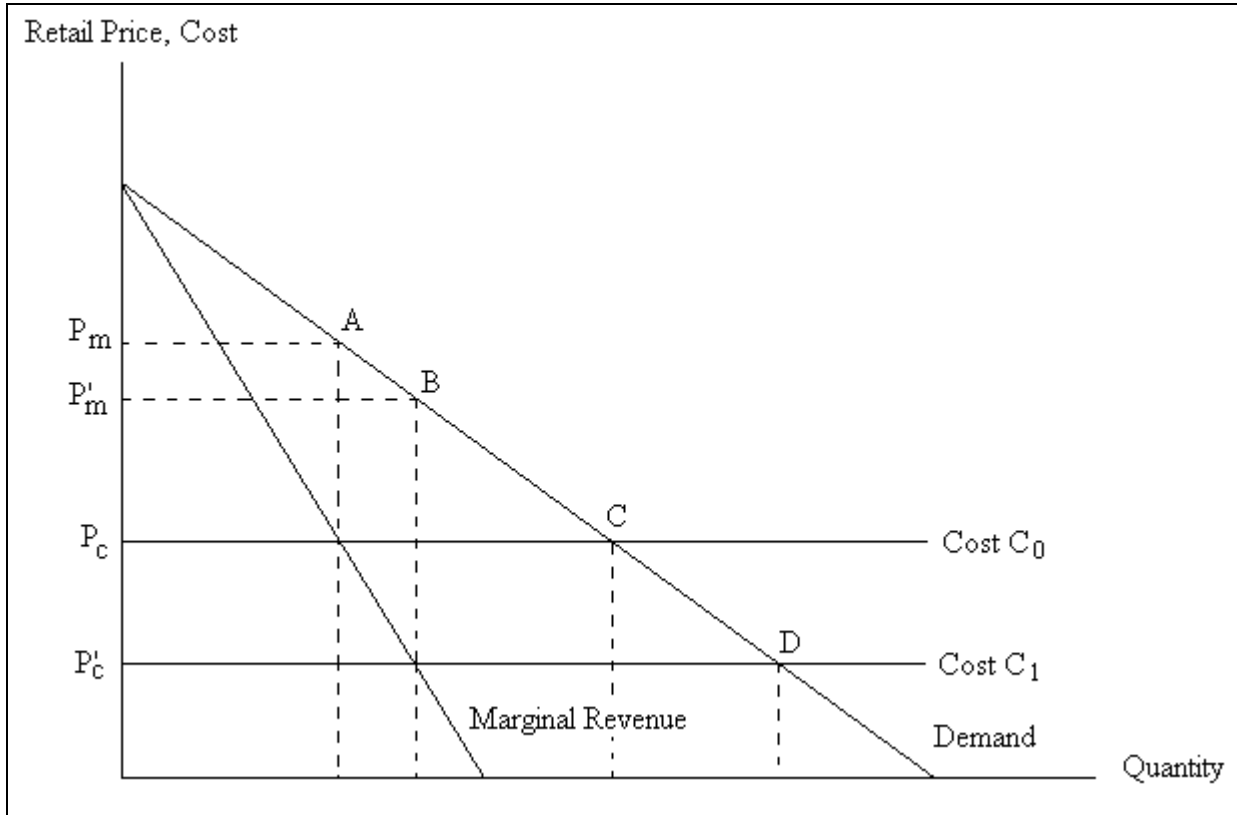
³¹⁸ For example, the wholesale prices for fixed origination and termination services was regulated in the Telecommunications Act 2001. In November 2002, the Commission determined prices for these fixed interconnection services.

³¹⁹ The ACCC has noted that reductions in MTRs may be passed through into lower retail prices for other services supplied in the same market as FTM calls. See ACCC (2004), pages 123-124; ACCC (2007), pages 27-28.

³²⁰ The Commission has previously noted that a regulated reduction in MTRs could have additional pro-competitive effects, such as increased investment in marketing and new facilities, and improved ability to compete in particular customer segments. Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Reconsideration Final Report*, 21 April 2006, paragraph 378.

³²¹ In the recent staff working paper, the EC notes (at page 20) that the level of pass-through is strictly linked to the level of competition observed in the market.

³²² At each point between A and B, the monopolist's marginal revenue exceeds its new marginal cost, and so profits can be increased by expanding demand until point B is reached.

Figure 17: Competition and Pass-through

Source: Commerce Commission (2009).

679. If the downstream retail market were perfectly competitive, then the initial retail price for FTM calls would be P_c , given costs of C_0 . A reduction in cost to C_1 would lead to a move along the demand curve from C to D, and a reduction in the retail price to P'_c . Any attempt to retain some of the cost reduction by a supplier of FTM calls would result in a retail price that exceeds the new cost base, which would result in a loss of customers that could not be sustained. For example, given the absence of barriers to entry or expansion in the competitive market, the increased margins would be expected to attract new entry or expansion within the FTM market, until such point that the margin has been eroded. The retail FTM price would be forced down to match the reduction in cost, resulting in full or 100% pass-through.

Pass-through under the counterfactual of no regulation

680. Vodafone's undertaking dated 6 May 2009 specifically refers to the issue of pass-through in the context of terminating FTM calls.³²³ Section 3.2 of Schedule 4 of the initial undertaking for the Vodafone FTM Call Termination Service requires that an access seeker pass on the full reduction in MTR to the access seeker's customers in the form of a reduction in the retail price of FTM calls to Vodafone mobile subscribers.³²⁴ Similarly, according to Section 3.4 of the draft undertaking, Vodafone is required to pass on to Vodafone fixed calling customers any reduction in the MTR payable to the access seeker.

³²³ Vodafone has submitted separate draft Undertakings for the termination of FTM calls, MTM calls, and SMS. The draft Undertaking in respect of the Vodafone FTM Call Termination Service contains specific pass-through conditions.

³²⁴ The example given in paragraph (b) of Section 3.2 requires complete pass-through.

681. Telecom's Undertaking does not include any pass-through condition. According to Telecom's submission,³²⁵ the Commission's role is not to regulate retail prices, including pass-through, and it is not appropriate to include such provisions either in an Undertaking to the Commission or in a designated service under the Act. Telecom submitted that:³²⁶

Should the Commission consider that a pass-through obligation would be of sufficient benefit to end users, it can achieve this by accepting the continuation of the Telecom and Vodafone MTR Deeds.

682. The Commission notes that the significance of the pass-through condition contained in the MTR Deeds to which Telecom refers is considerably reduced by the relatively small reductions in MTRs under the Deeds that are passed through into retail prices. For example, under the Vodafone Deed, the MTR is gradually reduced over a period of 4 years from 17 cpm in 2007/08, to 14 cpm by 2011/12. Under the Telecom Deed, the MTR is reduced from 17 cpm to 12 cpm over the same period.

683. In comparing the level of pass-through under the counterfactual, the Commission considers it appropriate to have regard to the pass-through condition in the Vodafone undertaking, and the likely volume of calls to which that condition would apply. In the absence of a similar condition requiring pass-through in the Telecom undertaking, the level of pass-through that occurred up to the point at which the Deeds took effect has been used. As noted in paragraph 664 above, this is 75%.

684. In summary, the Vodafone undertaking involves 100% pass-through of the reduction in MTRs contained in the undertaking. In the absence of a similar pass-through requirement in the Telecom undertaking, the Commission has used a 75% pass-through rate for the reduction in MTRs in the Telecom undertaking. The Commission has weighted these pass-through rates by the proportion of mobile subscribers on each network, with Vodafone having approximately 53% of subscribers, and Telecom 47%. Based on these shares, the Commission's preliminary view is that the average level of pass-through under the counterfactual is expected to be approximately 88%.

Pass-through under the factual of regulation

685. In the Commission's previous investigation into MTRs, the Commission assumed that the level of pass-through into retail FTM prices would gradually increase from the level historically observed, to full pass-through by the end of the period over which the net benefits from regulation were being considered. The Commission noted that the introduction of cost-based MTRs would remove a significant barrier to expansion and entry in the downstream retail market,³²⁷ and that the consequent increase in downstream competition was likely to increase the level of pass-through.

686. In particular, the Commission noted that the following conditions that were necessary for a potential vertical price squeeze were likely to be met in the supply of FTM calls.³²⁸

- the upstream mobile termination service is a key input into the supply of retail FTM calls;

³²⁵ Telecom, Submission Accompanying Revised Undertaking, 6 May 2009.

³²⁶ *ibid*, paragraph 79.

³²⁷ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Reconsideration Final Report*, 21 April 2006, paragraph 210.

³²⁸ *ibid*, paragraph 211.

- at least one firm, namely Telecom, was vertically-integrated across both the upstream and downstream markets, and in the absence of regulated MTRs, Telecom was likely to possess market power in both markets; and
- the downstream market was open to competition from non-vertically-integrated competitors (serving fixed subscribers only).

687. The Commission also noted that as a vertically-integrated operator, with both a fixed network (on which FTM calls originate) and a mobile network (on which such calls terminate), Telecom is likely to enjoy a significant cost advantage over non-integrated competitors in supplying FTM calls. As long as MTRs remain significantly above cost, then for an FTM call that terminates on Telecom's mobile network, Telecom will face the actual cost of terminating the call (which the Commission currently estimates to be 7.2 cpm), whereas a competing supplier of FTM calls will face the above-cost MTR (which is currently around 16 cpm).

688. This issue is particularly significant, given the importance of the wholesale MTR as a proportion of the retail price of FTM calls. As shown in Table 40, the Commission has estimated that the average retail price for FTM calls in New Zealand in 2008 was 30.66cpm, while the average MTR was 16.70 cpm. In other words, the MTR represented just over 54% of the average retail FTM price. This proportion was even higher in previous years, before the Deeds took effect. For example, in 2004, when the Commission first commenced its investigation into MTRs, the average MTR was 66% of the average retail FTM price. This illustrates the importance of the MTAS, and that above-cost MTRs can have a potentially significant impact on the ability of non-vertically integrated competitors to compete in the downstream retail market.

689. In its previous MTR investigation, the Commission noted that for a non-integrated fixed competitor purchasing mobile termination at the MTR prevailing at the time (28 cpm), the margins available on FTM calls for business customers³²⁹ were likely to be small or even negative.³³⁰ In its submission on the draft undertakings received as part of the current investigation, CallPlus argued that:³³¹

“‘fixed to mobile’ convergence means that integrated fixed & mobile providers can bundle and cross-subsidise if mobile termination rates are held ‘artificially’ high. The Commission has already noted that bundling, calling circles and on-net pricing are becoming increasingly prevalent in the market. In CallPlus’ experience this has become the ‘norm’ particularly following Vodafone’s purchase of iHug. By adopting a cost based approach to termination rates and aligning MTM & FTM rates the commission can create a level playing field for competition in the fixed line market.”

690. In its annual monitoring report for 2007, the Commission observed that both Telecom and Vodafone were offering retail packages to business customers with retail FTM prices close to or below the wholesale MTR.³³² The Commission noted that this suggests that integrated fixed and mobile operators enjoy a significant premium on the termination of mobile traffic that is not available to other carriers.

³²⁹ After allowing for other network- and retail-related costs.

³³⁰ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Final Report*, 9 June 2005, paragraph 270.

³³¹ CallPlus submission, 13 February 2009.

³³² Commerce Commission, *2007 Telecommunications Market Monitoring Report*, 31 March 2008, paragraph 169.

691. This continues to be the case. For example, Vodafone currently offers a business landline and calling package called Business Tolls Plus.³³³ Under this plan, the retail price for FTM calls to a Vodafone mobile subscriber is 13 cpm.³³⁴ Under Vodafone's Deed, Vodafone currently charges 15 cpm for terminating FTM calls on its mobile network. Once the additional costs associated with call origination and other costs are included, Vodafone's retail FTM price for business customers appears to be even lower, relative to the costs that would be incurred by a competitor in supplying such a call.
692. Under the factual scenario of regulation, non-integrated competitors would be able to efficiently compete with Telecom (and Vodafone) in the supply of FTM calls from a similar cost base, and would allow them to increase competitive pressures in the supply of such calls.
693. In its 2004 decision to extend regulation of the MTAS, the ACCC came to a similar conclusion:³³⁵
- “... absent declaration, vertically integrated fixed and mobile network operators have the ability and incentive to increase the price of the MTAS above its underlying cost of provision. As a result of this, equally efficient competitors in the relevant downstream markets might not be able to compete with vertically-integrated providers of FTM services, because vertically-integrated carriers are able to raise input costs for fixed-only operators above those which they face when terminating calls on their own network. Further, setting the price of the MTAS above its underlying cost of provision gives vertically-integrated operators a ‘cushion’ that enables them to withstand the competitive threat that a more efficient operator in downstream markets could present. By lowering the cost of the MTAS towards its underlying cost of provision, declaration can ensure equally or more efficient CSPs can place competitive pressure on vertically-integrated providers of FTM services to improve their own efficiency and reduce prices paid by consumers of FTM (and possibly STD and IDD) services. Hence, the Commission considers that regulated MTAS charges would provide a stimulus for increased competition from existing FTM providers, and possibly from new entrants.”
694. The EC also comment on the potential for cost-based MTRs to result in greater competition and innovation in the downstream retail markets. According to the EC:
- “fixed operators are currently constrained in their ability to compete on fixed-mobile converged services or to include mobile calls in their low-cost flat-rate packages involving fixed or data services due to MTRs currently being several times (almost nine to ten times on average) the level of FTRs. ... high per-minute MTRs render it difficult for fixed carriers to offer flat-rate calling plans incorporating mobile calls due to uncertainty regarding likely levels of customer take-up and the associated cost risk.”
695. The other key component of supplying a retail FTM call is the origination of the call on the calling party fixed network. The fixed origination service is currently a designated service under Schedule 1 of the Act, with the price set according to cost-based pricing principles.³³⁶
696. Under the factual, both termination and origination services would be cost-based. From the supply-side, the prices of the key wholesale services used to supply FTM calls would

³³³ According to the Vodafone website, to be eligible for Vodafone Business Tolls Plus, the business must be a Vodafone mobile customer, as well as ensuring that all of its calling from its Vodafone Business landline is with Vodafone. See <http://www.vodafone.co.nz/business/fixed-line/plans.jsp>.

³³⁴ Excluding GST.

³³⁵ ACCC, *Mobile Services Review: Mobile Terminating Access Service*, June 2004, page 121.

³³⁶ The Commission has previously determined the price for this service under the IPP, resulting in a benchmarked price of 1.13 cpm for toll bypass calls. See Commerce Commission Decision 477, 5 November 2002, paragraph 173.

reflect the wholesale costs of origination and termination, indicating that there would be low barriers to entry into the supply of such calls.

697. On the demand-side, the Commission has noted that end-users tend to purchase FTM calls and other services such as toll calls from the same service provider. If competitors were unable to offer competitive bundles of retail services, this would tend to limit the ability to compete with a horizontally-integrated supplier such as Telecom. However, a range of wholesale access services are available under the Act, including regulated resale, unbundled bitstream access and unbundled copper local loop access. These services are likely to enable a competitor to supply FTM calls along with other calls and access services, without having to incur the significant sunk costs associated with deploying a full access network.

Commission's preliminary views regarding pass-through under the factual of regulation

698. The Commission's preliminary view in this draft Report is consistent with the view that it has previously taken, that cost-based regulation of MTRs would address a significant barrier to entry and expansion in the downstream retail market. Historical levels of FTM pass-through prior to the implementation of the Deeds are likely to increase as a result of regulation promoting competition in the downstream market in which FTM calls are supplied. If the reductions in MTRs are not passed on to end-users in the form of reduced retail prices, either for FTM calls or other services supplied in conjunction with FTM calls, the increased margins earned on supplying such calls are likely to attract expansion from existing competitors and/or new entry into the retail market.
699. For the purposes of estimating the potential benefits from regulating MTRs in the downstream retail market in which FTM calls are supplied, the Commission has assumed that the historical level of pass-through will increase from 75% (which, as noted above, was the observed level over the period from 1997-2007) to 100% by the end of the period under consideration.
700. The Commission considers that under the factual of regulation, pass-through levels may increase at a faster rate, as the higher margins earned on FTM calls over the intermediate period attract a competitive supply response. The Commission has therefore estimated a range of potential benefits by considering a faster movement towards full pass-through.
701. The movement towards full pass-through under a scenario of regulation has previously been criticised as being too optimistic by submissions on behalf of the mobile operators, on the basis that full pass-through amounted to an assumption of perfect competition.³³⁷
702. The Commission previously responded to this criticism by noting that while full pass-through of costs into retail prices would be expected under perfect competition, perfect competition would also result in prices equalling costs. Even with complete pass-through being reached by the end of the period, the Commission found that the retail FTM price would remain significantly above the estimated cost of supplying such calls. The Commission also estimated that the margin between the retail FTM price and the wholesale MTR remained higher under the regulatory factual. The Commission previously concluded

³³⁷ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Reconsideration Final Report*, 21 April 2006, paragraph 221.

that its assumptions around pass-through under regulation were likely to be conservative.³³⁸ The Commission's preliminary view in this draft Report is consistent with these previous conclusions.

Impact of Regulation in the Downstream FTM/tolls Market

703. As discussed above, the Commission considers that cost-based regulation of MTRs will result in a substantial reduction in MTRs from the levels contained in the Undertakings. In addition, cost-based MTRs are likely to facilitate greater competition in the downstream market in which FTM calls are supplied, which will lead to greater benefits to end-users, including increased levels of pass-through of lower MTRs into retail prices.
704. The combination of wholesale MTRs and pass-through will result in a profile of retail prices under the counterfactual and factual scenarios. In respect of FTM calls, Table 41 summarises the expected impact on retail prices under each scenario. With cost-based MTRs, the average retail FTM price would be expected to decline from 30.66cpm in 2008, to 18.30cpm by 2014. With the MTRs contained in the undertakings, the retail FTM price would decline from 30.66cpm, to 25.53cpm by 2014.

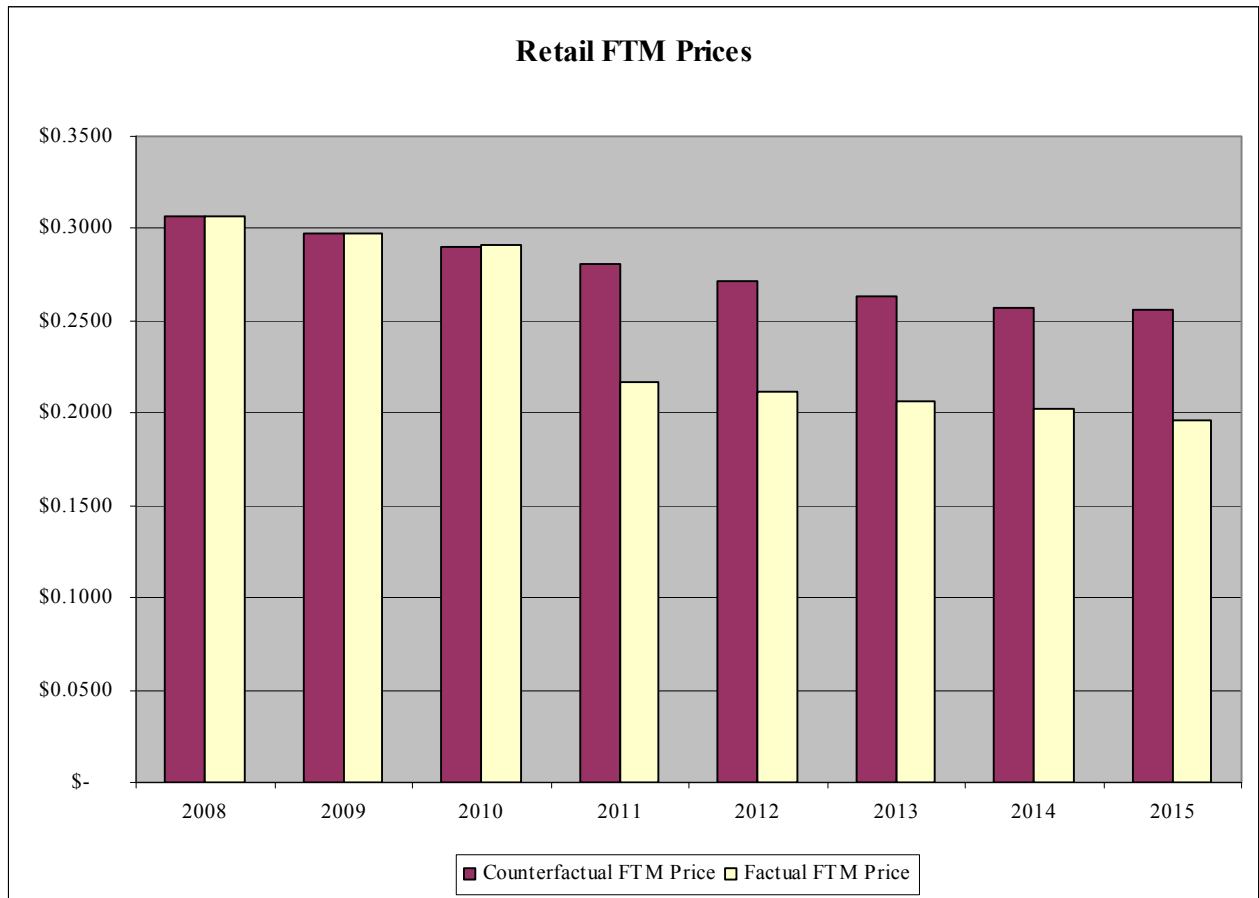
Table 41: Counterfactual and Factual Retail FTM Prices (cpm)

	2008	2009	2010	2011	2012	2013	2014	2015
Counterfactual								
MTR	16.25	15.25	14.41	13.35	12.31	11.31	10.66	10.53
pass-through		88%	88%	88%	88%	88%	88%	88%
Retail FTM	30.66	29.78	29.04	28.10	27.18	26.30	25.73	25.61
Factual								
MTR	16.25	15.25	14.41	5.80	5.20	4.70	4.30	3.80
pass-through	75%	78%	81%	85%	88%	92%	96%	100%
Retail FTM	30.66	29.78	29.07	21.73	21.17	20.66	20.22	19.66

Source: Commerce Commission (2009).

705. As shown in Figure 18, there is a significant reduction in retail FTM prices in the first year of regulation (2011). This is due to the reduction in MTRs from 14.4 cpm in 2010 to 5.8 cpm in 2011, of which just over 85% (or 7.3 cpm) is passed into retail prices. This compares to a relatively small reduction in MTRs in the undertakings (from 14.4 cpm to 13.35 cpm), of which 88% (0.9 cpm) is passed through into retail prices.

³³⁸ *ibid*, paragraphs 221 to 226.

Figure 18: Counterfactual and Factual Retail FTM Prices

Source: Commerce Commission (2009).

706. To the extent that pass-through occurs more quickly under the factual, for example as new entry is attracted to increased FTM margins, there would be greater reductions in the retail FTM price in the intermediate years under the factual.
707. There may also be some additional impact felt in respect of retail prices for other services that are supplied in the same market as FTM calls. In its previous investigation, the Commission noted a submission from TelstraClear, that regulation of MTRs will result in greater competition in the retail market in which FTM calls are supplied, and that this will flow through not only into retail FTM prices, but also into retail prices for national and international toll services.³³⁹
708. In 2011, regulation of MTRs results in an average retail FTM price that is 23% below the average retail FTM price that is expected under the Undertakings. In 2015, the factual retail price is also 23% below the counterfactual retail price.
709. Given the total volume of FTM minutes, which was approximately 1,030 million in 2008, a reduction in the retail price of FTM calls of the above magnitude is likely to have a significant impact in the downstream retail market.

³³⁹ Commerce Commission, Final report, 9 June 2005, paragraph 271.

710. To gauge the kind of impact that could be expected, the Commission has used an elasticity of demand for FTM calls of -0.60, which was used by the Commission in its previous investigation into MTRs. During that investigation, the Commission had regard to a range of elasticity estimates, including estimates that had been submitted to the UK Competition Commission and to the ACCC. The Commission concluded that a demand elasticity of -0.60 was appropriate.³⁴⁰
711. Following the approach used in the previous MTR investigation, whereby the increase in FTM volumes was estimated for both linear demand and constant elasticity demand (CED) functions, the Commission has estimated FTM volumes that are consistent with the above reductions in retail FTM prices as a result of regulating MTRs. The resulting FTM volumes under both the counterfactual of the undertakings, and the factual of regulation, are summarised in Table 42.

Table 42: Counterfactual and Factual Outgoing FTM Volumes (million minutes)

	2008	2009	2010	2011	2012	2013	2014	2015
Counterfactual								
FTM volume	1,033	1,051	1,066	1,087	1,108	1,130	1,145	1,148
Factual								
linear demand	1,033	1,051	1,066	1,227	1,246	1,264	1,281	1,302
CED	1,033	1,051	1,066	1,268	1,288	1,306	1,323	1,345

Source: Commerce Commission (2009).

712. In 2011, estimated FTM demand increases by between 140 million and 181 million minutes, compared to what it would be under the undertakings. Over the five-year period, the reduction in retail FTM prices that results from regulation of MTRs leads to an expansion of FTM demand of between 702 million and 912 million minutes (an increase of between 12% and 16%), depending on demand conditions.

Long-term Benefit of End-users

713. As noted in paragraph 628, the Commission must consider whether regulation is likely to best give effect to the purpose of the promotion of competition for the long-term benefit of end-users.
714. In the Commission's preliminary assessment, cost-based regulation of the MTAS is expected to remove a significant barrier to efficient entry and expansion in the downstream retail market in which FTM calls are supplied. The resulting increase in competition between suppliers of retail FTM services will increase the level of pass-through which, when combined with the reduction in MTRs to cost-based levels, will result in significant reductions in retail prices, and a consequent expansion in the volume of FTM calls.

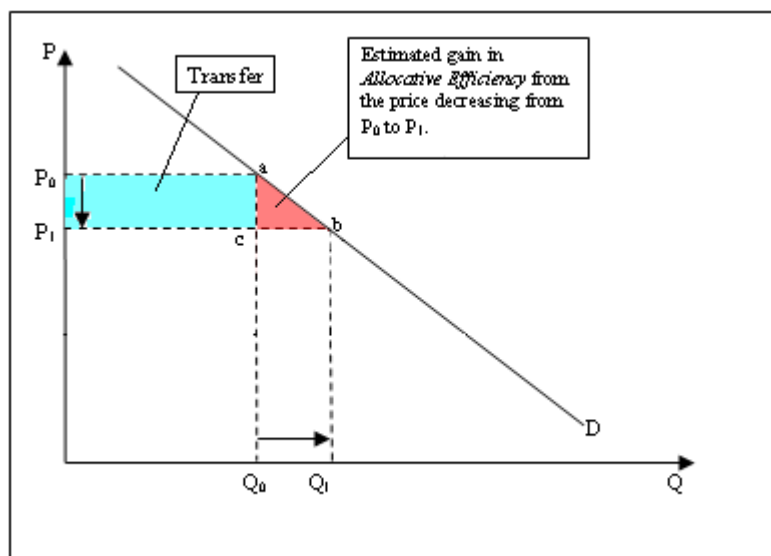
³⁴⁰ The EC working paper (7 May 2009) conservatively assumes an FTM elasticity of demand of -0.30 (again with a range from 0.0 to -0.6). The EC paper refers to a range of FTM elasticity estimates that were provided to the UK Competition Commission during a 2003 investigation, from -0.11 to -0.43, and an Access Economics estimate of -0.08 for Australia. However, as noted previously by the Commerce Commission, the UKCC raised a number of concerns over the reliability of the lower bound estimates. See Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Final Report*, 9 June 2005, paragraphs 471 to 496.

715. Stronger competition in the downstream retail market will deliver a number of benefits to end-users, and given the Commission's preliminary view that the regulated MTRs will allow for the recovery of the cost of supplying the MTAS, these benefits are expected to be sustained in the long-run.
716. The long-term benefits to end-users in the retail FTM/tolls market will include both static price effects, as well as longer term dynamic gains.
717. In considering the impact of cost-based regulation of the MTAS on competition in the downstream markets and the long-term benefit of end-users, the Commission has considered the efficiencies that are likely to result from such regulation. In the Issues Paper, the Commission referred to the three forms of efficiency: allocative efficiency, productive efficiency, and dynamic efficiency. Each of these forms of efficiency are discussed below.

Static price effects

718. The static gains resulting from lower retail prices are in Figure 19. The retail price for FTM calls declines from P_0 (the counterfactual prices shown in Table 41) to P_1 (the factual retail prices in Table 41). Given some elasticity of demand for FTM calls, the reduction in retail price leads to an increase in demand, from Q_0 to Q_1 (Table 42). The lower prices generate an increase in allocative efficiency equal to the area abc . In addition, the increased competition results in a transfer from suppliers of FTM calls to consumers equal to P_0P_1ca . The overall increase in consumer surplus is equal to P_0P_1ba .

Figure 19: Change in Consumer Surplus



Source: Commerce Commission (2009).

719. The resulting long-term benefit to end-users with respect to retail FTM services over the five years is summarised in Table 43.

Table 43: Increase in FTM Consumer Surplus (\$ million)

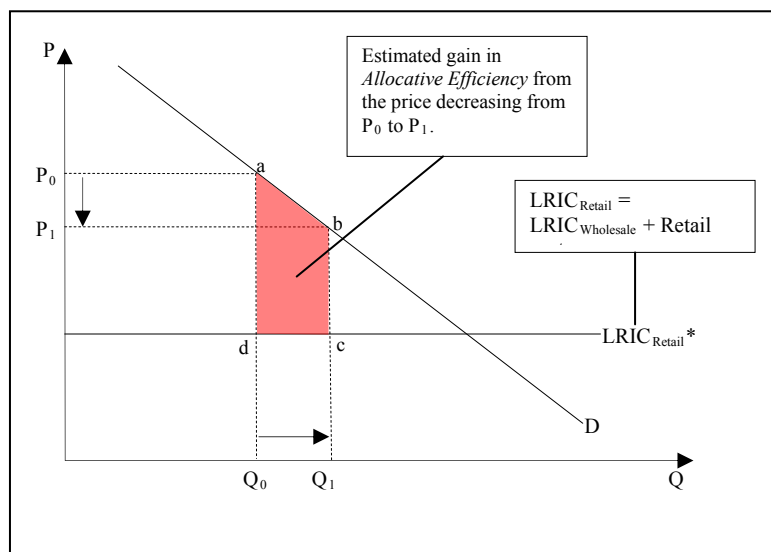
	2011	2012	2013	2014	2015
linear demand	73.675	70.768	67.550	66.822	72.894
CED	74.590	71.657	68.411	67.674	73.776

Source: Commerce Commission (2009).

720. The net present value (2009) of the long-term benefits to end-users in the retail FTM market is between \$280 million and \$283 million over the five years.

Allocative efficiency

721. Allocative efficiency involves ensuring resources are allocated to those producers and consumers who value them most highly. That is, the goods and services that are produced in the economy are the ones most valued by consumers and the distribution of production costs amongst firms within the industry minimises industry-wide costs. Allocative efficiency is achieved by setting prices equal to long-run marginal costs. Decreasing wholesale access prices for access seekers to cost reflective levels in the long run allows for increased competition and lower prices in the downstream retail market where the wholesale service is being used.
722. While the greater competition between retail FTM suppliers will result in benefits to end-users from lower prices and increased demand, producers will also gain to the extent that retail FTM prices remain above the incremental cost of supplying retail FTM service. This margin of retail price over incremental cost, over the new FTM volumes, is a gain in producer surplus, and is illustrated in Figure 20.
723. Figure 20 depicts the change in total surplus that would result from a reduction in the retail price of FTM calls from P_0 (the counterfactual prices shown in Table 41) to P_1 (the factual retail prices in Table 41). Given some elasticity of demand for FTM calls, the reduction in retail price leads to an increase in demand, from Q_0 to Q_1 (Table 42). The expansion in demand generates an increase in total surplus equal to the area $abcd$, which is comprised of an increase in consumer surplus, as well as an increase in producer surplus as long as the resulting price P_1 remains above the cost of supplying retail FTM calls, which is shown as $LRIC_{Retail}^*$.

Figure 20: Change in Total Surplus

Source: Commerce Commission (2009).

724. In order to consider the change in total surplus that results from regulation, an estimate of the cost of supplying retail FTM calls ($LRIC_{Retail}^*$) is required. This is in order to estimate the increase in producer surplus over the new FTM demand that is generated from regulation, and which is indicated in Table 42.
725. The term $LRIC_{Retail}^*$ includes the network-related costs of supplying an FTM call (such as origination, transport, and termination of the call), as well as retail costs (such as marketing). In its previous MTR investigation, the Commission estimated the various costs of these components of a retail FTM call.
726. Table 44 summarises the estimated costs associated with the provision of a retail FTM call. The cost of the fixed origination service is based on the Commission's previous benchmarked costs for fixed interconnection, and the transport cost is based on the Commission's previous MTR investigation. The cost-based MTR is based on the Commission's current benchmarking, allowing for a reduction in costs over time. Retail costs are estimated to represent 18% of the retail price, based on previous Commission benchmarking for the regulated resale and bitstream services.
727. The resulting total cost of supplying a retail FTM call is estimated to be 9.76 cpm for 2011. The Commission notes that this includes a contribution to common costs. However, in estimating the allocative efficiency impact of regulation, the relevant cost ($LRIC_{Retail}^*$) should exclude common costs, as the change being considered is at the margin. The Commission has therefore deducted 10% from the estimated cost of the retail service, in order to exclude common costs.³⁴¹ The resulting $LRIC_{Retail}^*$ estimate for in 2011 is 8.78 per minute. This cost declines slightly over subsequent periods, in line with the expected reduction in MTAS costs over time.

³⁴¹ The 10% is based on the Commission's use of a 10% mark-up for common costs in STDs.

Table 44: Estimated FTM Call Costs (cpm)

	2011
Fixed origination	1.00
Transport	1.20
Mobile Termination	5.80
Retail costs	1.76
Total cost	9.76
Total cost (excl common cost)	8.78

Source: Commerce Commission (2009).

728. As shown in Table 41, the retail FTM prices under the factual of regulation remain above the estimated cost of supply. For example, in 2011, the factual retail FTM price is 21.73 cpm, compared to the cost of supplying a retail FTM minute of less than 10 cpm. Over the new volume of demand, suppliers of FTM calls will therefore earn a significant level of producer surplus, and this is captured in the total surplus results.
729. The increase in total surplus over the five years is summarised in Table 45.

Table 45: Increase in FTM Total Surplus (\$ million)

	2011	2012	2013	2014	2015
linear demand	22.601	22.124	21.370	21.505	24.694
CED	28.843	28.430	27.704	27.897	31.268

Source: Commerce Commission (2009).

730. The net present value of the increase in total surplus is between \$89 million and \$114 million over the five years.

Productive efficiency

731. In addition, increased competition in the downstream FTM market is also likely to increase the pressure on FTM suppliers to search for cost-minimising forms of supply ('productive efficiency'). Failure to do so could result in displacement by more efficient suppliers.
732. The Commission has not quantified the potential efficiency gain arising from increased productive efficiency. However, the FTM/tolls market is a significant market, with combined retail revenues for 2008 estimated to be in excess of \$650 million. Increased competition across this market could result in substantial gains in productive efficiency.
733. The Commission's preliminary view is that regulation of MTAS may increase productive efficiency in the retail FTM/tolls market.

Dynamic efficiency

734. The benefits in the FTM/tolls market discussed above from designation of the MTAS are static gains arising from lower retail prices and increased demand for FTM and toll calling services.
735. As cost-based designation of the MTAS leads to increased competition in the downstream retail FTM/tolls market, there is likely to be a number of additional benefits experienced by end-users. Greater competition typically increases pressure on suppliers to minimise costs over time, as well as to create innovative services and offers to end-users.
736. The EC has recently acknowledged the limitations of static models and the importance of dynamic effects of regulated reductions in MTRs:³⁴²
- “Furthermore, the [quantitative] model cannot capture all of the dynamic impacts of termination rate reductions which are extremely important in the case of fixed operators. By eliminating competitive distortions between fixed and mobile operators, the Recommendation [to reduce MTRs to a level that reflects the forward-looking LRIC] will ensure a more level playing field for all. Fixed operators are currently constrained in their ability to compete on fixed-mobile converged services or to include mobile calls in their low-cost flat-rate packages involving fixed or data services due to MTRs currently being several times (almost nine to ten times on average) the level of FTRs. ... Reducing termination rates across all markets to the incremental cost of providing this service should therefore provide operators in the fixed sector with greater scope for offering various flat-rate packages and/or converged services, thereby creating additional revenue and competitive opportunities. This should in turn create balanced and efficient incentives to invest and innovate.”
737. As discussed earlier in this draft decision, the Commission’s preliminary view is that, in the absence of network and calling externalities, the wholesale MTR should reflect the level of efficiently-incurred costs of supplying the MTAS. This is also consistent with the way in which fixed origination and termination services are regulated in New Zealand. As noted by the EC above, such wholesale pricing should eliminate distortions between fixed and mobile operators in supplying calling services.
738. The EC also comment on the potential for cost-based MTRs to result in greater competition and innovation in the downstream retail markets. According to the EC, the ability of fixed operators to compete in the supply of fixed-mobile converged services, or to include mobile calls as part of a flat-rate package, is limited due to MTRs currently being several times the level of fixed termination rates. This is because the high per-minute MTR increases the level of uncertainty regarding likely levels of customer take-up and the associated cost risk of such plans.
739. Under the factual, the MTRs reflect the cost of supplying the MTAS. This is likely to lead to greater innovation in the retail offers that can be made by suppliers of FTM services. The EC points to the possibility of fixed operators being able to offer flat-rate calling plans that include FTM calls, an innovation which tends to be limited where MTRs exceed cost. The Commission notes that flat-rate retail plans offering unlimited on-net MTM calls to nominated numbers are becoming more prevalent in New Zealand. For example,
- Vodafone’s Best Mates plan offers unlimited MTM calls and SMS to nominated Vodafone subscribers for \$6 per month per nominated number;

³⁴² EC Staff Working Document, 7 May 2009, page 24.

- Telecom’s My Favourites plan provides for unlimited on-net mobile calls to up to three nominated Telecom mobile (i.e. MTM) or Telecom fixed (i.e. MTF) subscribers, for \$6 per month per nominated number; and
- Telecom’s Freedom plan allows Telecom fixed subscribers to make an unlimited number of FTM calls (with each call limited to up to 60 minutes) to up to five nominated Telecom mobile subscribers, for \$10 per month per mobile.

740. In offering such on-net plans, the integrated operators incur the actual cost of termination on their own networks. Setting the MTR at the cost-based level may encourage similar innovations to be offered by fixed network operators in respect of FTM services.

741. Cost-based rates will also encourage efficient investment decisions to be made by both fixed and mobile operators, rather than having those investments distorted by interconnection rates that are inflated through market power. The EC has raised concerns over the large gap between fixed termination rates and MTRs in Europe (where MTRs are up to ten times the fixed termination rate) and the potential implications for efficient investment.³⁴³

“The large gap between fixed and mobile termination rates ... could ultimately prove to be a barrier to important innovations and investments in the fixed sector such as fibre roll-out and the delivery of Next Generation Networks (NGNs) which will allow higher bandwidths and more efficient provision of multiple services. Convergent offers from fixed operators may also be impeded because of the disparity between fixed and mobile termination rates which limits the inclusion of mobile calls within fixed bundles. Large transfers from fixed to mobile networks comprise a potentially significant source of economic distortion which *inter alia* leads to an inefficient redistribution of expenditure amongst various customer groups. This also leads to a distortion of competition and investments with potentially serious implications for important network and service innovations in the fixed sector.”

742. In New Zealand, the Commission has previously determined a fixed termination rate of just over 1 cpm.³⁴⁴ By comparison, the current MTR in New Zealand is 15 cpm. Allowing for inflation,³⁴⁵ the current MTR exceeds the fixed termination rate by a factor of 11.3. This ratio exceeds the ratio in Europe, which the EC has said was already high by global standards.

743. While a cost-based MTR may differ from a cost-based fixed termination rate, such a divergence is likely to be considerably smaller than the gap referred to in the preceding paragraph. As noted by the EC, an inflated divergence is likely to distort relative investments by fixed and mobile network operators, with fixed network investment potentially adversely impacts. The introduction of a cost-based MTR under the factual – which, as discussed earlier, would be set according to an IPP/FPP that is consistent with the pricing principles that currently apply to the designated fixed termination service – would remove such distortions and would, compared to the counterfactual, strengthen incentives for efficient investments in both the fixed and mobile networks in New Zealand.

³⁴³ *ibid*, page 12.

³⁴⁴ Commerce Commission, *Determination on the TelstraClear Application for Determination for Designated Access Services*, Decision 477, 5 November 2002.

³⁴⁵ The Consumer Price Index increased from 910 in December 2002 to 1075 in March 2009 (source RBNZ website), an increase of 18%. The inflation-adjusted fixed termination rate (1.13cpm set in November 2002) would be 1.33 cpm.

Commission's preliminary conclusion on long-term benefits of end-users in the retail FTM/tolls market

744. In the Commission's preliminary view, cost-based regulation of the MTAS is likely to result in significant benefits to end-users, compared to what would result from acceptance of the undertakings. The Commission considers that the MTRs in the undertakings are significantly above the cost of supplying the MTAS, and that cost-based regulation would therefore lead to substantial reductions in MTRs. This will enable fixed network operators to compete more vigorously in the supply of retail FTM calls. The increased competition in the downstream retail FTM/tolls market would increase the level of pass-through into retail prices, resulting in lower prices paid by end-users.
745. The Commission's preliminary assessment of the impact of cost-based regulation of the MTAS is that the potential static gains to consumers arising from greater competition are between \$280 million to \$283 million over five years. The gains in allocative efficiency are estimated to be between \$89 million and \$114 million over the period.
746. In addition, the increased competition between FTM suppliers is likely to ensure that production costs are reduced, resulting in potential gains in productive efficiency.
747. There are likely to be important dynamic benefits for end-users over time, for example in the form of innovative service offerings and the potential for increased use of flat-rate plans. Cost-based regulation of the MTAS is also likely to promote efficient investments decisions to be made by both fixed and mobile network operators over time, removing the distortionary impact of above-cost MTRs.
748. Table 46 summarises the Commission's preliminary assessment of the potential long-term benefit to end-users in the downstream retail FTM/tolls market arising from cost-based regulation of the MTAS, compared to the undertakings.

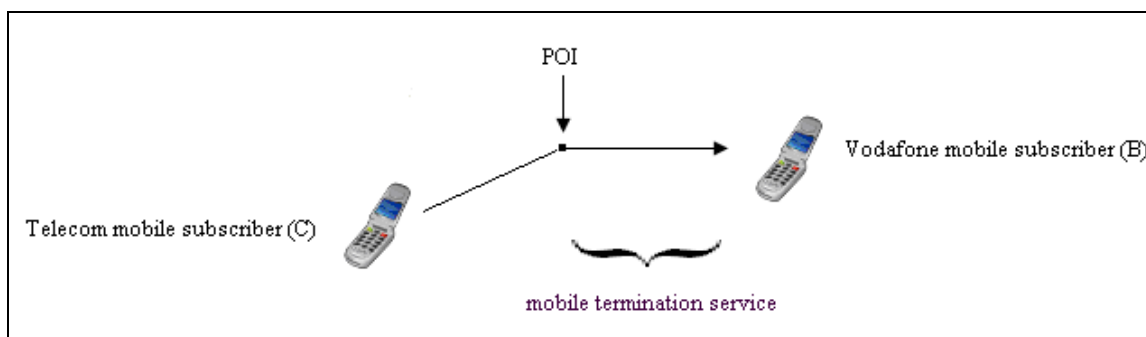
Table 46: Long-term Benefit of End Users (FTM/tolls market)

Static price effect	\$279.5 million - \$283.0 million
Allocative efficiency	\$88.9 million - \$114.2 million
Productive efficiency	positive
Dynamic efficiency	positive

Source: Commerce Commission (2009).

Potential Benefits – Retail Mobile Services Market

749. The MTAS is also used to supply outgoing call services to other mobile subscribers. These services include MTM calls, as well as SMS. For example, Figure 21 depicts the relationship between the mobile voice call termination service, which in this case is supplied by Vodafone, and an end-to-end MTM service from a Telecom mobile subscriber to a Vodafone mobile subscriber.

Figure 21: Mobile Termination and MTM

Source: Commerce Commission (2009).

750. The Commission has defined a downstream retail market for mobile services.³⁴⁶ This market includes the supply of a number of services that tend to be jointly supplied to customers, including subscription-related services and origination services. Subscription-related services include the provision of access (for example, through a monthly charge) as well as the provision of a handset. Origination services include the supply of outgoing communications that originate on a mobile handset, such as MTM calls, SMS, and other services.
751. The Commission has compared the termination rates that would apply in respect of mobile-originated calls and SMS under the undertakings, with the termination rates that the Commission considers would be likely to arise under designation. As noted earlier in the discussion of the appropriate pricing principle for the MTAS, the Commission's preliminary view is that a cost-based pricing principle is likely to be appropriate, although the Commission notes that in the longer term, BAK may become appropriate. The Commission has therefore assessed the MTRs in the undertakings, against a designated MTAS where the IPP is based on benchmarking against cost-based prices for similar services in comparable countries, and the FPP is based on TSLRIC.
752. In looking at the potential impact of regulation in the downstream mobile services market, the Commission has taken into account the likely impact of a reduction in the costs of supplying the retail services, as well as the likely dynamic effects of setting a cost-based MTR in the downstream market, including the potential for increased competition arising from a new mobile entrant. Given a relatively concentrated market, with significant barriers to entry, a new entrant may have a significant impact on competition. The Commission has considered the extent to which above-cost MTRs may constrain an efficient entrant from vigorously competing in the downstream retail market.
753. In considering the potential benefits of cost-based regulation of the MTAS in the downstream mobile services market, the Commission has used a more qualitative approach, given the difficulty of quantifying the effect of the incremental entry that is likely to arise under the factual.

³⁴⁶ See paragraph 147.

Wholesale Mobile Termination RatesCounterfactual

754. Under the Telecom and Vodafone undertakings, the MTRs for terminating mobile-originated voice calls are the same as those proposed for terminating calls from fixed subscribers. The 2degrees undertaking proposed a BAK arrangement for MTM calls and SMS.
755. The termination rates proposed in the undertakings for MTM and SMS are summarised Table 47, expressed in calendar years. The Commission has again derived a weighted average MTR in each case, based on the proportion of mobile subscribers on the Telecom and Vodafone networks in 2008.

Table 47: Counterfactual MTM and SMS Termination Rates (cpm)

	2009	2010	2011	2012	2013	2014	2015
<i>Voice</i>							
Telecom	15.25	14.25	12.50	11.25	10.25	10.00	10.00
Vodafone	15.25	14.55	14.10	13.25	12.25	11.25	11.00
Average	15.25	14.41	13.35	12.31	11.31	10.66	10.53
<i>SMS</i>							
Telecom		3.50	3.50	3.50	3.50	3.50	3.50
Vodafone		9.05	8.45	7.85	7.40	7.08	7.00
Average		6.44	6.12	5.81	5.57	5.39	5.36

Source: Commerce Commission (2009).

Factual

756. Under the factual scenario, the MTAS is subject to cost-based regulation. As discussed earlier, the Commission has based its view of the likely cost-based MTR on benchmarking against cost-based MTRs in other jurisdictions. Table 48 summarises the factual MTRs for MTM voice and SMS termination.

Table 48: Factual Mobile Termination Rates (cpm, cpSMS)

	2009	2010	2011	2012	2013	2014	2015
Voice	7.20	6.50	5.80	5.20	4.70	4.30	3.80
SMS	0.95	0.86	0.77	0.69	0.62	0.56	0.50

Source: Commerce Commission (2009).

757. As noted earlier, the MTRs for voice calls proposed in the undertakings are significantly above the likely cost of supplying the MTAS, with the cost-based benchmark for 2009 (7.2 cpm) being 53% below the average MTR in the undertakings (15.25 cpm). For SMS termination, the margin is even greater, with the cost-based benchmark for 2010 (0.86 cpm) being 87% below the average SMS termination rate in the undertaking (6.44 cpm).

758. In considering the likely costs of terminating MTM and SMS traffic, the Commission has also had regard to revenue and volume data supplied by Telecom and Vodafone as part of this investigation. In particular, a retail on-net service involves both origination and termination of the call (or SMS).³⁴⁷
759. In terms of retail MTM calls between subscribers on the same network, the Commission notes that operators sometimes charge a multi-part retail tariff. For example, a mobile subscriber may pay a monthly retail subscription, which provides for a number of unmetered or discounted outgoing call minutes. In deriving an average retail price for such on-net calls, both the fixed subscription part and the metered part of the retail plan should be included.
760. Based on data provided by Vodafone and Telecom, as discussed in paragraph 542, the average retail on-net price for an MTM call in 2008 was [] COI cpm. This is a weighted average revenue per minute rate that includes monthly subscription revenues and per minute revenues from retail on-net plans. For SMS, the average retail on-net price for 2008 was [] COI cpSMS.³⁴⁸
761. These average retail prices cover the origination and termination of the respective services, as well as other costs relating to retail supply. In considering the average retail on-net prices as a cross-check on the cost-based wholesale termination rate, the Commission has deducted an allowance for retail costs from the retail prices. The Commission has used an 18% retail cost deduction, based on previous STDs,³⁴⁹ and has assumed that origination and termination costs are equal.³⁵⁰
762. Table 49 summarises the termination costs that are implicit in the retail on-net prices for 2008, and compares these with the Commission's cost-based benchmarks for 2009 and the rates from the Undertakings.

³⁴⁷ The EC working paper notes that “on-net retail tariffs may ... provide an indication of an upper limit for the cost of termination in a competitive market scenario. On-net tariffs are frequently below the price of off-net calls and in some cases even below the level of off-net termination tariffs. Given that on-net charges include both origination and termination costs, it seems reasonable to infer that the efficient cost of termination that would prevail in a competitive market situation would in fact be much lower than those estimated via presently applied LRIC+ of FAC models.” EC working paper, 7 May 2009, page 19.

³⁴⁸ Vodafone was unable to provide an on-net/off-net split of SMS revenues, and so an “indicative split” supplied by Vodafone has been used.

³⁴⁹ See for example, Decision 611 (UBA STD).

³⁵⁰ The Commission notes that to the extent that the retail prices used in the above calculation include any excess margins, the resulting termination rates will also exceed the cost of supply.

Table 49: Retail On-Net Prices and Wholesale MTRs (cpm, cpSMS)

	Voice	SMS
Average retail on-net price 2008)	[] COI	[] COI
less 18% retail costs	[] COI	[] COI
“termination”(50%)	[] COI	[] COI
Commission benchmark (2009)	7.20	0.95
Undertakings	16.00 - 17.00*	6.44**

Source: Commerce Commission (2009).

* 17.00cpm until 31 March 2008 and 16.00cpm from 1 April 2008 (based on the Telecom Deed).

** 2010.

763. In summary, based on the average retail on-net revenues for MTM calls and SMS, the respective cost-based MTRs in 2008 are likely to have been no more than [] COI cpm and [] COI cpSMS. Given the Commission’s preliminary view that cost-based MTRs are likely to decline over time, for example due to increased volumes, and that on-net volumes have been increasing significantly in recent years, the implied MTRs for 2008 of [] COI cpm and [] COI cent per SMS are similar to the Commission’s 2009 benchmarks of 7.2 cpm and 0.9 cpSMS.
764. The SMS termination rates proposed in the Telecom and Vodafone undertakings are considerably above the likely cost of supplying SMS termination. This is particularly the case for the Vodafone undertaking, with an initial wholesale price of 9.5 cents per SMS, declining gradually to 7.0 cents per SMS by 2014.

Impact of lower MTRs on retail mobile services

765. The Commission’s preliminary view is that the wholesale MTRs for MTM and SMS traffic contained in the Telecom and Vodafone undertakings are significantly above the likely cost of supplying termination services. To the extent that wholesale MTRs exceed wholesale costs, the downstream retail prices may also exceed the costs of supplying retail services.
766. The Commission has examined the change in retail mobile prices over the period 2006-2008, based on data supplied by the mobile operators. The average retail MTM revenue per minute³⁵¹ has declined by almost 35% over the two years, and the average retail subscription and calling revenue per minute³⁵² has fallen by just over 30% over the two years. Over the same period, as shown in Table 40, the average MTR declined by 36%.
767. Therefore, the average retail mobile subscription and calling revenue per minute has been declining in recent years. The reduction in the average retail MTM revenue per minute over 2006-2008 is proportionately similar to the reduction in MTR over the same period.

³⁵¹ This is derived as the total retail revenues from MTM on-net and off-net calls, divided by the total volume of such calls.

³⁵² This is a broader measure of retail price, derived as the total retail revenues from MTM on-net and off-net calls, MTF calls, international mobile originated calls, “other”, and mobile subscription revenues, divided by the total volume of such calls.

768. The ACCC has also reported reductions in Telstra's average retail subscription and calling revenues per minute over a period in which MTRs were declining:³⁵³

Telstra's average call rates have fallen from 41cpm for the full year ended 30 June 2005 to 31.0cpm for the full year ended 30 June 2007, coinciding with a fall in the MTAS from 21cpm to 12 cpm.

769. The EC working paper observed that the average annual reduction in termination charges of more than 10% in recent years coincided with an annual decrease in mobile retail prices of 11% to 12% over the same period.³⁵⁴
770. The above indicates that retail mobile prices have continued to fall over period in which MTRs have been declining.
771. These trends in retail and wholesale prices do not necessarily demonstrate that reductions in wholesale MTRs have driven reductions in retail mobile calling prices. Much of the retail price reduction observed in New Zealand over 2006-2008 has been largely driven by strong growth in the volume of on-net minutes. However, the Commission notes that in offering the increasingly popular flat-rate on-net plans (such as Vodafone's Best Mates plan and Telecom's My Favourites), the mobile operators effectively incur only the actual cost of terminating such call and SMS volumes on their own networks, rather than the above-cost MTRs currently incurred in respect of off-net volumes. The introduction of cost-based MTRs for off-net MTM calls and SMS under the factual scenario may result in such retail plans being extended to include calls and SMS between networks, driving further growth in volumes and reductions in average retail prices.
772. Vodafone has argued that call traffic between mobile networks is typically balanced, with traffic flows unrelated to the size of the respective networks.³⁵⁵ As a result, Vodafone claimed that the net effect of a reduction in MTR will be close to zero, as a mobile network operator's reduction in outgoing termination costs is cancelled out by a corresponding reduction in incoming termination revenues, with nothing to pass through into retail mobile prices.
773. The Commission has looked at the MTM traffic flows between Telecom and Vodafone over the 2006-2008 period. As shown in Table 50, for each of the three years, the volume of off-net MTM traffic from Telecom to Vodafone has exceeded the volume of off-net MTM traffic from Vodafone to Telecom.³⁵⁶ In addition, this margin has diminished over the period, at the same time as Telecom's share of mobile subscribers has been increasing. This evidence indicates that the level of imbalance may not be insensitive to market share, with a greater imbalance in favour of the larger operator(s).

³⁵³ ACCC, *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008*, November 2007, page 23.

³⁵⁴ EC, 7 May 2009, page 30.

³⁵⁵ For example, see Vodafone's September 2008 submission on the Commission's Issues Paper, paragraph 103; and Vodafone submission 13 February 2009, paragraph 57.

³⁵⁶ The flows of SMS traffic between Telecom and Vodafone do appear to be roughly in balance, with Telecom outbound volumes being [] TRI%, [] TRI%, and [] TRI% higher in each of the three years, respectively.

Table 50: Volume of off-net MTM traffic between Telecom and Vodafone (million minutes)

	2006	2007	2008
Telecom→Vodafone	[] TRI	[] TRI	[] TRI
Vodafone→Telecom	[] TRI	[] TRI	[] TRI
margin	[] TRI	[] TRI	[] TRI
margin (%)	[] TRI %	[] TRI %	[] TRI %
Telecom share of mobile subscribers	45%	47%	48%

Source: Commerce Commission (2009).

Based on Telecom data on outgoing and incoming off-net MTM volumes. Similar results were found when examining the data supplied by Vodafone.

774. For a small new entrant mobile operator, this suggests that there could be a potentially significant net outflow of traffic from the entrant's network. Where MTRs are significantly above cost, this would lead to a substantial drain on the entrant's resources.
775. In addition, the Commission notes that if MTM traffic flows between networks were typically balanced and unrelated to market share, both incumbents and entrants would be indifferent to regulation of MTRs. Further, symmetry of traffic flows would indicate that a bill-and-keep arrangement would be appropriate. However, experience both in New Zealand and overseas strongly suggests that parties are not indifferent towards regulation of MTRs, with established incumbent mobile networks typically opposed to cost-based regulation of MTRs, and smaller entrants often in favour of cost-based regulation or BAK.³⁵⁷
776. The Commission therefore considers that above-cost MTRs are likely to have resulted in retail MTM prices in excess of the cost of supplying these services. A reduction in the price of the MTAS to cost is likely to result lower retail prices for end-users.
777. A reduction in the price of MTAS to reflect the cost of supply will also likely result in a more efficient structure of retail prices. Above-cost MTAS rates will result in higher retail charges for off-net calls compared to on-net calls. This will lead to a distortion in consumer demand, with relatively few off-net calls being made and a greater volume of on-net calls.³⁵⁸

Potential impact on new entry

778. The EC has recently noted that the impact of reductions in MTRs on mobile operators will depend on the balance of their interconnection traffic:³⁵⁹

³⁵⁷ Examples include 2degrees' proposal for BAK in New Zealand, and H3G's proposal for BAK in the UK.

³⁵⁸ Similarly, a distortion will arise between fixed and mobile networks, as the former have to pay the above-cost MTR in respect of FTM calls, while the latter only incur the actual cost of termination in respect of on-net MTM calls.

³⁵⁹ EC, 7 May 2009, pages 24-25.

“In this respect, it should first be noted that smaller mobile network operators are usually late (or later) entrants to the market and their smaller size is frequently due to the delay in their market entry. ... As smaller mobile players are usually net senders of traffic due to incumbent or first or second mobile entrants typically having much higher market shares and due to the presence of network effects which can be further reinforced by on-net/off-net price differentiation, the balance of termination-related payments is determined by the interaction of these two forces.”

779. The above statement, as well as Table 50, indicates that for a new entrant mobile operator with a small market share, there may be potentially significant net termination payments made to the larger established mobile operators. In setting a cost-based MTR, the entrant would be able to more vigorously compete in the downstream retail mobile market than it would be able to where MTRs are set in excess of cost.
780. It may be possible that an entrant could mitigate the effect of above-cost MTRs by attracting customers with a particular calling profile, in particular those that tend to receive relatively more calls. However, as discussed earlier, this is unlikely to be an efficient outcome.³⁶⁰
781. The Commission notes that the commercial interconnection agreement Vodafone and 2degrees provides for [] VCOI / 2COI The MTRs contained in the commercial agreement are significantly above the Commission’s current benchmarked MTR of 7.2 cpm. This could enable Vodafone to maintain the differentials in on-net and off-net retail pricing, which as noted by the EC above, may result in net traffic flows from the smaller mobile network to the larger network.
782. In a number of European jurisdictions, there have been (and remain) asymmetric MTRs in favour of smaller mobile operators. For example, in France, the MTR for the larger operators (Orange and SFR) was 6.5 eurocpm in 2008/09, and 8.5 eurocpm for the smaller operator (Bouygues). Despite these asymmetric MTRs, the EC has expressed concerns over the differentials in retail prices for on-net and off-net services, and in particular over the ability of smaller operators to compete with the on-net plans of the larger networks.
783. The Commission therefore considers that cost-based regulation is likely to result in more vigorous and efficient entry and competition in the downstream retail mobile market, compared to the wholesale pricing terms contained in the commercial agreement between Vodafone and 2degrees.
784. Ofcom has recently noted arguments by small entrant mobile network operators that above-cost MTRs make it difficult for the smaller operators, with relatively small customer bases, to compete with established incumbent mobile operators.³⁶¹ This is because above-cost MTRs result in high retail off-net prices, and as small mobile operators tend to have a relatively high proportion of off-net calls, such operators will be at a competitive disadvantage. While Ofcom also noted that the differentials between on-net and off-net prices in the UK have been declining, the Commission notes that there remains a

³⁶⁰ For similar reasons as those put forward by Vodafone against below-cost MTRs in its submission on 2degrees’ undertaking.

³⁶¹ Ofcom, *Wholesale mobile voice call termination: Preliminary consultation on future regulation*, 20 May 2009, paragraph 6.54.

significant differential in average retail on-net and off-net prices in New Zealand. As noted by Ofcom, lower MTRs would ameliorate these concerns.

785. The ERG has also commented on the difficulties faced by small mobile operators in attracting customers in saturated markets in which above-cost MTRs have resulted in a differential in retail prices for on-net and off-net calls.³⁶²

“This potential competition issue is, however, compounded when MTRs (charged by large networks) are significantly above costs really due to terminate calls. The extreme situation can appear when on-net prices are lower than MTR tariffs. As discussed, these considerations highlight the importance of setting MTRs at cost. ... If the MTR is above the retail price (equal to the on-net price of the larger network), then the smaller operator may in the limit be forced to incur a loss on its off-net calls, if it wants to be competitive.”

786. As noted earlier, the Commission has had regard to the average retail on-net prices in New Zealand, and how these retail prices (which in principle cover both the origination and termination of a MTM call, as well as other costs) relate to the level of MTRs in the Undertakings and in the Commission’s benchmarking. This indicates that the wholesale MTRs that are proposed in the undertakings are likely to be high relative to the retail on-net price for MTM calls and SMS, limiting the ability of an entrant to compete.
787. In discussing the assessment framework, the Commission set out its view that MTRs should reflect the efficiently-incurred cost of supplying the termination service. Rather than speculating over the balance of traffic (or lack thereof) between mobile network operators, for the reasons discussed earlier, the Commission considers that a cost-based MTR is likely to promote efficient entry and competition in the downstream mobile services market. Such a wholesale MTR should also enable an entrant mobile operator to compete with existing retail on-net plans, which appear to be becoming increasingly prevalent in the retail market.
788. While the Commission has not attempted to formally quantify the resulting benefits to end-users in the downstream mobile services market, the Commission does note that during its previous investigation into whether to designate the national roaming service, Covec submitted a cost model for a mobile network. The model indicates that interconnection costs represent a significant proportion of an entrant’s likely costs, and therefore that MTRs that are significantly in excess of cost will have a substantial impact in terms of inflating the entrant’s costs and restricting its ability to compete in the downstream retail mobile market.

Potential impact of new entry in the downstream retail mobile services market

789. The impact of a regulated reduction in MTR on new entry in the retail mobile services market, and the consequent benefit to end-users, is difficult to quantify, particularly where entry has already occurred or is likely to occur to differing degrees under both the counterfactual and the factual. The extent to which *additional* entry or expansion by a new entrant operator is promoted by cost-based MTRs will depend on a complex range of factors, including the likely volume and balance of interconnection traffic between the

³⁶² ERG, *ERG’s Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates*, ERG(07)83, page 98.

entrant and the other networks, and the relative magnitude of interconnection costs compared to the entrant's total costs.³⁶³

790. For the reasons given above, the Commission considers that the reduction in MTRs under the factual, to a level that reflects the cost of providing termination services, will remove a significant barrier to expansion by a new entrant mobile operator. A cost-based MTR will promote efficient competition in the downstream market, with entrants and existing competitors competing for subscribers, not on the basis of artificially distorted wholesale prices, but on a competitively-neutral basis. In particular, an efficient entrant should be able to compete with retail on-net prices.
791. The increased competition arising from a greater level of entry under the factual (compared to what would likely eventuate were the undertakings to be accepted) will lead to a range of benefits to consumers of retail mobile services. The Commission has previously referred to the types of likely benefits from greater competition, including greater pressure on operators to reduce prices and improve service quality.
792. As an illustration of the level of potential 'static' benefits³⁶⁴ that may arise from more vigorous competition in the retail mobile market, the Commission has considered the following:
- retail price effect of -5% from incremental entry;
 - initial average retail subscription and calling price of 30 cpm;³⁶⁵
 - initial mobile calling volumes of 2,800 million minutes;³⁶⁶
 - mobile call demand elasticity of -0.59;³⁶⁷ and
 - incremental cost of supplying retail mobile calls of 15.8 per minute.³⁶⁸
793. The impact of incremental entry on retail prices is difficult to establish. An assumption of -5% has been used, based on observations from overseas markets. For example, Hausman has stated that:³⁶⁹

... in Australia Vodafone prices for an average mobile user decreased 60 per cent between 1993 and 1999, or about 8.2 percent per year, including access and handsets when 3 firms were competing. In the year after new network entry began to occur in Australia, mobile prices, including both access and handset prices, decreased by about 15 percent, which is consistent with the U.S. experience.

³⁶³ If interconnection costs represent a small proportion of the entrant's overall costs, then even a significant reduction in MTRs may only have a marginal effect on the ability of the entrant to compete in the downstream retail mobile services market. However, as indicated above, MTRs are likely to be a substantial issue for an entrant.

³⁶⁴ 'Static' effects arising from lower retail prices.

³⁶⁵ Based on the average retail mobile subscription and calling revenue per minute for Vodafone and Telecom.

³⁶⁶ Based on Vodafone and Telecom data on mobile-originated calling volumes.

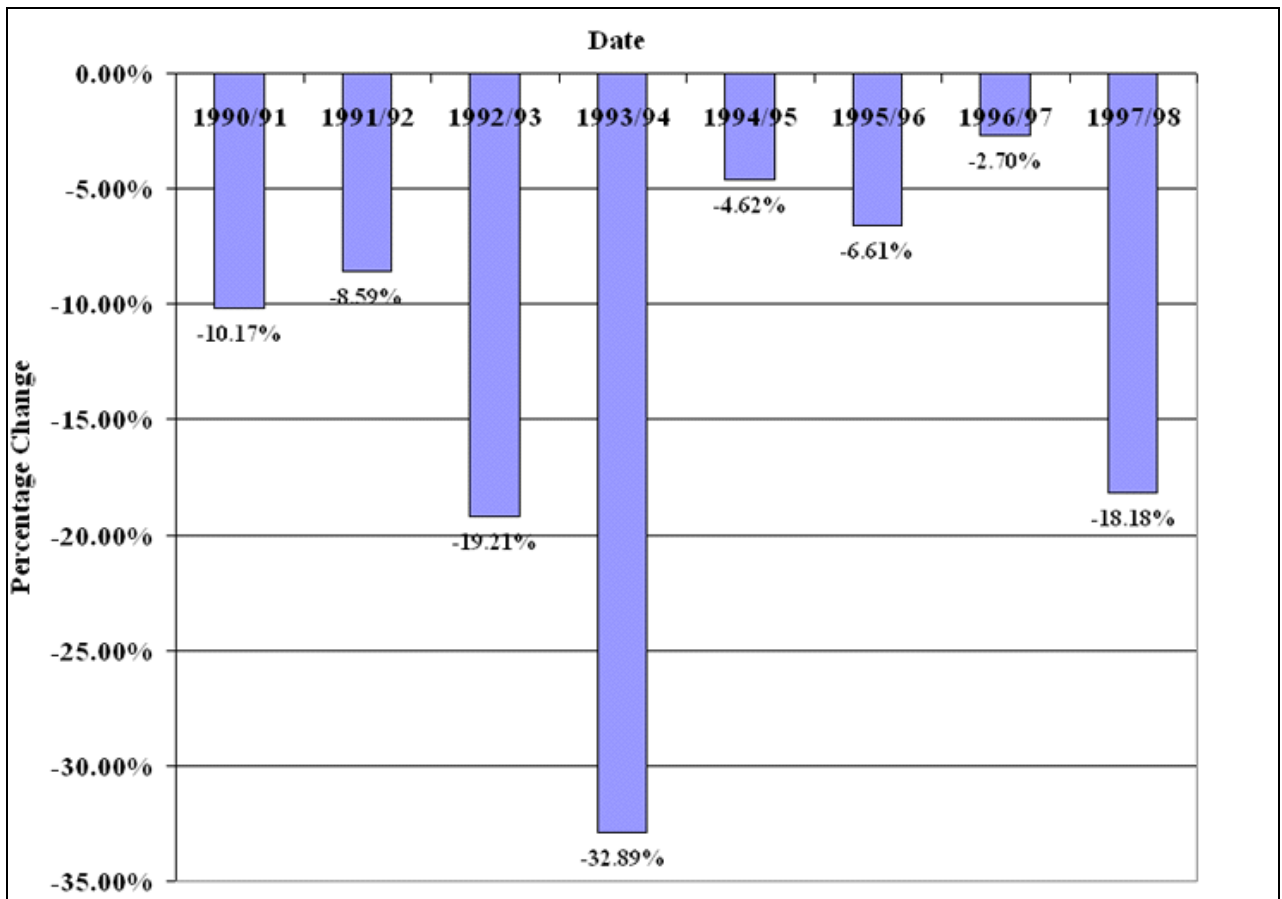
³⁶⁷ Based on the MTM demand elasticity used in the Commission's previous investigation.

³⁶⁸ Based on cost-based benchmark for termination and origination of 7.2 cpm, an 18% mark-up for retail costs, and the deduction of 10% for common costs.

³⁶⁹ Hausman, J., *Mobile Telephone*, chapter 13 Cave, Majumdar, Vogelsang, *Handbook of Telecommunications Economics Volume 1, Structure, Regulation and Competition*, North Holland, 2002, page 582.

794. The impact of entry could be potentially greater in New Zealand, given there are only two existing operators. Offsetting this, the relatively high level of mobile penetration in New Zealand could make entry more difficult, compared to when such entry occurred in other markets.
795. In the UK, a relatively large reduction in retail prices was observed during the period in which the number of mobile operators increased from two to three (1993), and further to four (1994). This can be seen from Figure 22, which is taken from a 1999 review of competition in the UK mobile market undertaken by Oftel.

Figure 22: UK Mobile telephony price trends



Source: Oftel (1999).³⁷⁰

796. Oftel concluded that:³⁷¹

“This shows that the mobile market is characterised by falling prices and that new tariff package and service innovations have become more prevalent since the entry into the market of Orange and One2One. Graph 1.2 shows percentage reductions in prices each year between 1990/1 and 1997/8 measured using the minimum cost package available averaged across 5 categories of users. It illustrates that prices fell every year between 1990 and 1998 with the biggest reductions coinciding with the awarding of new licences to provide mobile services in 1992, the entry into service of One2One and Orange in 1993 and 1994 respectively, and the recent acceleration in competition between the four operators. Overall, prices

³⁷⁰ <http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/cmm0299.htm>, graph 1.2.

³⁷¹ <http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/cmm0299.htm>, paragraphs 1.15, A46.

fell 68% in real terms during this period. The development of new tariffs and services has become particularly noticeable in the past year with the availability of a range of new tariff options, and pre-pay packages offered by all four networks proving to be very popular (though this is not shown on the graph). The emergence of pre-pay in particular may have a significant impact on the market positions of the four networks, but it is presently too early to assess this fully.

...

The clearest impact of the development of competition is in the movement of prices. Until 1993, prices were high and the service was aimed at business users. The pattern of prices is at least consistent with muted competition during the duopoly period. Even before entry actually occurred, however, Vodafone and Cellnet responded by introducing innovative tariff packages aimed at attracting different categories of user and selective price cuts. Evidence of price competition has continued, typically with Vodafone and Cellnet following the innovations of the entrants – Orange’s introduction of per second billing being perhaps the best known example.”

797. In light of the earlier discussion around the potential implications of cost-based MTRs for new entry, and the above observations relating to the impact of new entry on retail mobile prices, the Commission considers that an incremental price effect of -5% is reasonable for the current purposes.
798. The resulting gain to consumers from the additional entry would be approximately \$42.6 million p.a.³⁷² while the gain in total surplus would be \$11.3 million p.a.
799. There may be additional benefits to end-users where MTRs are based on cost. The Commission notes that there are currently significant differences between retail on-net and off-net prices, and some of this differential is likely to reflect the higher cost of terminating off-net traffic where MTRs are in excess of cost.³⁷³ For example, under Vodafone’s Classic PrePay plans and MotorMouth on account plans, the retail price for an on-net call is \$0.49 per minute, while for an off-net call is \$1.39 per minute.
800. The data gathered from the mobile operators as part of this investigation indicates that the differential in average retail on-net and off-net prices is largely due to the above-cost MTRs for the MTAS. For example, the average retail on-net price for MTM calls in 2008 was [] COI cpm, while the average retail off-net price for MTM calls was [] COI cpm, or [] COI cpm higher than the on-net price. In 2008, the average wholesale MTR from the Deeds was 17 cpm, which is 9.8cpm higher than the Commission’s cost-based benchmark. This indicates that [] COI % of the retail differential was due to the above-cost MTR.³⁷⁴
801. These high differentials are likely to have resulted in mobile subscribers owning multiple handsets, in order to avoid having to pay relatively high charges for calls between networks. This is likely to at least partially explain the level of mobile penetration exceeding 100% of the population, with the likely level of multiple handset ownership being exacerbated once the age of the population is taken into account. The ownership of

³⁷² The Commission notes that in its submission supporting its initial undertaking, Vodafone claimed a consumer surplus benefit resulting from its on-net pricing.

³⁷³ Ofcom has recently observed that the differential between retail on-net and off-net prices has declined as termination rates have fallen. Ofcom also noted that in the US, where average termination rates are close to zero, there is often little or no difference between on-net and off-net call charges. Ofcom, *Wholesale mobile voice call termination: Preliminary consultation on future regulation*, 20 May 2009, paragraphs 6.37 and 6.38.

³⁷⁴ Similarly for SMS, the Commission has found a high proportion of the retail differential ([] COI %) is accounted for by above-cost SMS termination rates.

two or more handsets in order to avoid high off-net calling rates will impose additional costs on consumers and is likely to be inefficient.

802. Table 51 sets out a summary of New Zealand's population, broken down by age group, as well as the level of mobile subscriptions. Total mobile penetration has increased from 91% in 2006 to 106% as at June 2008.

Table 51: New Zealand Population and Mobile Penetration

	2006	2007	2008
Age Group			
under 9	571,990	582,020	587,710
over 9	3,568,300	3,645,960	3,680,950
total	4,140,290	4,227,980	4,268,660
Mobile subscription	3,770,607	4,221,521	4,542,670
Mobile penetration (total pop)	91%	100%	106%
Mobile penetration (over 9)	106%	116%	123%

Source: Statistics NZ, *National Population Estimates* (June quarters, 2006, 2007, 2008).

803. In 2007, the number of mobile subscriptions equalled the total New Zealand population, and in 2008, mobile subscriptions exceeded the total population by around 274,000 units.
804. The addressable market for mobile operators is likely to be smaller than the total population. If, for example, the lower age cohorts (0-9) shown in Table 51 are excluded, the number of mobile subscriptions exceeds the addressable market by approximately 860,000 subscriptions.³⁷⁵
805. As an illustration of the potential costs of multiple handsets, if 5% of the excess 860,000 subscriptions represented mobile subscribers owning two handsets in order to avoid paying high off-net retail call prices, this would suggest around 43,000 additional handsets. Based on the average handset revenue per unit sold by Vodafone and Telecom in 2008 of approximately \$150 per handset, this would have resulted in an additional cost to consumers of around \$6.6 million in 2008.
806. The 5% illustration used above may be conservative. In a recent study on mobile termination regimes conducted on behalf of Ofcom, Analysys-Mason noted that:³⁷⁶

“This difference between these metrics [the number of subscriptions in circulation, and the number of users who hold mobile subscriptions] arises due to a combination of various factors, the most significant being the number of prepaid subscriptions and the incidence of users who maintain multiple subscriptions. Incentives for maintaining multiple subscriptions vary by the retail regime as discussed below:

³⁷⁵ There are likely to be a number of reasons for these excess subscriptions. For example, the Commission understands that when a customer moves off a pre-paid plan, the old plan remains ‘active’ for some period (typically 12 months) before lapsing. In addition, some end-users may have a residential as well as a business service, or multiple devices (for example, a handset as well as a 3G embedded laptop for mobile broadband services).

³⁷⁶ Analysys Mason, *Case studies of mobile termination regimes in Canada, Hong Kong, Singapore and the USA*, 26 November 2008, pages 8 and 9.

- In CPP countries in general, an incentive for a customer to maintain multiple subscriptions is to take advantage of lower rates for on-net calls given that mobile termination charges are passed on to customers in the form of considerably higher prices for off-net calls.”

807. Analysys-Mason note that the differential in on-net and off-net retail prices has been falling throughout Europe as MTRs have been declining, and that other factors, such as the separation of work and personal handsets, and the purchase of data dongles, has increasingly explained multiple subscriptions in recent times.
808. As noted in paragraph 799, there appears to remain a significant differential in retail on-net and off-net prices for MTM and SMS in New Zealand.
809. To the extent that above-cost MTRs have contributed to retail off-net prices exceeding on-net prices,³⁷⁷ this is likely to have imposed additional costs on consumers in the form of handset duplication. Some of these costs could be avoided in the event that a new entrant is able to compete with existing retail prices, although there may still be reasons for some differentiation in retail prices for on-net and off-net services.³⁷⁸
810. The EC has also noted that symmetric cost-based MTRs would allow smaller mobile operators to offer competitive retail plans with off-net prices potentially comparable to the on-net charges of the established operators.³⁷⁹

Symmetry [of MTRs] at the level of truly cost-oriented (efficient) termination rates would reduce the payments of smaller market players, while rendering them capable of offering tariff packages and price plans with off-net prices comparable to that of the on-net charges of larger operators. This would in turn increase their ability to compete and thus encourage competition in the retail mobile markets to the ultimate benefit of consumers.

811. As noted earlier, the Commission has had regard to the average retail on-net price of the existing mobile operators, in comparison to the cost-based benchmark MTRs. The Commission considers that such a comparison provides additional support for the benchmarks used for the factual MTRs set out in Table 48.

Long-term Benefit of End-users

812. In the Commission’s preliminary assessment, cost-based regulation of the MTAS will remove a significant barrier to efficient entry and expansion in the downstream retail market in which mobile services are supplied. The resulting increase in competition between mobile operators is likely to increase the level of pass-through of MTR reductions into retail mobile prices.
813. An important dynamic in the retail mobile market in New Zealand will be the ability of an efficient entrant to compete with the existing mobile operators. As discussed elsewhere in this draft, the Commission considers that existing MTRs and those contained in the undertakings by Vodafone and Telecom are significantly above the cost of the MTAS, and will therefore represent a barrier to efficient entry and expansion in the retail mobile market. In reducing this barrier, cost-based regulation of the MTAS will promote downstream competition, which will result in potentially substantial benefits to end-users.

³⁷⁷ As noted in footnote 373, Ofcom has recently provided some evidence of this.

³⁷⁸ As long as it occurs from a competitively-neutral basis (and not on the basis of artificially-inflated MTRs for off-net calls), such remaining differentiation may not create competition concerns.

³⁷⁹ EC working paper, 7 May 2009, page 25.

814. Given the Commission's preliminary view that the regulated MTRs will allow for the recovery of the cost of supplying the MTAS, these benefits are expected to be sustained in the long run.
815. The long-term benefits to end-users in the retail mobile services market will include both static price effects, as well as longer-term dynamic gains. As it did in respect of the retail FTM /tolls market above, the Commission has considered the efficiencies that are likely to result in the downstream retail mobile services market from cost-based regulation of the MTAS.

Static price effects

816. The Commission has not attempted to quantify the price effects of MTAS regulation in the downstream mobile services market in the same way that it did for the retail FTM/tolls market. This is due to the difficulty of quantifying the impact of incremental entry arising from a cost-based MTAS. However, the Commission considers that cost-based regulation of the MTAS could result in potentially significant price effects for end-users.
817. As an example, based on observations of the impact of entry in other mobile markets, the annual gain to end-users could be in excess of \$40 million.³⁸⁰ The ability of an efficient entrant to compete with the increasingly prevalent retail on-net plans (which accounted for in excess of 80% of MTM minutes and more than 90% of SMS volumes in 2008) is likely to be considerably enhanced as a result of cost-based regulation of the MTAS.
818. Further benefits could result to the extent that efficient entry competes relatively high retail off-net prices down towards on-net prices, thereby reducing the incentive for end-users to own multiple handsets.

Allocative efficiency

819. As indicated in paragraph 816, the Commission has not quantified the potential gain in allocative efficiency in the downstream retail mobile services market. However, in the illustrative example of the impact of new entry on retail prices,³⁸¹ the estimated gain in allocative efficiency would be approximately \$11 million per annum.

Productive efficiency

820. Increased competition in the retail mobile services market is likely to result in improvements in productive efficiency, as mobile operators seek to minimise the costs of supplying retail services. The Commission has already referred to the example of 3G investments being made in order to reduce costs. In promoting efficient downstream competition, cost-based regulation of the MTAS is likely to further encourage such efforts.

Dynamic efficiency

821. Increased competition arising from efficient entry and expansion is likely to encourage operators to invest in innovation and new technologies, in order to be able to develop new services and maintain a competitive edge.

³⁸⁰ See paragraph 798 (and paragraph 792 for the relevant parameter assumptions).

³⁸¹ See paragraph 798 (and paragraph 792 for the relevant parameter assumptions).

822. The Commission has previously concluded that the main driver of new investments in the mobile sector is the search to gain and maintain a competitive advantage through functional and technological differentiation, and through lower costs.³⁸² The Commission noted that the greater capacity available on 3G mobile networks allows for the provision of a broader range of services to end-users, and that the provision of greater data services across such networks will allow voice calling costs to be significantly reduced. The Commission referred to comments from Vodafone that 3G investments had been undertaken because in the long-run, 3G is a more efficient technology. According to Vodafone, there is increased capacity on a 3G network that can be used to deliver new services to customers, including video calling and faster data speeds.³⁸³
823. Recent developments in New Zealand support the view that competition between the mobile networks is an important driver for new investment. Telecom's recent launch of its XT mobile network is being marketed as being "faster in more places", providing "superior network performance with faster mobile internet".³⁸⁴
824. Ofcom's predecessor, Oftel, observed that new pricing plans and service innovations became more evident in the UK mobile market following the entry of the third (and fourth) mobile operators in the mid 1990s.³⁸⁵ The Commission has previously noted the innovations that have occurred in other markets following the emergence of new entrants, such as the investments made by UCLL-based entrants.³⁸⁶
- "The innovation and investment by Access Seekers has also driven a competitive response from the incumbent. In Australia, the incumbent only undertook similar investments to offer comparable services after Access Seekers had undertaken their investments in the incumbent's exchange.
- The ACCC has noted that the incumbent provider only supplied ADSL2+ services in regions where competitors were already providing those services. This was despite claims by the incumbent that they had the capability to supply ADSL2+ services to all ADSL-enabled exchanges in the country if required."
825. As an example of the dynamic effects of new entry in the downstream mobile services market, Hutchinson was awarded a mobile licence in Australia in 1999, and launched its mobile network the following year. In 2003, Hutchinson was the first mobile operator to deploy a 3G network under the '3' brand. This stimulated a response from other operators, with 3G deployments occurring throughout the following years.
826. In the Commission's preliminary view, cost-based regulation of the MTAS is likely to promote competition in the downstream retail mobile services market. In reducing entry and expansion barriers, cost-based MTRs will increase competition from efficient entry, which will increase the incentives for ongoing innovation and investment in new technologies over which to offer new services and improved quality to end-users of mobile services in New Zealand.

³⁸² Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Reconsideration Final Report*, 21 April 2006, paragraph 328.

³⁸³ *ibid*, footnote 71.

³⁸⁴ Telecom media release, *World Class 3G Mobile Comes Early*, 27 April 2009.

³⁸⁵ See paragraph 796 above.

³⁸⁶ Commerce Commission, *Standard Terms Determination for the designated service Telecom's unbundled copper local loop network*, (Decision 609), 7 November 2007, paragraphs 211, 212.

Commission's preliminary views on long-term benefit to end-users

827. The Commission's preliminary assessment of the impact of cost-based regulation of the MTAS is that it will deliver considerable long-term benefits to end-users in the retail mobile services market in New Zealand. End-users may also benefit from lower off-net retail prices, which may otherwise result in inefficient and costly ownership of multiple handsets.
828. There are likely to be substantial additional benefits from greater competition in the retail market over time, including increased competitive pressure to invest and innovate in new services and technology.

Commission's preliminary views on long-term benefits of end-users in the retail mobile services market

829. In the Commission's preliminary view, cost-based regulation of the MTAS is likely to result in substantial benefits to end-users in the downstream retail mobile services market, compared to what would result from acceptance of the undertakings. Such benefits are likely to result from more vigorous competition between existing mobile operators and efficient entry, due to the removal of the significant entry barrier of above-cost MTRs.
830. The benefits from greater competition are likely to include lower retail prices for mobile services, with an annual benefit that could exceed \$40 million, and an annual gain in allocative efficiency in excess of \$11 million.
831. In addition, the increased competition between mobile operators is likely to strengthen the incentives to minimise costs, resulting in potential productive efficiency gains.
832. Greater competition is likely to produce significant additional dynamic benefits for end-users over time. These include increased competitive pressure on operators to invest and innovate in new services and technology.
833. Table 52 summarises the Commission's preliminary assessment of the potential long-term benefit to end-users in the downstream retail mobile services market arising from cost-based regulation of the MTAS, compared to the undertakings.

Table 52: Long-term benefit of end-users (retail mobile services market)

Static price effect	positive (e.g., \$40+ million p.a.)
Allocative efficiency	positive (e.g., \$11+ million p.a.)
Productive efficiency	positive
Dynamic efficiency	positive

Source: Commerce Commission (2009).

Potential Detriments

834. In considering the impact of regulating MTRs, the Commission has previously made some allowance for a potential offsetting effect, according to which mobile networks respond by increasing other retail prices (or not reducing them as much as they otherwise would have) such as for subscription services or handsets. This is sometimes referred to as the "waterbed effect" of regulation. To the extent that such an effect results, retail subscription

and/or handset prices would be higher under the factual, which could result in a number of potential detriments.

835. In addition, there may be a number of incremental costs associated with the regulatory price-setting process, which would not be present in the absence of regulation. These include the costs incurred by the Commission and interested parties in determining terms of access to the MTAS under the IPP (and possibly the FPP in the event of a pricing review).

Waterbed Effect

836. The potential for a waterbed effect arises according to the following. The value of a customer to a mobile network operator will depend on the level of revenues that the operator can earn as a result of having that end-user as a subscriber on its network. These revenues will include retail revenues from services supplied directly to that subscriber, such as from handsets, subscription (fixed monthly fees) and outgoing calls, as well as wholesale revenues that are earned in respect of incoming calls made to that subscriber from other networks (termination revenues). In other words, revenues are earned from both subscription/origination services (including handset sales) and from termination services.
837. A reduction in termination revenues may therefore reduce the customer value, leading to a reduction in competition between networks to gain that customer as a subscriber. This may result in a relative increase in subscription/origination prices.³⁸⁷
838. The Commission has previously noted that the waterbed effect is likely to be related to the level of competition in the downstream retail mobile services market.³⁸⁸ In the event that the mobile sector is effectively competitive, and thus operates under a zero economic profit constraint, then any reduction in MTRs (whether a result of the Deeds entered by the mobile operators or as a result of regulation) would reduce the mobile sector's returns below the cost of capital. As a result, other tariffs would have to be increased.
839. However, the Commission has also previously concluded that competition between mobile operators in New Zealand was unlikely to be sufficient to ensure that termination profits are competed away and transferred to mobile subscribers. As a result, any waterbed effect is likely to be less than complete.³⁸⁹
840. Other regulators have drawn similar conclusions. For example, the ACCC has noted that the Australian retail mobile services market is unlikely to be effectively competitive such that the mobile operators are subject to a zero profit constraint. The ACCC concluded that any flow-on effect on mobile subscription prices would be less than had been suggested by the mobile operators, and could even be zero.³⁹⁰

³⁸⁷ In its recent decision, the UKCC accepted Vodafone's representation of competition between mobile operators for subscribers based on the 'customer lifetime value' or 'CLV' (paragraph 4.46). In commenting on the implications of eliminating termination revenues (under a bill-and-keep type arrangement), the UKCC noted a number of potential detrimental consequences, including an unwillingness to supply pre-pay customers (who tend to be net call recipients), a move to receiving party pays retail pricing, and/or an increase in the price for other services including subscription fees. UKCC, 16 January 2009, paragraph 14.79.

³⁸⁸ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Final Report*, 9 June 2005, paragraph 540.

³⁸⁹ *ibid*, see for example paragraphs 604-609.

³⁹⁰ ACCC, *Mobile Services Review Mobile Terminating Access Service*, June 2004, page 160.

841. In its recent consultation on the future regulation of mobile call termination services, Ofcom commented that:³⁹¹

We recognise that a significant waterbed effect is likely, given that retail competition in mobile services is strong, but we took the view in the March 2007 MCT Statement that it was unlikely to be complete. However, given the lack of conclusive evidence, Ofcom decided not to rely heavily on any assumption of an incomplete waterbed effect.

842. Earlier in its consultation, Ofcom notes that many commentators regard the UK mobile market as among the most competitive in the world,³⁹² with four established mobile network operators, a smaller entrant mobile network, and a range of wholesale-based competitors. The presence of five mobile network operators in the UK is reflected in Table 12, which also shows the New Zealand market as being relatively concentrated. This relative lack of competition in New Zealand suggests that the waterbed effect will be less significant in New Zealand than it has been in other markets such as the UK.

843. The Commission previously allowed for a waterbed effect by increasing retail mobile subscription prices by an amount that recovered 50% of the reduction in wholesale MTR revenues. This resulted in an increase in mobile subscription prices of approximately 2% as a result of regulation, compared to the counterfactual.

844. The relative increase in subscription prices translated into a reduction in the level of mobile subscription. This resulted in a reduction in surplus associated with mobile subscription. In addition, the lower level of mobile subscription meant that existing mobile and fixed customers had fewer mobile subscribers to call, leading to a lower level of FTM and MTM demand.

845. The Commission also allowed for the likelihood that lower FTM prices due to regulation would increase the propensity of fixed subscribers to call mobile subscribers.³⁹³ Given a desire by mobile subscribers to be reachable, this higher propensity to be called would make mobile subscription more attractive, which would mitigate any demand response to higher subscription prices. The Commission allowed for such an “FTM effect” by scaling back the contraction in mobile subscription demand.

846. The Commission has considered whether the approach previously taken to estimate the potential impact of the waterbed effect remains appropriate. A number of factors are relevant to this consideration, including:

- the strength of competition in the downstream mobile market;
- the level of mobile penetration;
- the elasticity of demand for mobile subscription services; and
- any evidence of mobile operators responding to cuts in MTRs.

³⁹¹ Ofcom, *Wholesale mobile voice call termination: Preliminary consultation on future regulation*, 20 May 2009, paragraph 5.13.

³⁹² *ibid*, paragraph 2.5.

³⁹³ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Reconsideration Final Report*, 21 April 2006, paragraphs 183 to 187.

847. The Commission is of the view that the strength of any waterbed effect is likely to be influenced by the level of competition between mobile operators. The Commission continues to be of the view for the purposes of this draft Report that the downstream retail mobile market is unlikely to be sufficiently competitive to ensure a significant level of pass-through of lower MTRs into higher retail subscription prices.
848. The level of mobile penetration is also likely to influence the strength of any waterbed effect. Genakos and Valletti³⁹⁴ found some evidence of a waterbed effect in their analysis of mobile operators' prices, although noted that such an effect tends to be lower as penetration increases.³⁹⁵

Intuitively, low penetration markets usually consist of heavy users for whom the waterbed effect is expected to be strong. But as the market becomes more saturated, this typically involves attracting marginal users who make and receive very few calls. Hence, we expect the waterbed effect to decrease as the market becomes more saturated because of the different types of consumers that are drawn into the mobile customer pool.

849. At the time of the Commission's previous investigation, the level of mobile penetration in New Zealand was around 93%,³⁹⁶ and this was expected to increase. Data gathered by the Commission indicates that mobile penetration had reached 106% as of June 2008. This suggests that the strength of any waterbed effect may have diminished in recent years.³⁹⁷
850. The relative increase in retail subscription prices will only reduce the level of mobile subscription if subscribers respond by relinquishing their mobile phone. If demand for mobile subscription services is inelastic, the level of detriment is likely to be reduced, as subscribers remain on the networks. However, there may be reasons why existing mobile subscribers would be less sensitive to changes in mobile subscription prices, than prospective subscribers who have yet to purchase a mobile phone. For example, the UK Competition Commission has recently noted that:³⁹⁸

“... factors such as the high levels of mobile usage, the utility of mobile ownership, and the perceived disadvantages of giving up a mobile phone after having used one would militate against subscribers leaving the network if subsidies were reduced.”

851. This indicates that the level of mobile subscription may be relatively insensitive to increases in subscription prices.³⁹⁹

³⁹⁴ Genakos, C. and T. Valletti, *Testing the “Waterbed” Effect in Mobile Telephony*, November 2007. The authors conclude that there is evidence of a strong waterbed effect (though less than complete). However, most of the countries used in their sample had at least 3 mobile networks. Of the 24 countries listed in their Table A6, only New Zealand and the Slovak Republic had 2 mobile networks, according to the OECD Communications Outlook 2007. The waterbed effect identified in their analysis is therefore likely to be greater than the level in New Zealand.

³⁹⁵ *ibid*, page 21.

³⁹⁶ Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination: Reconsideration Final Report*, 21 April 2006, paragraph 243.

³⁹⁷ To some extent, the reasoning given by Genakos and Valletti for a lower waterbed effect at higher penetration levels was taken into account in the Commission's estimation of this effect, as the Commission used a lower-than-average volume of calls for the marginal mobile subscriber.

³⁹⁸ Competition Commission, *Mobile phone wholesale voice termination charges: Determination*, 16 January 2009, paragraph 4.10.

³⁹⁹ The Sunday Star Times (26 April 2009) reported “A Telecom survey of 2000 mobile users last year showed that around 20 percent of respondents said they'd rather lose their hair than their mobile, while another 15 percent would happily forgo a toe if it meant they could keep their cellphones.”

852. In terms of evidence of the waterbed effect, the European Commission (EC) has recently commented on the significance of the waterbed effect in the context of regulation of MTRs within the European Union.⁴⁰⁰ The EC summarise the waterbed effect as follows:⁴⁰¹
- “... it has been suggested that if mobile operators increase their termination rates above cost, these gains would be competed away through reduced retail charges for subscription and outgoing calls. Similarly it may be argued that lower termination charges may result in higher retail charges for subscribers. That outcome is known as the “waterbed effect”.”
853. The EC paper noted that a strong waterbed effect is unlikely, although some restructuring of retail prices is possible.⁴⁰²
854. The EC examined some pricing and usage data to see whether there is any relationship showing higher retail prices (and lower usage) at lower MTRs. The EC found that in countries with low MTRs, average retail prices are often relatively low, and usage is relatively high.
855. As noted earlier, the Commission has examined the change in retail mobile prices over the period 2006-2008, based on data supplied by the mobile operators. The average retail MTM revenue per minute⁴⁰³ has declined by almost 35% over the two years, and the average retail subscription and calling revenue per minute⁴⁰⁴ has fallen by just over 30% over the two years. Over the same period, as shown in Table 40, the average MTR declined by 36%.
856. The Commission notes that the measures of revenue and usage in the EC paper appear to include a range of different retail revenues, including subscription revenues and calling revenues. The waterbed effect is often discussed in the context of increases in subscription charges and/or reductions in handset subsidies, and it is possible that such changes in these charges are masked by using average subscription and calling revenues.
857. The Commission has therefore examined the revenue breakdown supplied by the mobile operators as part of this investigation, which suggests that the average mobile subscription and handset revenue per subscriber has also continued to decline over 2006 to 2008. The Commission estimates that the average revenue per subscriber from mobile subscription and handsets dropped by approximately [] COI % in 2007, and [] COI % in 2008. The existing Deeds came into effective in 2007, and as shown in Table 40, resulted in the average wholesale revenue per minute from terminating FTM calls dropping just over 20% in 2007 (or 6 cpm), and a further 17% (4 cpm) in 2008. The reduction in average subscription and handset revenues during a time of relatively significant reductions in

⁴⁰⁰ Commission of the European Communities, *Commission Staff Working Document accompanying the Commission Recommendation on the Treatment of Fixed and Mobile Termination Rates in the EU: Implications for Industry, Competition and Consumers*, 7 May 2009 (SEC(2009)599).

⁴⁰¹ *ibid*, page 31.

⁴⁰² *ibid*, page 21. The ACCC has noted that movements in average retail prices, and increases in the level of mobile handset subsidies, do not support the operation of a waterbed effect. ACCC, *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008*, November 2007, pages 22-24.

⁴⁰³ This is derived as the total retail revenues from MTM on-net and off-net calls, divided by the total volume of such calls.

⁴⁰⁴ This is a broader measure of retail price, derived as the total retail revenues from MTM on-net and off-net calls, MTF calls, international mobile originated calls, “other”, and mobile subscription revenues, divided by the total volume of such calls

wholesale MTRs suggests that any waterbed effect in New Zealand has been relatively weak.

858. The Commission has also observed that both mobile operators appear to have continued offering handset subsidies over the 2006-2008 period, despite the reduction in MTRs. The average level of handset subsidy per handset sold in 2008 was slightly higher than in 2006, despite the 36% reduction in MTR.⁴⁰⁵ Consistent with handset subsidisation, the mobile operators charge early termination penalties where a subscriber cancels a term contract.
859. The Commission has previously acknowledged that the waterbed effect relates to relative price changes, and could still be evident if retail subscription prices have been falling, but at a slower rate than they would have otherwise. The EC paper also notes that it is possible for a waterbed effect to be present, even where retail prices are declining in absolute terms.⁴⁰⁶ The EC refers to a number of other regulators such as Ofcom which have concluded that any waterbed effect is likely to be incomplete, as well as to the Genakos and Valletti paper referred to above.⁴⁰⁷ The EC conclude that while there is some empirical evidence provided by Genakos and Valletti of a waterbed effect, reductions in MTRs to reflect the level of efficiently incurred costs is expected to result in more intense competition in the downstream fixed and mobile markets.⁴⁰⁸

“Increased competitive pressure resulting from the creation of a more level playing field for the provision of mobile calls will help ensure a continued downward momentum for overall retail prices, thereby offsetting any potential short-term waterbed effects.”

860. The Commission has followed the same approach as it took in its previous investigation to measuring a potential partially offsetting effect arising from regulation, but has, in light of the above, also considered it appropriate to reduce the strength of such an effect. This provides a resulting range of estimates within which the likely net benefits from regulation are likely to lie.
861. In considering the potential impact of the waterbed effect, the Commission has updated the following specific parameters:
- the counterfactual wholesale MTR (based on the undertakings);
 - the factual wholesale MTR (based on the Commission’s latest benchmarking);
 - the rate at which MTR reductions are recovered through retail mobile prices under the counterfactual and factual (i.e. the strength of the waterbed effect ranging from 0% to 50%);
 - the starting average retail mobile price, as proxied by the average mobile ARPU in 2008; and

⁴⁰⁵ The data on handset subsidies per handsets sold over 2006-2008 is based on Telecom data, as Vodafone was unable to provide full information on the number of handsets sold for the full period.

⁴⁰⁶ EC, 7 May 2009, page 33.

⁴⁰⁷ See note 394. To the extent that there is some evidence of a partial effect in other markets, the Commission notes that such an effect is likely to have been even smaller in New Zealand, where there has only been two mobile networks. In most other mobile markets, there are at least 3 established mobile networks, and in the case of the UK, there are 4 large mobile networks, and a smaller entrant.

⁴⁰⁸ *ibid*, page 35.

- the starting mobile subscription level, based on the number of mobile subscribers in 2008.
862. Given a waterbed effect whereby 50% of the reduction in MTRs is recovered through higher retail mobile subscription prices, the resulting mobile subscription prices are estimated to be around 2% higher under the factual compared to the counterfactual in 2011, the first year in which MTAS regulation has an effect. The potential reduction in mobile subscription levels under the factual is 0.7% in 2011.
863. The Commission has assessed the potential detriments arising from such a waterbed effect, under a consumer surplus and total surplus approach. These potential detriments relate to mobile subscription services, where the relative increase in subscription prices results in a reduction in subscription demand, as per the preceding paragraph.⁴⁰⁹ In addition, the reduction in the number of mobile subscribers would mean that fewer subscribers are available to be called, resulting in a contraction in FTM and MTM volumes.⁴¹⁰
864. The resulting reduction in consumer surplus over the five years is summarised in Table 53, with a NPV of between \$161 million and \$183 million, and the reduction in total surplus is shown in Table 54 (NPV of between \$30 million and \$52 million).

Table 53: “Waterbed effect”: Reduction in Consumer Surplus (\$ million)

	2011	2012	2013	2014	2015
linear demand	43.208	41.403	39.158	38.107	40.338
CED	49.709	47.271	44.387	42.893	45.086

Source: Commerce Commission (2009).

Table 54: “Waterbed effect”: Reduction in Total Surplus (\$ million)

	2011	2012	2013	2014	2015
linear demand	8.648	8.008	7.306	6.859	7.038
CED	15.164	13.811	12.401	11.452	11.521

Source: Commerce Commission (2009).

865. Where the level of the waterbed effect is reduced from 50% to 0%, the detriments shown above reduce to zero.

Direct Regulatory Costs

866. Under the factual, the Commission will be required to determine price and non-price terms for the MTAS. The Commission and interested parties will incur costs associated with the regulatory process of an STD, that would not be incurred under the counterfactual.
867. The Commission has based its estimate of the costs that it would incur in producing an STD for the MTAS on the level of Commission costs incurred for the UCLL STD. One

⁴⁰⁹ This is represented by a shift down the demand curve for mobile subscription services.

⁴¹⁰ This is represented by an inward shift of the FTM and MTM demand curves.

potential difference is that for the MTAS, there would be multiple access providers in Telecom, Vodafone, and 2degrees. However, it is likely that there would be a high degree of commonality in setting MTAS access terms for the three mobile network operators.

868. The Commission has also made an allowance for the resources that would be required to develop a cost model in the event that a pricing review was requested.
869. The Commission has also made an allowance for the likely costs incurred by access providers and access seekers to participate in the STD process, for example in terms of preparing submissions and attending Commission conferences.
870. The resulting annual direct regulatory costs are estimated to be \$1.8 million p.a.⁴¹¹

Summary of Benefits and Costs of Regulation

871. This section summarises the Commission's preliminary assessment of the potential net impact of MTAS regulation, compared to the undertakings. The net impact takes into account the potential benefits in the downstream retail markets, as well as the potential detriments arising from the 'waterbed effect of regulation and the direct regulatory costs associated with determining the terms of access for the designated MTAS.

Long-term Benefit of End-users

872. The Commission considers that the MTRs contained in the undertakings are likely to be substantially above the cost of supplying the MTAS, and represent a significant barrier to efficient entry and expansion in the relevant downstream retail markets. Cost-based regulation of the MTAS is expected to remove this barrier, and thereby promote competition in the downstream markets, resulting in significant long-term benefits to end-users.
873. The potential static effects from cost-based regulation of the MTAS include the benefits to end-users in the downstream retail FTM/tolls market and retail mobile services market, the detriments arising from a potential adverse impact of regulation on mobile subscription levels (with a waterbed effect ranging from 50% to 0%), and the direct costs associated with the regulatory process (which could be avoided under the counterfactual).
874. In addition, the increased downstream competition resulting from cost-based regulation of the MTAS is likely to result in productive efficiency gains, as well as potentially significant dynamic effects.
875. Table 55 summarises the Commission's preliminary assessment (in quantitative and qualitative terms) of the likely benefits and costs of regulation, compared to the undertakings.

⁴¹¹ Or \$8.9 million over five years. The annual cost estimate of \$1.8 million is slightly lower than the estimate used in the previous Schedule 3 MTR investigation (\$2.4 million p.a.), as it is assumed that a single STD will be required, rather than the multiple bilateral determinations prior to the 2006 amendment to the Act. In addition, the Commission previously based its regulatory cost estimate on an earlier Schedule 3 investigation, rather than an STD process.

Table 55: Long-Term Benefit to End-Users 5-year NPV, \$ million

Quantitative Assessment (5-year NPV, \$million)	Linear Demand (\$million)	Constant Elasticity Demand (\$million)
Static price effect (FTM)	\$279.5	\$283.0
waterbed effect (50%-0%)	-\$161.0 to \$0	-\$182.9 to \$0
Direct regulatory costs	-\$7.3	-\$7.3
Net Quantified Benefits	\$111.1 to \$272.1	\$92.8 to \$275.7
Allocative efficiency (FTM)	\$88.9	\$114.2
waterbed effect (50%-0%)	-\$30.3 to \$0	-\$51.6 to \$0
Direct Regulatory Costs	-\$7.3	-\$7.3
Net Quantified Benefits	\$51.3 to \$81.6	\$55.3 to \$106.9
Qualitative Assessment		
Static price effect (retail mobile)	positive	
Allocative efficiency (retail mobile)	positive	
Productive efficiency (FTM and mobile)	positive	
Dynamic efficiency (FTM and mobile)	positive	

Source: Commerce Commission (2009).

876. Under the Commission's preliminary quantitative assessment, cost-based regulation of the MTAS is likely to promote competition in the retail FTM/tolls market and result in a significant long-term benefit to end-users over the period, compared to the undertakings.
877. The Commission's preliminary assessment of the qualitative effect of regulation is that increased competition in the downstream retail mobile services market will result in a substantial additional long-term benefit for end-users in that market. In particular, the ability of an efficient entrant to compete more vigorously with the existing operators, especially in the provision of on-net retail services, could deliver lower retail prices, greater choice, and greater levels of innovation in this important retail market.
878. Cost-based regulation of the MTAS is also likely to result in stronger incentives for efficient investment by both fixed network operators and mobile network operators in New Zealand. Consistent regulation of fixed and mobile termination rates will remove distortions between fixed and mobile networks, and in doing so may facilitate efficient convergence between fixed and mobile services.
879. Taking into account the quantitative and qualitative factors discussed in the above sections, the Commission's preliminary view is that, when compared to the undertakings, the cost-based regulation of the MTAS is likely to best give effect to the promotion of competition in the downstream retail FTM/tolls and retail mobile services markets, resulting in significant long-term benefits to end-users.

Consultation questions:

880. The Commission is seeking the views of interested parties on the proposed approach to assessing the extent to which regulation, when compared to the counterfactual, will promote competition for the long-term benefit of end-users.
881. In particular, the Commission is interested in submissions on the following (including reasons):
- the relevant timeframe over which to assess the impact of regulation;
 - the extent to which reductions in MTRs will be passed through in some form to end-users – what retail prices are likely to change, and by how much;
 - the extent to which regulation will address barriers to entry and/or expansion in the relevant downstream markets (the retail FTM/tolls market, and the retail mobile services market), compared to the counterfactual;
 - the extent to which regulation will affect efficiencies (and in what direction) in each of the relevant downstream markets;
 - the extent to which reductions in MTRs are likely to lead to higher retail mobile subscription prices (and if so, the strength of such an effect), and any evidence of this; and
 - any other likely consequences of regulation in each of the relevant downstream markets.

Assessment of non-core-prices, non-price terms and other issues

Background

882. This section outlines the Commission’s preliminary views on non-core-price issues, non-price terms and other issues, and includes the Commission’s proposed process for addressing issues relating to the consistency of non-price terms within the undertakings that make up the counterfactual.
883. This section includes discussion of the following issues:
- Minute+second / second+second pricing;
 - On-net / off-net price discrimination;
 - Asymmetric pricing;
 - Pass-through requirements;
 - Internationally-originated and VOIP-originated calls;
 - Reciprocal charges in Telecom’s undertakings;
 - Handover deductions;
 - Compatibility of undertakings with the access principles set out in the Act; and
 - Process for reconciling non-price terms in the undertakings.

Minute+second / second+second pricing

884. The Commission’s comments letter noted that:⁴¹²

“The Commission’s preliminary view is that there would need to be a strong economic basis for the factual of regulation for the draft Report to apply “minute + second” pricing, and that this has not clearly been demonstrated to the Commission.

While the Commission considers it is appropriate that the parties submitting undertakings be free to choose the pricing structure for their undertakings, the Commission’s preliminary view is that it will apply an uplift to any “minute + second” prices provided in revised undertakings in the draft Report to ensure that it is comparing like with like prices.”

885. Implicit in 2degrees’ submission was the view that second+second pricing was appropriate, including it as the pricing basis in their compromise approach, and noting that “[anything] other than on a “per second” basis stifles innovation and the ability to structure retail pricing in innovative regulatory ways [sic].”⁴¹³

⁴¹² Commission comments letter, page 4.

⁴¹³ 2degrees submission on Commission comments letter, page 7, para 2.7(b) and footnote 23.

886. Telecom submitted that "... minute+second pricing is a valid pricing methodology where the initial period is an efficient means to capture call establishment costs."⁴¹⁴ Telecom suggest that a second+second pricing approach may not capture an access provider's costs of call set-up, unsuccessful calls, short duration calls and ring time, and note that under the current charging structure they charge "... 1055 seconds for every 1000 seconds of mobile network time used ... [whereas under the alternative] second+second ... Telecom would be charging for 856 seconds for every 1000 seconds of mobile network time used."⁴¹⁵
887. Telecom also submitted that a second+second pricing structure would not be consistent with the precedent of the interconnection termination charging regime in Decision 477.
888. Vodafone did not directly address this issue in their submission, but maintained a minute+second pricing structure for their MTM and FTM undertakings.

Commission's preliminary views regarding Minute+second / second+second pricing

889. The Commission is not required to determine the details of the pricing structure that will applied for the proposed regulated service as part of its recommendation in this draft Report. The Commission considers that pricing structure, including whether adjustments are necessary to cost-based prices to reflect call set-up costs, is an implementation issue and will make a determination regarding pricing structure should MTAS become a regulated service. The Commission notes, as discussed in paragraphs 608 to 610, that it is of the preliminary view that second+second pricing is likely to be preferable if mobile termination rates are to be regulated, and that adjustments would be needed to benchmarks and rates in undertakings where they involve minute+second pricing, to ensure that the rates remain comparable.
890. The Commission recognises that this it has previously allowed for minimum call duration charges in relation to interconnection with fixed networks in decision 477, amongst a range of options for recovering call set-up charges. The Commission stated that:⁴¹⁶
- "call set up charges can be recovered by several approaches:
- flag falls;
 - minimum per call interconnection charges (e.g. a minimum interconnection charge for a call of one minute); and
 - including a share of the call set up costs in the interconnection charge."
891. The same issues do not necessarily arise regarding call set up charges in relation to mobile networks as arise in relation to fixed networks. The Commission is therefore interested in submissions addressing the significance and magnitude of call set up charges for mobile networks and parties preferred approach to recovering call set up costs.

⁴¹⁴ Telecom submission on Commission comments letter, page 12, para 53.

⁴¹⁵ Ibid page 13, para 56.

⁴¹⁶ Commerce Commission, *Determination on the TelstraClear Application for Determination for Designated Access Services - Decision 477*, 5 November 2002, page 21, para 86.

On-net / off-net price discrimination

892. The Commission's comments letter noted that it:⁴¹⁷

“... consider[ed] that undertakings may contain terms that prevent discrimination between on-net and off-net pricing, and will consider the likely implications of any such terms in the draft report.

However, the Commission's preliminary view is that, provided MTAS prices are cost-based, non-discrimination provisions are not required to ensure a competitive market in the interests of the long-term benefits of end-users.”

893. 2degrees submitted that it did “... not agree that non-discrimination (i.e. a prohibition on closed-net pricing) is unnecessary. In fact it considers this to be essential given the difficulties with policy matters under the Commerce Act ...”⁴¹⁸ 2degrees proposed that:⁴¹⁹

“... the Commission should, whether through undertakings or regulation) adopt ex ante limits on wholesale/retail margin squeezes whether through prescribing an imputation test in this context or a similar approach. Another option might be to look at MTAS pricing being based on a “retail minus” formula (perhaps based on some form of weighted average of per leg on-net retail pricing, including bundled offers).”

894. Telecom submitted that:⁴²⁰

“the Commission's role is not to regulate retail prices, including pass-through and on-net/off-net calling. Should the Commission consider that a pass-through obligation would be of sufficient benefit to end users, it can achieve this by accepting the continuation of the Telecom and Vodafone MTR Deeds. These represent an alternative to regulation under the Act and therefore are able to contain provisions which would not be appropriate in a regulated outcome such as an undertaking to the Commission, or by adding a designated service to the Act.”

895. Vodafone submitted that it “does not see on-net pricing as a mobile termination issue” and provided a range of reasons for this including that:⁴²¹

“... on-net pricing:

- can be pro-competitive, and has been used by new entrants in other parts of the world as a way to attract new subscribers to their networks;
- is common throughout other retail mobile markets, and on-net discounting in New Zealand is not high by world standards;
- has been greatly welfare enhancing for consumers in New Zealand in recent years. In the 2009 financial year alone, we estimate on-net pricing will deliver benefits in the order of [] [VCOI] million to consumers, compared to existing off-net rates;
- concerns about on-net pricing really amount to concerns about retail pricing behaviour which should be dealt with under the Commerce Act rather than using blunt regulatory instruments such as restrictions on access pricing; and

⁴¹⁷ Commission comments letter, page 3.

⁴¹⁸ 2degrees, *MTAS – Commission's request for revised undertakings*, 6 May 2009, page 10, para 4.1.

⁴¹⁹ Ibid, page 13, para 4.12.

⁴²⁰ Telecom, *Schedule 3 investigation into regulation of mobile termination access services – Submission accompanying revised undertaking*, 6 May 2009, page 17, para 79.

⁴²¹ Vodafone, *Telecommunication Act 2001: Schedule 3 Investigation into Regulation of Mobile Termination Access Services*, May 2009, pages 25-26.

- should not be a concern for [2degrees], as our existing commercial deal with [2degrees] attends to any concerns it might have on this issue.”

Commission’s preliminary view on on-net / off-net price discrimination

896. As discussed in paragraphs 201, 203, 233 and 235, the Commission considers that the above cost nature of MTM, FTM and SMS termination rates, particularly for off-net MTM calls and off-net SMS, is likely to create a significant barrier to market entry and competition.
897. Notwithstanding this, the Commission’s preliminary view is that while undertakings may contain terms that prevent discrimination between on-net and off-net pricing, provided MTAS prices are cost-based, non-discrimination provisions are not required as part of the factual of regulation to ensure a competitive market in the interests of the long-term benefits of end-users. Non-discrimination provisions have not, therefore, been included in the proposed regulatory change, although this would not preclude such provisions being considered further if mobile termination rates are to be regulated.

Asymmetric pricing

898. The Commission’s comments letter noted that it:⁴²²

“The Commission notes that asymmetric prices (i.e., different prices for MTAS on different mobile networks) are not currently provided in the undertakings.

The Commission’s preliminary view is that it has not been provided any justification for asymmetric pricing in either undertakings or the factual of regulation for the draft Report.”

899. 2degrees submitted that it:⁴²³

“... could be amenable to such undertakings with asymmetry in prices in its favour. This would be consistent with the Commission’s desire for “cost-based” pricing – as a small new entrant with low traffic volumes in a capital intensive industry we will necessarily have higher actual per unit costs.”

900. Vodafone submitted that:⁴²⁴

“We agree that the Commission has not been provided any justification for asymmetric pricing in either undertakings or the factual of regulation for the draft report. Further, as we have previously noted in our September 2008 submission on the Commission’s Mobile to Mobile Termination Issues Paper, regulated asymmetrical prices have the potential to create market distortions. Such distortions have been a major concern for the European Regulator’s Group which is recommending that they be phased out in European member states.”

Commission’s preliminary view on asymmetric pricing

901. The Commission’s preliminary view is that it has not been provided any justification for asymmetric pricing in either undertakings or the factual of regulation for the draft Report. Asymmetric prices have not, therefore, been explicitly included in the proposed regulatory

⁴²² Commerce Commission, *Comments on undertakings received in relation to the MTAS Investigation*, 25 March 2009, page 4.

⁴²³ See note 418, page 7-8, para 3.1.

⁴²⁴ See note 421, page 25.

change, although this would not preclude such provisions being considered further if mobile termination rates are to be regulated.

902. The Commission recognises, however, that where there is evidence of differing cost structures for different operators then this could be grounds for asymmetric pricing, although the Commission would expect that such asymmetric pricing should be phased out over a relatively short period of time.

Pass-through requirements

903. The Commission's comments letter noted that it's:⁴²⁵

“...preliminary view is undertakings are able to contain conditions that purport to affect the retail price of mobile services, including terms that require pass-through of reduced termination rates to end-users.

However, the Commission's primary concern is the promotion of competition at the wholesale level. The Commission would expect increased competition to benefit end-users by leading to lower retail prices.

Given Vodafone's arguments in favour of pass-through provisions, the Commission invites Vodafone to indicate why it has only included pass-through for FTM, but not MTM and SMS.”

904. Telecom submitted, as discussed in paragraph 894, that “should the Commission consider that a pass-through obligation would be of sufficient benefit to end-users, it can achieve this by accepting the continuation of the Telecom and Vodafone MTR Deeds.”
905. Vodafone submitted that in the Commission's previous investigation into mobile termination rates the Commission concluded:

“... that including MTM termination rates would not be likely to have any significant flow on benefits from the Commercial offers it was considering. At that time the Commission appeared to recognise that lowered MTM termination rates would not lower net input costs for carriers as roughly symmetrical traffic flows mean that lower rates would reduce both termination revenue and termination costs to roughly the same extent. There are therefore likely to be little savings to pass through to consumers. The same principle applies to SMS.”

Commission's preliminary view on pass-through provisions

906. The Commission's preliminary view is that undertakings are able to contain conditions that purport to affect the retail price of mobile services, including terms that require pass-through of reduced termination rates to end-users. The Commission's preliminary view is, however, that similar terms are not capable of being included as legal requirements under the fact of regulation, although the Commission expects that pass-through will occur in practice in the fact through the promotion of competition.
907. While the Commission acknowledges that the issue of symmetry of traffic is relevant to MTM calls and SMS, the Commission's preliminary view is that some degree of pass-through as a result of competition is likely to occur if MTM and SMS termination rates are cost-based.

⁴²⁵ Commission comments letter, page 4.

908. As discussed in paragraphs 651 to 712, the Commission has included assumptions regarding the likely level of pass-through in its quantitative assessment of the factual and counter-factual in relation to FTM calls. The Commission has qualitatively assessed the likely level of pass-through in relation to MTM calls and SMS.

Internationally-originated and VOIP-originated calls

909. The Commission's comments letter noted that it's:⁴²⁶

“... preliminary view is that it has not been provided any justification for the differential treatment of mobile termination of any voice services, including internationally originated or VOIP originated calls, that are handed over from a New Zealand Access Seeker to a New Zealand Access Provider, for termination on the Access Providers mobile network.”

910. In relation to internationally originated calls, Telecom submit that:⁴²⁷

“Termination rates to mobile networks in overseas countries vary significantly, [] TRI

The MTR Deed contains no obligation to similarly lower the MTR for internationally originated calls to Telecom mobiles (IO Call) and the IO Call MTR has remained static since 2007. ...

Essentially a reduction in the IO Call MTR results in a wealth transfer from New Zealand based network operators to the offshore originators. There is no discernible benefit to the New Zealand end user. ...”

911. Telecom also submit that the Commission is not required to consider the Government statement of economic policy in relation to the Commission's consideration of undertakings under Schedule 3A of the Act. Further, Telecom submit that the Commission is only required to have regard to the Government statement of economic policy in relation to the Commission's investigation under Schedule 3 of the Act and that it is for the Commission to determine what weight to give the Government statement of economic policy.⁴²⁸

912. Vodafone submit that “...[no] changes are required to Vodafone's undertakings in relation to the statement of Government economic policy ...”.⁴²⁹

913. Vodafone also submit that it is for the Commission to determine what weight to give to the Government statement of economic policy, and that:

“... the intention of [the Annex on Telecommunications in the General Agreement on Trade in Services] is to ensure that Member states do not discriminate against other Member states as between those other Member states. The provision should not, in all circumstances, be extended in meaning to require a particular Member state to offer telecommunications services on terms and conditions that are similar to those that it offers domestically.”

914. In relation to VOIP originated calls, Telecom submit:⁴³⁰

⁴²⁶ Commission comments letter, page 4.

⁴²⁷ See note 414, page 15, paras 69-71.

⁴²⁸ See note 414, page 16, paras 73-75.

⁴²⁹ See note 421, page 63, para 211

⁴³⁰ See note 414, pages 16-17, paras 76 and 78.

“our primary concern with VOIP-originated calls is that often the true location of the originating party is disguised, which in turn facilitates arbitrage.

... Telecom is therefore justified in applying a different charge for VOIP originated and IO Calls and also in requesting arrangements that recognise the true location of the originating party.”

915. Telecom also raise concerns regarding the quality of international VOIP calls.⁴³¹
916. In relation to VOIP originated calls, Vodafone refer to paragraphs 207 and 208 of their February submission. These paragraphs include the submission that other services that “were not stated by the Commission to form part of the proposed regulatory change [could not be included in an undertaking under] Schedule 3A since they are outside the scope of this investigation.”

Commission preliminary views on internationally-originated and VOIP-originated calls

917. In relation to internationally-originated calls, the Commission notes that it is required to consider the Government statement of economic policy under the Act in the exercise of its powers under Schedule 3.⁴³² This implicitly requires the Commission to consider the Government statement of economic policy in respect of assessing undertakings submitted in accordance with Schedule 3A of the Act, as the undertakings are a proposed as an alternative to the regulatory change being considered under Schedule 3. The Commission also notes the weight to be given to the Government statement of economic policy in the context of any particular decision or determination of the Commission is a matter for the Commission to determine in its own discretion, acting reasonably.
918. The Commission has considered the requirements of the non-discrimination clauses in the international agreements referred to in the Government statement of economic policy⁴³³ and considers that these provisions generally require the Commission to:
- apply symmetry in pricing for internationally originated and domestically originated MTM and FTM calls, to the extent that the cost of terminating domestic and international traffic is symmetric; and
 - the assessment of international MTRs should be conducted under the same cost based criteria as domestic MTRs.
919. The Commission’s preliminary view is that for the same portion of the FTM, MTM and SMS termination services, where the service is the same and should involve the same costs i.e., the use of a New Zealand mobile network to terminate a call or SMS after it has been handed over in New Zealand, there is no justification for a different price to apply.
920. The Commission does not consider that it has been provided sufficient information to demonstrate differences in costs for internationally-originated calls, but acknowledges that

⁴³¹ See note 414, page 16, para 77.

⁴³² See Telecommunications Act 2001, s 19A.

⁴³³ For example, clause 5 (a) of the Annex on Telecommunications to the General Agreement on Trade in Services provides that “Each Member shall ensure that any service supplier of any other Member is accorded access to and use of public telecommunications transport networks and services on reasonable and non-discriminatory terms and conditions, for the supply of a service included in its Schedule. This obligation shall be applied, inter alia, through paragraphs (b) through (f).” Source: http://www.wto.org/english/docs_e/legal_e/26-gats_02_e.htm#anntel5a

where there are genuine differences in costs then it is reasonable for these to be reflected in different prices. Where the originating party is responsible for delivering an internationally-originated call to a mobile switching centre (MSC) in New Zealand, then there should not be any difference in the costs of the termination leg for that call or SMS on a New Zealand mobile network, however, the delivery of that call or SMS to the MSC would be a different service.

921. In relation to VOIP-originated calls, the Commission's preliminary view is that for the same portion of the FTM, MTM and SMS termination services, where the service is the same and should involve the same costs i.e., the use of a New Zealand mobile network to terminate a call or SMS after it has been handed over in New Zealand, there is no justification for a different price to apply.
922. The Commission notes that while it appears reasonable to require arrangements that recognise the true location of the originating party, in order to prevent arbitrage opportunities, in practice this may not be significant if all calls and SMS are treated in the same manner, with termination rates being cost-based.
923. The Commission's preliminary view is that the service description for the MTAS should include internationally-originated and VOIP-originated calls and SMS, where these are handed over at a MSC in New Zealand.

Reciprocal charges in Telecom's undertakings

924. The Commission's comments letter noted that:⁴³⁴

“Telecom's undertaking contains 3 additional charges that an Access Seeker must pay Telecom, which Telecom does not reciprocally have to pay an Access Seeker ...

The Commission invites Telecom to provide reciprocal terms in these areas or reasons for terms not being reciprocal.”

925. Telecom have submitted:

“Telecom incurs one-off costs for building all the services and interfaces necessary to establish interconnection with a new network operator. We reasonably seek to recover these costs from the operator requesting access to our customer base.

In Telecom's experience our costs tend to be far greater than those of the Access Seeker in this situation, largely due to the extent of our network and the work involved. Specifically, there is nothing that Telecom specifically requires another network operator to establish, so it is highly unlikely that the charges would apply in reverse. Our charges are set to recover the costs of establishing interconnection, rather than to make a profit from the exercise. ...”

Commission's preliminary view on reciprocal charges in Telecom's undertakings

926. The Commission's preliminary view is that the reason provided by Telecom, being a difference in costs between Telecom as an access provider and the likely costs of an access seeker in interconnecting, appears reasonable. The Commission also notes that Telecom have indicated that these costs are negotiable.

⁴³⁴ Commission comments letter, page 21.

927. The Commission invites submissions on the reasonableness of these non-reciprocal charges provided for under the Telecom undertaking.

Handover deductions

928. The Commission's comments letter invited "... Telecom to explain the intent and impact of [the clause in its undertaking regarding a deduction of 3.5cpm for transport to handover points], and the rationale for this deduction."⁴³⁵

929. Telecom confirm in their submission that under their undertakings:⁴³⁶

"if [an Access Provider] chooses not to have a handover point in the LICA Group where a Telecom fixed line customer originates a call to [an Access Providers], Telecom will transport that call to wherever [the Access Provider] does have a point of interconnection (POI) and deduct a transport fee of 3.5 cents per minute from the MTR to compensate Telecom for the use of its national transport network. If [the Access Provider] chooses to pick up that call in the LICA Group where it originates, then there is no transport charge deducted from the MTR paid to [the Access Provider]."

930. Telecom submit that:⁴³⁷

"The current model for handover of calls from FTM networks has that handover taking place at fixed network POIs. This provides a saving in transport costs from the fixed POI to the mobile switching centre (MSC) in relation to any FTM calls originating in LICA Groups without a MSC. Telecom estimates that this saves fixed line operators about 0.47 cents per minute relative to a MSC handover structure. ...

It is well recognised (both in New Zealand and internationally) that there is value, and an associated network cost, in transporting calls on a national network, which is quite distinct to the interconnection service. The 3.5 cents per minute charge is entirely consistent with that approach and it is reasonable that Telecom or any other national transport provider seeks compensation for that transport service."

931. Vodafone have submitted that it has:⁴³⁸

"... strong concerns regarding Telecom's suggested handover arrangements ... [which can have] ... the effect of imposing additional national transport costs on [Telecom's] competitors. Telecom is providing an end-to-end calling service to its retail FTM customers, and is responsible for the cost of transporting its FTM calls from the originating LICA to Access Providers' MSCs."

Commission's preliminary view on handover deductions

932. The Commission's preliminary view is that the description of service for the MTAS in the proposed regulatory change should be:

"Termination (and its associated functions) **on a cellular mobile telephone network** of:

- voice calls originating on a fixed telephone network;
- voice calls originating on another cellular telephone network; and

⁴³⁵ Commission comments letter, page 22.

⁴³⁶ See note 414, pages 13-14, para 60.

⁴³⁷ See note 414, pages 14, paras 62-63.

⁴³⁸ See note 421, page 69, para 224.

- short-message-service originating on another cellular telephone network.” (emphasis added)

933. Inherent in this description of service is that the access seeker will handover calls and SMS at a MSC. Accordingly, the Commission’s preliminary view is that the handover deductions included by Telecom in their undertaking is not appropriate.

Residual issues raised in Commission’s comments letter

Issues that Vodafone have responded to

934. The Commission notes that Vodafone included in their submissions comments about how it has addressed the following issues, which address the Commission’s concerns:

- Vodafone have clarified how their undertakings are intended to interface with commercial roaming arrangements;⁴³⁹
- Vodafone have included a process whereby reciprocal service is to provided by an access seeker on request by Vodafone;⁴⁴⁰ and
- Vodafone have included cross-default provisions within their undertakings.⁴⁴¹

Issues not addressed in 2degrees’ submission

935. The Commission has identified in paragraphs 97 a number of issues regarding the compatibility of 2degrees’ undertaking with the requirements of the Act, which mean that 2degrees’ undertaking cannot be recommended to be accepted.

936. In addition, 2degrees has not responded to the Commission’s observation in its comments letter that:⁴⁴²

“[2degrees] has not provided any justification to not include wholesale customers within the scope of their undertaking ...

[and 2degrees] has not provided any justification to not include FTM termination within the scope of their undertaking.”

937. The Commission notes that 2degrees has indicated in its submission on the Commission’s comments letter that:⁴⁴³

“It may also be prepared to discuss an undertaking covering calls between fixed and mobile networks (FTM), although it does not consider there to be reciprocity in offering.”

938. The Commission invites 2degrees, if it chooses to submit revised undertakings, to either provide justification for its approach to not including these matters within the scope of their

⁴³⁹ See note 421, page 77.

⁴⁴⁰ See note 421, pages 82-83.

⁴⁴¹ See note 421, pages 84-85.

⁴⁴² Commission comments letter, pages 17-18.

⁴⁴³ See note 413, page 13, para 6.5.

undertaking, or to include wholesale customers and FTM termination within the scope of their undertaking.

Compatibility of undertakings with the access principles set out in Schedule 1 of the Act

939. The Commission's comments letter noted that it:⁴⁴⁴

“...[considered] that reference to the standard access principles and the limits on the standard access principles under the Act in an undertaking is not sufficient to meet the above requirement for to Commission to make a recommendation to the Minister to accept an undertaking. The Commission therefore invite[d] Telecom, Vodafone and [2degrees] to provide any further comments in relation to how their undertakings meet this requirement.”

940. The Commission notes that Telecom⁴⁴⁵ and Vodafone⁴⁴⁶ have both provided assurances that they consider their undertakings comply with the standard access principles and the limits on those principles in the Act, and Vodafone provided comments on how their undertakings meet each of the standard access principles.

941. The Commission's preliminary view is that Telecom's and Vodafone's undertaking in substance are compliant with the standard access principles and the limits on those principles in the Act.

942. The Commission invites 2degrees, if it chooses to submit revised undertakings, to provide an assurance that 2degrees' undertakings comply with the standard access principles and the limits on those principles in the Act, and comments on how each of the standard access principles is met.

Process for reconciling non-price terms in the undertakings

943. The Commission has previously stated that:⁴⁴⁷

“If the Commission considers that some or all of the undertakings should be recommended for acceptance, then a workshop may be held to resolve any issues of comparability of terms...”

944. Telecom submitted⁴⁴⁸ that it has attempted to align the non-price terms in its undertakings with those in Vodafone's undertakings. Telecom also supports the holding of a workshop to reconcile the non-price terms between those undertakings.

945. Vodafone submitted⁴⁴⁹ that there are limited substantive differences between Vodafone and Telecom undertakings and reiterated that a workshop prior to the next submission revised undertakings is its preferred approach to resolve any inconsistencies in non-price terms between those undertakings.

946. 2degrees have submitted⁴⁵⁰ that non-price terms should be discussed only if there was movement on price terms from Vodafone and Telecom.

⁴⁴⁴ Commission comments letter, page 4.

⁴⁴⁵ See note 414, pages 19-20, paras 91-92.

⁴⁴⁶ See note 421, pages 65-66, paras 215-218.

⁴⁴⁷ See note 22, page 5.

⁴⁴⁸ Telecom submission with revised undertakings, 6 May 2009, page 4.

⁴⁴⁹ Vodafone submission with revised undertakings, 6 May 2009, page 17.

⁴⁵⁰ 2degrees letter, 6 May 2009, page 13.

947. The Commission acknowledges the changes that Telecom and Vodafone have made go some way towards aligning the non-price terms in their undertakings, and agrees that a workshop may be an appropriate process to resolve any remaining inconsistencies in non-price terms between undertakings.
948. However, the Commission's preliminary view is that any such workshop would only be appropriate were the Commission to reach a view that some or all of the undertakings should be recommended for acceptance. The Commission will review the appropriateness of holding such a workshop following the submission, if any, of further revised undertakings at the time of submissions on this draft Report. The Commission's preliminary view is that any workshop would follow the Conference on this draft Report.

Consultation questions:

949. The Commission is seeking the views of interested parties on the significance and magnitude of call set up charges for mobile networks and parties preferred approach to recovering call set up costs.
950. The Commission is seeking any evidence of differing cost structures for different operators which could be grounds for asymmetric pricing, and the views of interested parties over the timeframe for any asymmetric pricing to be phased out.

Conclusions and draft recommendation

Conclusions

951. This mobile termination access services (MTAS) investigation is considering whether or not to recommend that the MTAS be made a designated access service (the proposed regulatory change).

Framework for assessment

952. The Telecommunications Act requires the Commission to make recommendations in the MTAS Investigation that are likely to best give effect to the promotion of competition in telecommunications markets for the long-term benefit of end-users.⁴⁵¹

953. Further, in assessing the likely promotion of competition for the long-term benefit of end-users, the Commission is expressly required to consider the efficiencies that will result, or will be likely to result, from the proposed regulatory change.⁴⁵² The term 'efficiencies' is not defined in the Act, though the Commission generally assesses a full range of efficiency effects, including productive and allocative efficiencies (sometimes referred to together as static efficiencies) and dynamic efficiencies. Static efficiencies generally lend themselves more readily to quantitative analysis than dynamic efficiencies.

954. The Commission's framework for this assessment is summarised in paragraphs 43 to 54. The Commission has undertaken a mixture of quantitative and qualitative assessment, including weighing up the following factors (comparing the factual of the proposed regulatory change to the counter-factual of Telecom's and Vodafone's undertakings⁴⁵³):

- the sustainable price effects that can be expected from increased competition as a result of a proposed regulatory change. These effects are often referred to as changes in the level of consumer surplus resulting from a proposed regulatory change;
- the efficiency effects that can be expected as a result of the proposed regulatory change. These efficiency effects include allocative, productive and dynamic efficiencies; and
- allowances for any detriments that may result from the proposed regulatory change. In the current case, these detriments are the possible waterbed effect on mobile subscription prices arising from changes in mobile termination rates (MTRs), and direct regulatory costs.

⁴⁵¹ See Telecommunications Act 2001, ss 18 and 19.

⁴⁵² See Telecommunications Act 2001, s 18(2).

⁴⁵³ The assessment presented in this paper is of the additional benefits or costs that would result from the factual of the proposed regulatory change, compared to the benefits that would result from the counter-factual of Telecom's and Vodafone's undertakings.

Factual and counter-factual rates

955. The Commission's preliminary conclusion, based on its benchmarking of cost-based MTRs summarised in paragraphs 506 and 516 to 517 for voice, and 525 to 527 for SMS, respectively, is that it is appropriate to apply a factual MTR that follows a forward-looking cost-path as set out in Table 56 below for the purposes of assessing the potential impact of regulation. The counter-factual applied by the Commission represents an average of the blend of MTRs in Telecom's and Vodafone's undertakings, based on 2008 mobile subscriber market shares as discussed in paragraphs 647 and 755, is also presented in Table 56 below.

Table 56: Factual MTRs and counter-factuals (NZcpm and cpSMS)

		2009	2010	2011	2012	2013	2014	2015
Factual MTR (voice)		7.20	6.50	5.80	5.20	4.70	4.30	3.80
Counter-factual MTR (voice)		15.25	14.41	13.35	12.31	11.31	10.66	10.53
Factual MTR (SMS)		0.95	0.86	0.77	0.69	0.62	0.56	0.50
Counter-factual MTR (SMS)			6.44	6.12	5.81	5.57	5.39	5.36

Source: Commerce Commission (2009).

Summary of assessment

956. The Commission's preliminary conclusion is that cost-based regulation of the MTAS is likely to reduce barriers to efficient entry and expansion, thereby increasing competition, in the relevant downstream retail markets. As a result, there are likely to be significant quantified and qualitative benefits from the proposed regulatory change, compared to the undertakings, as summarised in paragraphs 871 to 879.

957. In summary, the quantified long-term net benefits to end-users from the proposed regulatory change range from \$92.8 million to \$111.1 million over five years with a 50% waterbed effect, and could be up to \$275 million in the absence of a waterbed effect. There are also likely to be quantified allocative efficiency benefits from the proposed regulatory change ranging from \$51.3 million to \$55.3 million (or up to \$107 million with no waterbed effect). These are the net benefits over a five year period in relation to the retail FTM market, and also take into account direct regulatory costs.

958. In addition, there are likely to be positive and potentially significant static and dynamic long-term benefits to end-users from the proposed regulatory change in relation to the retail mobile services market, and positive productive and dynamic efficiency benefits in relation to both the retail FTM and retail mobile services markets.

Draft recommendation

959. After giving due weight to both its quantitative and qualitative assessments, the Commission's draft recommendation is that the mobile termination access services be

made a designated access service by adding the following items to Part 2, Subpart 1 of Schedule 1 to the Act:

Mobile termination access services	
Description of service:	<p>Termination (and its associated functions) on a cellular mobile telephone network of:</p> <ul style="list-style-type: none"> ▪ voice calls originating on a fixed telephone network; ▪ voice calls originating on another cellular mobile telephone network; and ▪ short-message-service (“SMS”) originating on another cellular mobile telephone network. <p>For the avoidance of doubt, this service includes the termination of internationally-originated voice calls and SMS, and voice-over-internet-protocol-originated voice calls, where these are handed over at a mobile switching centre in New Zealand.</p>
Conditions:	Nil
Access provider:	A person who operates a cellular mobile telephone network
Access seeker:	A service provider who seeks access to the service
Access principles:	The standard access principles set out in clause 5
Limits on access principles:	The limits set out in clause 6
Initial pricing principle:	<p>Benchmarking against MTAS prices in comparable countries that result from the application to networks that are similar to the access provider’s mobile network of –</p> <ul style="list-style-type: none"> (a) a forward-looking cost-based pricing method; or (b) if the Commission considers that a forward-looking cost-based pricing method does not best give effect to the purpose set out in section 18, whichever of the following methods that the Commission considers best gives effect to that purpose: <ul style="list-style-type: none"> (i) a pure bill and keep method; or (ii) a pure bill and keep method applied to two-way traffic in balance (or to a specified margin of out-of-balance traffic) and a forward-looking cost-based pricing method applied to out-of-balance traffic (or traffic beyond a specified out-of-balance margin).
Final pricing principle:	<p>Either –</p> <ul style="list-style-type: none"> (a) TSLRIC; or (b) if the Commission considers that TSLRIC does not

	<p>best give effect to the purpose set out in section 18, whichever of the following methods that the Commission considers best gives effect to that purpose:</p> <ul style="list-style-type: none"> (i) a pure bill and keep method; or (ii) a pure bill and keep method applied to two-way traffic in balance (or to a specified margin of out-of-balance traffic) and TSLRIC applied to out-of-balance traffic (or traffic beyond a specified out-of-balance margin).
Requirement referred to in section 45 for final pricing principle:	Nil

960. Consistent with the Commission's draft recommendation in paragraph 959, the Commission's draft recommendation is that the revised undertakings submitted by Telecom and Vodafone should not be accepted under Schedule 3A of the Act.
961. In addition, the Commission's draft recommendation is that the undertaking submitted by 2degrees should not be accepted under Schedule 3A of the Act, as it does not meet the requirements of the Act, as discussed in paragraphs 100 to 102.

Paula Rebstock
Commissioner
Commerce Commission

Appendix 1: Average retail and wholesale prices (MTM, SMS)

(average revenue per minute)

	2008
Retail MTM	
on-net	[] COI cpm
off-net	[] COI cpm
differential	[] COI cpm
Wholesale MTAS	16.70 cpm
Retail SMS	
on-net	[] COI cpSMS
off-net	[] COI cpSMS
differential	[] COI cpSMS
Wholesale MTAS	9.10 cpSMS

Appendix 2: Submissions on market definition and competition assessment

1. This appendix provides a summary of submissions received on the Commission's Issues Paper in relation to the market definition and competition assessment.⁴⁵⁴

Submissions on market definition

Vodafone submission

2. Vodafone submitted that the Commission's assertion that the termination service is not part of the retail offering needs re-visiting. Specifically, Vodafone submitted that the market definition framework proposed by the Commission in the Issues Paper is too narrow with respect to the product and functional dimensions.
3. In respect of the product dimension, Vodafone stated that the product that mobile operators produce combines both termination and other retail mobile services, and these cannot be separated. Vodafone noted that a mobile network that offers any retail mobile services will necessarily have to provide termination services to other networks, as customers of other networks expect to be able to call the mobile network's customers, and the mobile network's customers expect to be able to receive calls from other networks. Consequently, Vodafone suggested that termination and retail mobile services are strong complements and it does not make sense to analyse them separately.⁴⁵⁵
4. In relation to the functional dimension, Vodafone noted that termination and retail mobile services are produced at the same level in the production chain for a mobile network. Vodafone submitted that the same equipment and other resources that produce retail services also produce termination, and that it is technically not possible to separate these two types of production.⁴⁵⁶
5. Vodafone therefore argued that it is not appropriate to consider pricing of mobile termination services in abstract from the provision of retail mobile services, because the two types of services are jointly produced, and the prices associated with each must be set by taking into account the prices associated with the other.
6. In support of this view, Covec, on behalf of Vodafone, submitted that:⁴⁵⁷

While it is true that, under calling party pays, subscribers do not pay for incoming calls or texts, the ability to receive calls and texts is implicit in the service that they buy from the mobile network. Even prepay customers who do not pay explicit monthly fees still expect their mobile phones to be able to receive calls, and indeed a significant fraction of prepay customers receive many more calls than they make. Thus it is not correct to define a separate wholesale termination market as distinct from the retail market. No mobile network would be able to compete in the retail market if it did not

⁴⁵⁴ Commerce Commission, *Telecommunications Act 2001: Schedule 3 Investigation into Regulation of Mobile Termination Issues Paper*, 8 August 2008.

⁴⁵⁵ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, para 9.

⁴⁵⁶ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, para 10.

⁴⁵⁷ Covec, *Mobile-to-Mobile Termination Economic Issues*, 5 September 2008, p 4.

both offer termination services to other mobile networks and buy termination services from them. No mobile network would be able to supply termination if it did not also supply retail mobile services. In economic terms, termination and retail mobile services are complements in both production and consumption.

7. Therefore, Vodafone submitted that the appropriate analytical framework within which to consider this issue encompasses the provision of retail and termination mobile services as a whole, as goods produced by a multi-product firm.⁴⁵⁸
8. Furthermore, Vodafone submitted that mobile termination in general, and MTM termination in particular, is not best analysed within a typical bottleneck access framework. Vodafone submitted that in reaching the conclusion that termination is an interconnection bottleneck, the Commission overlooks the need for mobile networks to supply termination to other networks in order to provide retail services to their own customers.⁴⁵⁹

Telecom submission

9. Telecom submitted that the market definition for mobile termination in the Issues Paper mistakenly ignores many interactions that have an influence on termination rates and upon which those termination rates also have an influence. In particular, Telecom submitted that the mobile termination market is two-sided due to the fact that both the calling and called parties need, and benefit from, each other, and the market for mobile services would not exist without both callers to mobiles and mobile subscribers.⁴⁶⁰
10. Telecom submitted that the Commission should recognise this two-sided market in its competition analysis, and noted that analysing mobile telephony in the proper “two-sided” framework has several implications:⁴⁶¹
 - (a) an operator can reduce its exposure to termination payments and revenue by competing for customers with different preferences. These trade-offs must be recognised in the competition analysis and CBA;
 - (b) investment decisions will be made holistically, not on the basis of just one side of the market. Mobile operators must balance their pricing decisions on both sides of the market. Both the price level and the price structure are important; and
 - (c) it is wrong to identify market power by comparing prices and costs on just one side of the market or platform – competition will force the joint revenues earned for all services down to the cost of the platform.
11. Telecom further submitted that the fact that the mobile industry is a two-sided market means that subscription costs and prices must also be taken into account when considering whether termination prices are too high. Telecom asserted that the costs of subscription and termination cannot be meaningfully separated, because mobile operators set prices jointly for origination, termination, access and value-added products.⁴⁶² In addition, Telecom noted that the Commission recognised that mobile termination is part of a two-

⁴⁵⁸ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, para 11.

⁴⁵⁹ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, p 49, paras 16-18.

⁴⁶⁰ Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, pp 10-11, paras 34-35.

⁴⁶¹ Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, p 11, para 37.

⁴⁶² Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, p 12, para 40.

sided market in its previous investigation, through its treatment of “pass-through” and the “waterbed effect” in the CBA.⁴⁶³

12. Telecom also submitted that as termination services are part of a two-sided market, they are not bottlenecks, and that the Commission’s analysis leads it to conclude that mobile termination is a bottleneck as a consequence of incorrectly framing the market.⁴⁶⁴
13. In relation to substitutes for mobile termination services, Telecom submitted that mobile subscription is a substitute for mobile termination, in the sense that a mobile operator can seek to attract a subscriber onto its own network as a substitute for paying another mobile network operator to terminate calls to that subscriber. Furthermore, Telecom suggested that fixed phone and mobile phone services are substitutes to some degree, which the Commission’s conceptual framework and analysis needs to take into account.⁴⁶⁵

2degrees submission

14. 2degrees submitted that the market definition proposed by the Commission in the Issues Paper would suffice, but an alternative would be a broader market definition that includes all mobile services (retail services as well as termination) to reflect the two-sided nature of mobile markets.⁴⁶⁶
15. 2degrees further submitted that mobile termination is an essential input into the provision of mobile service and as such must be considered a bottleneck. 2degrees noted that in some cases countervailing buyer power may counteract the market power of the terminating mobile network, for example, in negotiations between similar sized networks that both require access to each others’ networks and have traffic that is generally in balance. 2degrees submitted, however, that in the current context there is a new entrant which does not have the countervailing power of existing mobile networks and access to the Vodafone and Telecom networks hence should be considered a bottleneck.⁴⁶⁷

Other submissions

16. Orcon/Kordia/CallPlus/Woosh submitted that the internationally recognised market definition is termination on an individual mobile network (not the market for termination services), as it is only possible to terminate on the terminating carrier’s network (and therefore, each terminating carrier is a monopoly). Orcon/Kordia/CallPlus/Woosh therefore submitted that this is a bottleneck service.⁴⁶⁸
17. TelstraClear noted that the market definitions identified from other jurisdictions do not appear to distinguish between mobile termination from either mobile or fixed networks. TelstraClear further noted that the approach to market definition adopted by the EU is consistent with the approach taken by the ACCC in defining mobile termination as “a

⁴⁶³ Ibid, para 45.

⁴⁶⁴ Ibid, p 24.

⁴⁶⁵ Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, p 13, para 46.

⁴⁶⁶ 2degrees, *Submission from NZ Communications Limited on Mobile Termination Issues Paper*, September 2008, p 30.

⁴⁶⁷ 2degrees, *Submission from NZ Communications Limited on Mobile Termination Issues Paper*, September 2008, p 31.

⁴⁶⁸ Orcon/Kordia/CallPlus/Woosh, *Submission to the Commerce Commission on the Issues Paper as to Regulation of Mobile Termination*, 5 September 2008, p 22- 23.

wholesale input, used by providers of calls from fixed-line and mobile networks, in order to complete calls to mobile subscribers connected to other networks”.⁴⁶⁹

18. TelstraClear also highlighted statements from the ACCC to the effect that mobile termination is a bottleneck service, as each network operator has a monopoly over the provision of MTAS on its own network.⁴⁷⁰
19. TUANZ submitted that termination is a bottleneck because end-users who make retail calls/SMSs have no choice as to which network the person they are calling is on – either mobile or fixed. Furthermore, TUANZ submitted that the larger a provider’s market share, the more likely it is that they will profit from excessive mobile termination rates.⁴⁷¹

Submissions on the scope of the schedule 3 investigation

20. TelstraClear submitted that the Commission should regulate all voice calls terminating on a mobile network, irrespective of the nature of the service from which they originate.⁴⁷² Specifically, TelstraClear suggested that the Commission should consider FTM termination as well as MTM termination.
21. Orcon/Kordia/CallPlus/Woosh submitted that the services covered by the investigation should include FTM, MTM and mobile-to-fixed termination services.⁴⁷³
22. CallPlus submitted that the scope of the schedule 3 investigation should incorporate the following:
 - MTM termination;
 - FTM termination; and
 - mobile-to-fixed termination (where ‘Calling Party Pays’ does not apply).⁴⁷⁴
23. CallPlus further submitted that SMS and Mobile Data are an integral part of a mobile service and a critical element to any new entrant to the mobile market. Accordingly, CallPlus suggested that to not encapsulate these services as well as mobile termination for voice services would allow an incumbent, with significant market power, to limit the effectiveness of any regulation.⁴⁷⁵
24. 2degrees submitted that the principal markets that the Commission should be concerned with are those impacted most by the mobile termination bottlenecks held by Vodafone and

⁴⁶⁹ TelstraClear, *Submission relating to Schedule 3 investigation into regulation of mobile termination – Issues paper*, 5 September 2008, p 10, para 41.

⁴⁷⁰ TelstraClear, *Submission relating to Schedule 3 investigation into regulation of mobile termination – Issues paper*, 5 September 2008, p 10, para 42-43.

⁴⁷¹ TUANZ, *Submission on Schedule 3 Investigation into Regulation of Mobile Termination*, 5 September 2008, p 3.

⁴⁷² TelstraClear, *Submission relating to Schedule 3 investigation into regulation of mobile termination – Issues paper*, 5 September 2008, p 4, para 11.

⁴⁷³ Orcon/Kordia/CallPlus/Woosh, *Submission to the Commerce Commission on the Issues Paper as to Regulation of Mobile Termination*, 5 September 2008, p 3, para 1.4.

⁴⁷⁴ CallPlus, *Submission on the Schedule 3 Investigation into Regulation of Mobile Termination Issues Paper*, 5 September 2008, p 1.

⁴⁷⁵ CallPlus, *Submission on the Schedule 3 Investigation into Regulation of Mobile Termination Issues Paper*, 5 September 2008, p 2.

Telecom, namely the markets for the retail supply of mobile telephony services. 2degrees submitted that this can be taken to encompass voice, text and data (MMS).⁴⁷⁶

Submissions on competition assessment

Vodafone submission

25. Vodafone submitted that it has a number of concerns with the Commission's analysis of the state of competition in the mobile market. In particular, Vodafone submitted that mobile operators compete for mobile subscribers on the basis of both voice and SMS services provided to consumers, but the Commission's analysis gives little attention to the prices paid for, and volumes consumed of, SMS services in New Zealand.⁴⁷⁷
26. Vodafone contended that the Issues Paper provided no reason to suggest that consumers are experiencing excessively high prices for SMS services in New Zealand. Vodafone submitted that prices for SMS services in New Zealand are exceptionally low by world standards, and that usage levels per consumer are high. Consequently, Vodafone submitted that it is difficult to see how consumers of SMS services will benefit from regulatory intervention.⁴⁷⁸
27. Furthermore, Vodafone submitted that the Commission should focus on broader measures of the effectiveness of competition in the markets within which mobile services are provided. Specifically, Vodafone submitted that the Commission should have regard to measures of average revenue per user ('ARPU'), as this combines the total revenue a carrier receives for all of the mobile telecommunications services it provides (including voice, SMS, mobile broadband and interconnection revenues), and then divides this by the total number of customers it services.⁴⁷⁹
28. Vodafone suggested that by considering the full bundle of mobile services purchased by consumers, the Commission would be able to view a more complete picture of the market. Vodafone noted that the ARPU for New Zealand consumers compares favourably with a number of overseas jurisdictions.
29. Vodafone further submitted that:⁴⁸⁰
 - usage levels for mobile services in New Zealand have risen considerably in recent years;
 - the Commission has not had regard to the recent regulatory reforms, including those in relation to roaming and co-location;
 - the number of providers of mobile services is expected to rise markedly over coming months, with the entry of 2degrees and a number of MVNOs; and

⁴⁷⁶ 2degrees, *Submission from NZ Communications Limited on Mobile Termination Issues Paper*, September 2008, p 30.

⁴⁷⁷ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, p 24, para 84.

⁴⁷⁸ Vodafone, *Submission on Schedule 3 Investigation into Regulation of Mobile to Mobile Termination Issues Paper*, September 2008, p 14, paras 38-42.

⁴⁷⁹ *ibid*, pp 14-15, para 85.

⁴⁸⁰ *Ibid*, pp 27-28.

- Telecom is rolling out a W-CDMA network that will enable consumers to switch between networks more easily.
30. Vodafone concluded that these developments suggest that many factors are already in place to ensure further competition over the provision of mobile telecommunications services in the future.⁴⁸¹

Telecom Submission

31. Telecom submitted that in analysing whether the market is currently workably competitive, the Commission needs to carefully consider a number of factors, including:⁴⁸²
- the dimensions on which mobile operators compete, for example, price, the ability to roam, functionality of network-compatible handsets, and coverage;
 - investment in new services and technologies;
 - the existence or otherwise of switching costs;
 - the nature of mobile cost drivers in New Zealand; and
 - the profitability of mobile operators, properly assessed over time and across the mobile platform.
32. Telecom further submitted that low minutes per subscriber must be viewed in the context that New Zealand has a very high proportion of subscribers on pre-paid plans, which generally have a higher per minute price to reflect the flexibility they offer the subscriber. The led Telecom to suggest that low minutes per subscriber could simply reflect a customer preference for flexibility.⁴⁸³
33. Telecom also provided evidence that, in contrast, New Zealanders have relatively high SMS usage, which may reflect a preference for customers to text rather than call.⁴⁸⁴
34. In its submission on the Issues Paper, Telecom noted that the Teligen benchmarking calculates the total spend for three usage profiles (low user, medium user and high user) based on mobile plans offered by the two largest mobile operators in each OECD country, and ranks these total spends. Telecom submitted that the Teligen OECD benchmarking has a number of limitations, which mean that the data is not suitable for determining the state of competition in the New Zealand market.⁴⁸⁵
35. Telecom suggested that although OECD benchmarking may provide some indicative data to inform general policy discussion regarding how mobile plans might compare, it is of no real value for a retail market and competition analysis.⁴⁸⁶

⁴⁸¹ Ibid, para 96.

⁴⁸² Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, p 14, para 50.

⁴⁸³ Ibid, p 15, para 57.

⁴⁸⁴ Ibid.

⁴⁸⁵ Telecom, *Submission on Issues Paper*, 5 September 2008, p 16, para 60.

⁴⁸⁶ Telecom, *Schedule 3 Investigation into regulation of mobile termination: Submission on issues paper*, 5 September 2008, pp 15-16, para 59.

36. Furthermore, in response to the view the differentials in on-net and off-net prices may pose a barrier to entry, Telecom noted that on-net/off-net price discrimination is a feature of many European mobile markets that have several networks. Therefore, Telecom suggested that the more likely deterrent to entry is that the market is small and already competitive.⁴⁸⁷

2degrees submission

37. 2degrees submitted that there is limited competition in the retail mobile market. In support of this view 2degrees contended that:⁴⁸⁸
- despite high market penetration, calling volumes are very low by international standards;
 - the market is a duopoly with high entry and expansion barriers, and consequently, is highly concentrated; and
 - there has been under-investment in infrastructure, so service quality is relatively poor. In support of this view, 2degrees provided estimates which suggest that Vodafone New Zealand has approximately 2.4 times more customers per cell site than Vodafone Australia.
38. 2degrees also highlighted concerns that current on-net/off-net price differentials that are prevalent in the retail market may pose a significant barrier to entry, by making small operators unattractive for a prospective subscriber.⁴⁸⁹
39. In respect of the wholesale MTAS market, 2degrees agreed with the Commission's conclusion that termination on the incumbents' networks constitutes a bottleneck, leading to market power in termination.⁴⁹⁰

⁴⁸⁷ Ibid, pp 17-18, para 68.

⁴⁸⁸ 2degrees, *Submission from NZ Communications Limited on Mobile Termination Issues Paper, September 2008*, pp 5-6, paras 1.5-1.7.

⁴⁸⁹ Ibid, pp 9-12.

⁴⁹⁰ Ibid, p 6.

Appendix 3: Submissions on BAK and cost-based MTRs

Vodafone's submission on BAK

40. Vodafone's submission on 2degrees' undertaking focused on the proposal to introduce BAK for termination of MTM voice calls and SMS. According to Vodafone, 2degrees' undertaking should be rejected for a number of reasons.
41. Vodafone submitted that BAK is unlikely to be efficient, and would not achieve the Act's section 18 purpose of promoting competition for the long-term benefit of end-users. According to Vodafone, BAK will lead to a significant change in the structure of retail prices for mobile services.
42. Vodafone provided a report by Frontier Economics which reviews the academic literature on BAK and economically efficient mobile termination rates. Vodafone summarised the findings of Frontier as follows:
 - in the absence of externalities, the economically efficient price of mobile termination services should reflect the cost of supplying the termination services; and
 - the efficient mobile termination rate should be increased above the cost-based rate where there are network externalities (in order to subsidise network penetration), and decreased below the cost-based rate where there are calling externalities (in order to subsidise calling volumes).
43. Frontier concluded that BAK, where the MNO originating a call pays nothing for termination of the call, is only an efficient arrangement where the following conditions are satisfied:
 - there are no network externalities;
 - the call externality enjoyed by call recipients is precisely equal to the call benefit enjoyed by the party initiating the call; and
 - call origination costs are equal to call termination costs.
44. According to Vodafone, the above is a very restrictive set of circumstances. For example, Vodafone submitted that parties tend to internalise any call externality themselves, with each party calling (or texting) the other. As a result, there is no need for any subsidy to be paid to the party initiating the call (in the form of below-cost termination).
45. Vodafone also referred to Ofcom research, showing that consumers' mobile subscription decisions placed little value on the possibility of being called. According to Vodafone, previous decisions on mobile termination rates by Ofcom and the UK Competition Commission (UKCC):

have concluded that the access or network externality effect is more significant than the call externality effect.

46. Vodafone also noted that even where the above conditions are satisfied, the resulting efficient structure of retail prices would involve a retail price for mobile phone subscribers to receive calls.

47. Vodafone submitted that:⁴⁹¹

a core feature of bill and keep is that it means an effective termination rate not only (a) allows for no recovery of common costs on inbound calls, but also (b) is substantially below incremental cost.

Any departure from the economically efficient level, either above or below, will result in a reduction in economic welfare. By definition, by setting a termination rate at zero, bill and keep is almost certainly not economically efficient.

48. In commenting on the CE report for 2degrees, Vodafone submitted that the optimal mobile termination rate is not zero, and that it is unaware of any regulator that has quantitatively analysed regulation or developed a cost model, and then concluded that a zero mobile termination rate is optimal.⁴⁹²

49. Vodafone's submission went on to note that:⁴⁹³

In almost every regulated industry throughout the world, regulators use efficiently incurred costs as a starting point when determining the optimal price for regulated services.

If this basic regulatory principle of economically efficient prices is departed from, the regulator risks distorting incentives elsewhere. For example, it may incentivise a mobile operator to encourage off-net calling in preference to on-net calling. This is because off-net calls will incur less cost to provide than on-net calls as the MNO faces no cost for the termination element of off-net calls. In contrast, it will face its own costs of terminating on-net calls made to consumers on its own network.

50. Furthermore, Vodafone submitted that the application of BAK to MTM calls only is likely to distort competition between fixed and mobile networks for calls to mobile subscribers. Vodafone noted that 2degrees do not appear to be proposing BAK for FTM calls.⁴⁹⁴

51. In setting a lower price for termination of MTM calls as compared to FTM calls, Vodafone argued that BAK would provide mobile networks with an artificial advantage over fixed networks in the supply of calls to mobile subscribers, as such a differential in termination rates is unrelated to cost.

52. Vodafone referred to a recent decision by the UKCC, where the UKCC concluded that:⁴⁹⁵

In our judgement, if fixed networks face a charge for the termination element of calls to mobiles that mobile networks do not face, prima facie that will give mobile networks an advantage in competing for calls to mobiles

...

... we think there is force in BT's objection to H3G's [bill and keep] proposal, and agree with Ofcom that there is a clear risk that it would be unduly discriminatory.

⁴⁹¹ Vodafone submission, paragraphs 111-112.

⁴⁹² Ibid, paragraph 179.

⁴⁹³ Ibid, paragraphs 113-114

⁴⁹⁴ Ibid, paragraph 91.

⁴⁹⁵ Ibid, paragraph 95.

53. Vodafone summarised 2degrees' main argument in support of BAK as being that a termination rate of zero will better enable 2degrees to compete with on-net retail offers of the existing MNOs. Vodafone responded by arguing that such concerns are better addressed by ensuring that mobile termination rates are set at or near to the underlying cost of supplying termination services.⁴⁹⁶
54. Rather than being pro-competitive, Vodafone argued that BAK is more likely to lead to a substantial restructuring of retail prices, with potential increases in existing retail prices (such as for subscription services), as well as the introduction of new retail prices for receiving calls (a move towards Receiving Party Pays, or 'RPP'). While some customer groups may benefit from BAK, Vodafone submitted that other customer segments (such as pre-pay customers) are likely to be detrimentally affected by BAK, as has been recognised recently by the UKCC and Ofcom.
55. Vodafone noted that a mobile phone user generates both retail and wholesale revenues for a MNO. Retail revenues are earned by an MNO from voice calls and texts made by its subscribers, from subscription charges, and from the sale of additional services such as handsets. Wholesale revenues are earned by the MNO from terminating incoming calls and texts to the MNO's subscriber from other networks.
56. Vodafone submitted that these revenue streams are used to cover the costs of building a mobile network and supplying services to subscribers. The 'customer lifetime value' reflects the profitability of serving subscribers, having regard to the retail and wholesale revenues earned, and the costs incurred, and Vodafone argued that under BAK, termination revenues would be eliminated and the customer lifetime value would be eroded. This would lead to a reduction in competition for subscribers, and:⁴⁹⁷
- almost certainly, this will lead to a change in the prices offered in the retail mobile market. Importantly, the impacts will be likely to vary across different customer segments.
57. In lowering the termination rate to zero under BAK, Vodafone argued that MNOs will have a greater incentive to attract customer segments that make more calls to other networks than they receive. This is due to the relatively high retail revenues that can be earned from servicing these customers, and the absence of wholesale termination costs. Conversely, customers (such as pre-pay customers) who tend to receive more calls will no longer be attractive, as the wholesale revenue on incoming calls to those customers is eliminated through BAK. Such customers may be faced with less attractive retail offers in order to make them profitable; for example, pre-pay customers may face minimum monthly access fees or fees to receive calls, as is the case in the US (where pre-pay users must 'top up' their accounts by at least \$10 per month).
58. Vodafone noted that a number of regulatory authorities, including the Commerce Commission, have acknowledged the risk that a reduction in termination rates may result in some offsetting increase in retail prices (i.e. a "waterbed effect"). According to Vodafone, such an effect is likely to be pronounced in the context of termination rates being reduced

⁴⁹⁶ At paragraph 87, second bullet, of its submission, Vodafone argues that termination rates should possibly exceed cost in light of call externalities. This appears to be erroneous, as call externalities support a below-cost termination rate (as noted elsewhere by Vodafone). The reference to call externalities at paragraph 87 should probably be network externalities.

⁴⁹⁷ Ibid, paragraph 72.

to zero, as in the case of BAK. The UKCC also recently had regard to the customer lifetime value of a mobile subscriber, and noted that BAK could have a significant impact on the pre-pay customer segment in particular (as such customers tend to receive more calls than they make). The UKCC acknowledged that BAK may result in a RPP system, where customers are charged for receiving calls, and/or increases in existing retail prices such as for subscription.

Telecom's submission on BAK

59. Telecom's submission set out a number of concerns with 2degrees' proposed BAK pricing for MTM traffic:
- BAK would result in mobile termination rates set at below marginal cost, which could result in inefficiencies;
 - BAK would have significant implications for end-users;
 - the welfare implications of BAK are unclear, with no regulator having mandated a shift from positive mobile termination rates to BAK;
 - 2degrees' proposed BAK would have significant implementation issues; and
 - the removal of payments from fixed networks to mobile networks removes a revenue stream and could potentially make mobile entry more difficult.
60. Telecom submitted a report by NERA in response to the arguments put forward by CE in support of BAK.
61. NERA concurred with CE that there are some desirable qualities of BAK (such as simplicity and low transactions costs), although there are also some difficulties associated with BAK.
62. First, there is a high probability that BAK (with a mobile termination rate set at zero) would result in calls being priced below the efficient level, and may result in MNOs changing the way in which they compete for customers. In particular, MNOs may have an incentive to compete for customers who are net originators. NERA also argued that below-cost termination results in an effective subsidy to the entrant, raising the possibility of inefficient entry.
63. NERA also noted that below cost termination rates are likely to soften competition, as MNOs are disincentivised to compete for less attractive subscribers. This may be particularly the case for customers that receive more calls than they make, such as the pre-pay segment.
64. NERA concluded that BAK has both desirable and undesirable qualities, and that whether BAK is on balance preferable to positive mobile termination rates is not yet clear.
65. NERA commented on 2degrees' proposal to apply BAK only to MTM. NERA argued that if BAK is to be applied, it should be applied to all mobile termination, including FTM (and any other interconnecting platform) in order to avoid or at least minimise regulatory arbitrage.

66. Telecom noted that in those markets where BAK is used, mobile usage (minutes of use) and monthly average revenues per customer are generally higher, average call prices tend to be lower, and mobile penetration and pre-paid customer penetration tend to be lower. Telecom observed that MNOs in such markets have little incentive to serve the lower end of the market, where pre-paid plans with charges for receiving calls are not attractive for customers. According to Telecom, entry-level post-paid plans, such as those offered by AT&T and Verizon in the US, start at approximately US\$40 per month, which would be considered expensive by New Zealand mobile customers.
67. Telecom considered there to be a material risk that marginal mobile customers would not be able to afford a mobile service under such a BAK arrangement. If such an arrangement were to be considered, Telecom submitted that it should be introduced over a significant period of time to allow operators and consumers time to adjust.
68. Telecom acknowledged that BAK may be one component of an interconnection model applied in the future to IP interconnection, although submitted that the transitional issues are much more significant in relation to mobile than for other forms of interconnection. This is particularly due to the potential impact of BAK on mobile end-users, including the possibility of paying to receive calls.
69. Telecom submitted that if BAK is to be further considered, its implications should be evaluated over the remaining term of the Deeds, with a view to considering it as a replacement model at or beyond the expiry of the Deeds.
70. In an Appendix to its submission, Telecom responded to a number of specific comments made by 2degrees in support of BAK. 2degrees had claimed that New Zealand mobile prices are high by OECD standards, and that BAK would promote entry which in turn would put downward pressure on prices. Telecom responded that the BAK countries in the OECD, namely the US and Canada, have similar rankings to New Zealand in the OECD's benchmarking of retail mobile prices. In addition, Telecom noted that on-net/off-net pricing differentials in the US are greater than they are in New Zealand, despite the fact that it costs US MNOs more to terminate on-net calls than off-net calls due to BAK.
71. Telecom also argued that 2degrees' claim of BAK matching international trends is incorrect, with only two out of 30 OECD countries having adopted BAK for mobile calls, although there has been some increase in consideration given to BAK by a number of regulators. Accordingly, Telecom submitted that if the Commission were to give further consideration to BAK, it should defer making any changes until the considerations of other regulators were concluded.⁴⁹⁸
72. Finally, Telecom referred to the arbitrage risks associated with the application of BAK only to MTM calls, which Telecom considered to be inconsistent with the approach taken in other countries where BAK has been applied (where BAK applies to FTM calls as well). According to Telecom, it would be difficult to definitively establish the origin of a call handed over to a mobile network, and that a consistent approach to MTM and FTM calls should be adopted, as there would otherwise be an incentive to disguise FTM calls so as to avoid paying the higher termination rate.

⁴⁹⁸ Ibid, paragraph 87.

2degrees' submission

73. 2degrees argued that BAK would be efficient in the New Zealand context for the following reasons:
- BAK has low direct regulatory costs, when compared to the costs of establishing an optimal mobile termination rate;
 - BAK results in a price that is close to the unknown optimal price, and so is unlikely to generate significant distortions; and
 - BAK has low set-up and ongoing costs, compared to determining a price.
74. 2degrees submitted that regulatory inquiries to establish cost-based prices are expensive and time-consuming, and that even formal regulatory cost models are unlikely to reveal the optimal mobile termination rate. Therefore, any efficiency costs of setting a zero termination rate must be compared to the efficiency costs of regulatory proceedings.
75. According to 2degrees, a zero termination rate may be a reasonable approximation for the efficient rate, as the marginal cost of carrying additional traffic is very close to zero. 2degrees referred to US long-run average incremental cost estimates for local switching and transport services which are typically a fraction of a cent, and noted that in other jurisdictions where cost-based mobile termination rates have been estimated by the regulator, a range of costs that typically do not vary with call minutes are often included.
76. 2degrees noted that BAK avoids the need to set up billing processes and ongoing billing procedures, which would be required in the case of non-zero termination rates.

CallPlus' submission

77. CallPlus submitted that mobile termination rates should be close to zero, rather than at the artificially high levels proposed in the current undertakings. However, CallPlus was concerned with the BAK approach proposed by 2degrees for MTM termination.
78. CallPlus' concern related to the differential treatment of MTM and FTM termination. CallPlus noted the high degree of substitutability between fixed and mobile services, and in the event that BAK is only applied to MTM termination, this could create significant substitution of calling away from fixed line services to mobile services.
79. CallPlus also supports the use of cost-based termination rates, to be applied regardless of where the call originates:⁴⁹⁹

CallPlus support the cost based approach proposed by the Commission – 'fixed to mobile' convergence means that integrated fixed & mobile providers can bundle and cross-subsidise if mobile termination rates are held 'artificially' high. The Commission has already noted that bundling, calling circles and on-net pricing are becoming increasingly prevalent in the market. In CallPlus' experience this has become the 'norm' particularly following Vodafone's purchase of iHug. By adopting a cost based approach to termination rates and aligning MTM & FTM rates the commission can create a level playing field for competition in the fixed line market.

⁴⁹⁹ CallPlus submission, page 5.

Woosh/Orcon/Kordia submission

80. In a joint submission, Woosh, Orcon, and Kordia supported the use of BAK, although submitted that it should apply to both MTM and FTM services. 2degrees' proposal to apply BAK to mobile originated services only would create a significant regulatory distortion to the advantage of mobile operators, who will be able to offer cheaper services to end-users than fixed operators facing a positive FTM termination charge.

TUANZ submission

81. TUANZ expressed some support for a BAK system of zero termination rates, submitting that BAK eliminates⁵⁰⁰

... costly billing and accounting regimes, as well as reducing the need for monitoring and modeling processes to determine cost-based rates for regulation or for evaluation of proposed rates in voluntary undertakings.

82. TUANZ submitted that BAK arrangements are pro-competitive, as long as the administrative savings are passed through to end-users.

TelstraClear submission

83. TelstraClear's submission briefly commented on the 2degrees undertaking, noting that it is limited in scope to MTM termination, and that the Commission should therefore reject the undertaking. In respect of 2degrees' proposed use of BAK, TelstraClear submitted that it is efficient for parties to incur the cost that termination imposes on another network, and that:⁵⁰¹

... there is a material risk that asymmetric traffic flows drive costs into one terminating network, without compensation for the costs imposed by the other party.

84. TelstraClear also referred to some of the arbitrage concerns that could result from asymmetric treatment of MTM and FTM termination, and noted that:⁵⁰²

New Zealand Communications' undertaking for Bill & Keep for mobile-to-mobile traffic risks the same outcome that led the French regulator to favour cost-based regulation in 2004.

⁵⁰⁰ TUANZ submission, page 3.

⁵⁰¹ TelstraClear submission, paragraph 47.

⁵⁰² Ibid, paragraph 50.

Appendix 4: Submissions on MTR Benchmarking

2degrees' submission

85. 2degrees believe that the real costs of the MTAS are much lower than the Commission's benchmarked rates and the rates offered in Telecom's and Vodafone's undertakings. 2degrees state the retail price of on-net SMS for Vodafone is as low as 0.25 cents,⁵⁰³ which is an order of magnitude lower than MTAS rates offered in those undertakings.
86. 2degrees believe the Commission should adopt the "best practice" approach proposed by the ERG of using the weighted average of the lowest five MTRs.⁵⁰⁴
87. 2degrees notes that benchmarks compare prices rather than costs and there is considerable pressure worldwide for a reduction in MTRs to cost.
88. 2degrees note that BAK has previously been used in New Zealand and as such is "in that sense is a benchmark".

Vodafone's submission

89. Vodafone asserted that the Commission's benchmarks may provide information on the cost of providing mobile termination, it does not specifically address the cost of providing mobile termination in New Zealand.
90. The variance in the Commission's benchmarked rates concerns Vodafone who suggest the cost of mobile termination could lie within the range of benchmarked rates, but it possible it could also lie outside it.
91. Vodafone note that the report prepared by WIK-Consult for the Commission suggests geographic and population characteristics significantly influence the cost of mobile termination and that these characteristics in New Zealand are notably different to those found in most countries included in the Commission's benchmarking.
92. Vodafone highlight that both the ACCC and the Australian Competition Tribunal (ACT) take the position that LRIC models set an unreasonable cost standard that mobile operators are unlikely to achieve in reality.
93. Vodafone note the modelling conducted by WIK fails to incorporate the transition costs of moving from a 2G to a 3G network. Vodafone comment that the ACCC provide this as a reason for setting prices above the cost model rates WIK estimated for them.
94. Vodafone submitted that the benchmarking is inconsistent with the initial pricing principles set out in the Act for similar interconnection services where benchmarking is applied. In particular, Vodafone noted that the initial pricing principles for UCLL and sub-loop UCLL

⁵⁰³ 2degrees, *MTAS – Commission's request for revised undertakings*, 6 May 2009, p.6 para 2.1.

⁵⁰⁴ *Ibid*, p.6 para 2.3.

state that benchmarking shall be conducted against prices for similar services in comparable countries.⁵⁰⁵

95. Vodafone submitted that the Commission should make the following adjustments to its benchmarking analysis:
- the Commission needs to adopt a consistent approach to its selection of benchmarked rates. For example, Israel should be excluded from the benchmarking exercise because of the age of its model, consistent with the treatment of South Korea;
 - the limitation of unadjusted benchmarking, the wide range of termination rates in overseas jurisdictions and the lack of overall comparability analysis conducted by the Commission lends weight to the argument that the Commission should use a rate on the upper end of the range of benchmarked rates; and
 - there is a risk of an unreasonable optimisation standard being applied by using cost models, for example, through the failure to recognise the transition costs of migrating from 2G to 3G networks and concerns around the ability of hypothetical models to model practical realities of network operators. Benchmarking should therefore be against regulated rates rather than cost model estimates. This approach is supported by the act which consistently requires benchmarking against prices. Doing this would result in the inclusion of Spain in the benchmarked countries.
96. By implementing these changes to the benchmarks Vodafone states that the appropriate benchmark would be 18.01 cpm if the top of the benchmarked range is used, or 13.36 cpm if the 75th percentile is used.

Glide-path

97. Vodafone submitted that a dramatic drop in MTRs will, through the operation of the water-bed effect and two-sided market theory, lead to either an increase in retail charges for customers, or a slowing in the reduction in retail charges. The steeper the drop in MTRs rates, the more pronounced these effects will be.
98. Vodafone also stated that a dramatic drop in MTRs will mean there is less revenue for operators to invest. If MTRs were reduced to 7cpm for voice and 1cpm for SMS, Vodafone noted that their net interconnection revenue would reduce by a little under [] VCOI over the next three years (assuming traffic volumes remain the same as in 2008). This is the equivalent amount of funds as investing in:
- acquiring and building over [] VCOI cell towers;
 - around [] VCOI per cent of their investment in their 3G network;
 - almost [] VCOI 2degrees' investment in its mobile network; and
 - a little under [] VCOI of the government's announced contribution to the investment in ultra-fast broadband.

⁵⁰⁵ Telecommunications Act 2001, Sch 1, Part 2, Subpart 1.

99. Vodafone considers that any rates regulated via undertakings or an STD process must incorporate a phased reduction to, or towards, cost based prices (“glide path”), as this represents international best practice⁵⁰⁶ and would best meet the purpose in section 18 of the Act.
100. Vodafone also states that a glide path is needed in order to take into account the obligations and legitimate expectations of carriers. Vodafone states that its business plans, investment plans and contracts are based on their expectations of MTR revenues in the future, reflecting the FTM Deeds with the Crown. Vodafone submitted that should the Commission seek to regulate MTAS in a manner that initiates a significant drop in MTRs, there will be considerable disruption to their business plans.
101. Vodafone suggested that a glide path would best meet the purpose of the Act in a regulatory context. Vodafone submitted that given international best practice recognises the “undesirable side effects” of an immediate reduction in MTAS rates such action may not be in accordance with the act and that using a glide path would best meet the purpose of promoting competition for the long-term benefit of end-users.

Covec’s submission

102. Covec proposed, for the reasons set out below, that when benchmarking or undertaking cost modelling regulators need to:
- have regard to actual historically incurred efficient costs rather than theoretically efficient costs;
 - take into account local factors; and
 - exercise judgment in selecting benchmarks.
103. Covec submitted that most cost models do not define an efficient level of coverage, rather they assume a representative coverage from existing operators. This has the effect of costs depending crucially on the coverage assumption as well as traffic usage of subscribers and the distribution of traffic within the coverage area. This is where market share becomes an important factor given coverage patterns and technology, since market share affects total volume of traffic on the network.
104. Covec also contended that issues arise in identifying exactly what least cost technology is. For example, should costs be based on recently emerged cheap Chinese technology, which could increase the risk of asset stranding. Covec also raise concerns that some supply contracts may artificially deflate the real capital price where they are bundled with maintenance services.
105. Covec noted that the ACCC identify nine factors that cause variation in mobile network costs:

⁵⁰⁶ Vodafone state that the positions of the ERG, OFCOM, the UK Competition Commission and the ACCC illustrate that the implementation of a glide path is international best practice to ensure that consumers are not impacted by major disruptions to the business of mobile operators.

- terrain;
 - population density;
 - network scale and usage;
 - land and labour costs;
 - spectrum allocation;
 - integration in fixed and mobile networks;
 - network purchasing power;
 - cost of capital; and
 - network technology.
106. Of these factors Covec consider coverage and usage to be the most important.
107. Covec noted that there are differences in population density and Real GDP per capita between New Zealand and countries comparable to the three different country types that are discussed in the WIK Consult model.⁵⁰⁷
108. Covec noted that the Commission's benchmark of 7 cpm lies between the results for the small, densely populated ('SD') and medium sized, densely populated ('MD') cases, which Covec calculates as 6.89cpm and 7.22cpm respectively, using the Commission's method of currency conversion. Covec note that WIK Consult's results show that larger and/or less densely populated countries have higher per-minute costs, illustrating the comparability issues that must be taken into account in benchmarking.
109. Covec noted that a comparability criterion is specified in all services that are designated under the Act, with benchmarking as the initial pricing principal. Covec noted that all of these services are fixed line services and that other factors may need to be considered for mobile services. Covec considers that factors such as population size and the distribution of the population are likely to affect mobile costs. Real GDP is considered to have demand side effects where higher real GDP increases demand for mobile services and thus total traffic, pushing average costs down.
110. Covec compare the population, land area, population density and real GDP per capita for New Zealand, all countries included in the Commission's initial benchmark, and the three countries that were included in the benchmarking used in the Commission's Issues Paper but excluded from the benchmarking in the Commission's comments letter. Covec used this to illustrate variables that may create comparability issues between New Zealand and the benchmarked countries.

⁵⁰⁷ These countries are Austria, Switzerland and Slovakia for the small densely populated country (SD) example, Germany, France and the UK for the medium densely populated country (MD) example and Canada, Australia and Brazil for the large sparsely populated country (LS) example.

111. To further illustrate potential sources of differences in costs, Covec gathered information from four jurisdictions, including New Zealand, where Vodafone has a presence and compared their population, urban population and real GDP per capita per cellsite. In all three comparisons New Zealand has the lowest number per cell site.
112. Covec commented on the uncertainty associated with using a median when benchmarking. Covec conduct a bootstrapping exercise in order to establish a 95% confidence interval for the median. Their model estimates a 95% confidence interval of 5.26 cpm to 11.74 cpm. When the model is run for the 75th percentile Covec estimate a 95% confidence interval of 6.66 cpm to 12.90 cpm. Covec assert that these results confirm their views that the Commission's benchmarking is subject to a significant amount of uncertainty.
113. Covec noted that a number of methods have been used by the Commission in recent benchmarking exercises, with the 75th percentile (or higher), median and regression based approached all being used.
114. Covec noted that the ACCC recognised there are two ways of accounting for the uncertainty implicit in benchmarking. One is to adjust the benchmarks to incorporate local conditions which can be done systematically through the use of econometrics and will lead to a more accurate benchmark than taking an unadjusted mean or median. The alternative approach is to acknowledge the variation in cost rates are inherent that is associated with benchmarking and accordingly use a benchmark towards the upper end of the set. This will reduce the asymmetric risk associated with setting the termination rate below cost. Of these two approaches the ACCC decided to use the latter.
115. Covec recommend the Commission should follow the ACCC's lead and benchmark at the upper end of the benchmarked data set, given the uncertainty surrounding the Commission's benchmarks.
116. Covec stated that, given the fixed costs associated with providing mobile services, economies of scale are an important factor in the cost of mobile networks. Covec noted that traffic volumes for the SD type country in the WIK Consult's report are similar to those in New Zealand, however, New Zealand has a greater land area and lower population density. Covec concluded that the costs of termination in New Zealand are likely to be higher than for the SD type country.
117. Covec noted that New Zealand's land area and population density characteristics fall in between those of the representative MD and large, sparsely populated ('LS') countries, although New Zealand's real GDP per capita is significantly below all but one of the representative countries. Covec adjusted WIK Consult's cost estimates for the MD and LS scenarios as well as those estimated by the Analysys model for the UK, using traffic volumes that compare with those generated in New Zealand and estimate that the costs of termination range from 10.15 cpm to 18.19 cpm.
118. Covec also noted that the WIK Consult report does not account for transition from 2G to 3G, and therefore generates the cost of services that are lower than is achievable by a real-world 2G network that is transitioning to a 3G network.
119. Covec stated that many countries regulate their MTRs above the cost modelled rate, for example, the ACT has concluded that even in competitive mobile markets prices would not

be forced down to the cost of the most efficient operator and, as such, cost models are likely to underestimate the prices that will result from competition.

120. Covec stated that, given such factors are taken into account by other regulators when setting MTRs, the Commission should also take these factors into account and by benchmarking against cost modelled rates the Commission is applying a standard of efficiency that is not achievable.
121. Covec noted that other designated services under the Act typically specify the initial pricing principle as benchmarking against cost-based prices from comparable countries. Covec see no reason why mobile termination should be different.
122. Accordingly, Covec conducted their own benchmarking against regulated MTRs. Two benchmark samples were collected, one from current regulated rates and one from future (July 2010) regulated rates. Where asymmetry applies Covec used the average rate.
123. Covec added Spain and Austria, where regulated rates are available, to their benchmarking sample exercise in Table 57 . Covec also argue that Israel should be excluded from the sample, as Israel’s modelling is out of date and this would be consistent with the Commission’s treatment of the South Korea data.

Table 57: Covec benchmarking sample

Country	May 2009 Regulated MTR (forex)	July 2010 Regulated MTR (forex)	Currency	FX Rate (ComCom Method)	May 2009 Regulated MTR (NZD cpm)	July 2010 Regulated MTR (NZD cpm)	ComCom MTR (NZD cpm)
Australia	0.0900	0.0900	AUD	0.8883	10.13	10.13	6.53
Austria	0.0572	0.0572	EUR	0.5317	10.76	10.76	n.a.
Denmark	0.5900	0.5900	DKK	4.5984	12.83	12.83	11.74
France	0.0717	0.0333	EUR	0.5516	12.99	6.04	5.26
Israel	0.2200	0.2200	NIS	2.4190	9.09	9.09	6.66
Malaysia	0.0873	0.0873	MYR	1.6695	5.23	5.23	5.23
Netherlands	0.0970	0.0755	EUR	0.5387	18.01	14.02	10.40
Norway	0.6000	0.4500	NOK	5.0299	11.93	8.95	9.54
Spain	0.0700	0.0700	EUR	0.5059	13.84	13.84	n.a.
Sweden	0.4300	0.4300	SEK	5.2937	8.12	8.12	6.94
UK	0.0509	0.0459	GBP	0.3811	13.36	12.05	12.90
				Median	11.93	10.13	6.94
				75th pctile	13.18	12.44	10.40

Benchmarking Set	Median	75 th Percentile
Commission	6.94	10.40
Commission excl. Israel; high rate for Sweden	8.83	10.74
May 2009 Regulated rates: All countries in Table 7	11.93	13.18
May 2009 Regulated rates: Table 7 excl. Austria, Israel, Spain	12.38	13.08
July 2010 Regulated rates: All countries in Table 7	10.13	12.44
July 2010 Regulated rates: Table 7 excl. Austria, Israel, Spain	9.54	12.24

Source: Covec (2009).

Exchange Rates

124. Covec submitted that the Commission has varied its practice for selecting exchange rates for the purpose of benchmarking. The Commission used a blend of 60% PPP and 40% spot exchange rates⁵⁰⁸ and the method used in this investigation.
125. Covec noted that exchange rate data sets will always be backward looking and as such there is the possibility that the data set could be different from either current rates of expected rates. Covec also state that “there is some evidence that suggests a step change [depreciation] has recently occurred” in the value of the New Zealand currency against many of the benchmarked countries currencies, and that the recent economic crisis means the change in these rates can be expected to persist.
126. Covec submitted that this presents a case for making any exchange rate rule flexible enough to reflect such events, by shortening the period over which rates are averaged at times when there is statistical evidence of a “change in market valuations”.

Econometric Benchmarking

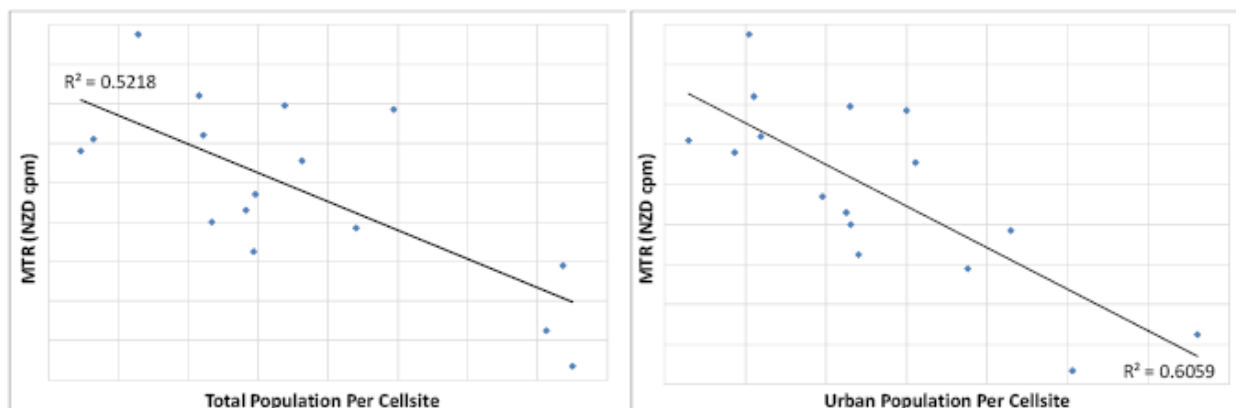
127. Covec also provided the results of econometric modelling⁵⁰⁹ for 17 countries where Vodafone Group subsidiaries operate, where Vodafone NZ were able to provide data on the number of cellsites operated by Vodafone Group subsidiaries.
128. Covec’s modelling involved two regression models, one with variables that represented national level characteristics (national model) and another representing urban characteristics (urban model).

⁵⁰⁸ Commerce Commission, *Annex to the Commerce Commission’s Draft Determination on the TelstraClear Application for Determination for Designated Access Service*, 29 August 2002.

⁵⁰⁹ Covec’s econometric modelling is based on MTRs as at 1 July 2008 from the ERG MTR snapshot. New Zealand and Australia were added to this dataset. Covec use the exchange rate two standard deviations below the 10-year average of the NZD-Euro exchange rate (0.4414). To recognise some inputs are non-traded an average of the exchange rate and the most recent PPP rate from the OECD. Albania were excluded due to Covec being unable to source a MTR.

129. The national model estimated two variables that were significant at the 5% level, being urbanisation and population per cellsite. The urban model estimated one variable that was significant at the 5% level, being urban population per cellsite.
130. Covec submitted that the regression results show that population per cellsite, both national and urban, are useful explanatory variables for estimating MTRs. From these results Covec separately regresses the two significant variables from its initial analysis, total population per cellsite and urban population per cellsite, on their MTR dataset. The results are displayed in Figure 23.

Figure 23: Covec's regression analysis



Source: Covec (2009).

131. Using the two regression models (national and urban) Covec estimated the cost of mobile termination in New Zealand to be 17.96 cpm and 18.35 cpm, respectively. Both of these estimated rates exceed the prices in the current MTR deeds. Covec concluded that econometric modelling therefore suggests that New Zealand's MTR is not high given domestic characteristics.

Telecom

132. Telecom noted the Commissions benchmarking methodology in this MTAS Investigation differs from the methodology used in the mobile termination and roaming investigations, without reasons being given, in relation to the Commission's:
- decision to benchmark against bottom up, forward-looking cost models rather than the final cost-based rates adopted by overseas regulators;
 - use of the median benchmark rather than the 75th percentile; and
 - approach to currency conversion.
133. Telecom expressed concern that the benchmarked cost models used by the Commission, with one exception, relate solely to 2G networks, whereas Telecom and Vodafone both run 2G and 3G networks concurrently. Telecom acknowledges that 3G networks may have lower marginal cost, but points out that the LRIC may not necessarily be lower.

134. Telecom noted that many foreign jurisdictions included in the Commission’s benchmarking have adjusted the cost modelled rates estimated by their models following consultation to accommodate comments on the modelling from the operators.
135. Telecom submitted that the Commission’s benchmarking approach in the comments letter is inconsistent with the IPP approach for designated services in the Act, where Schedule 1 of the Act states “benchmarking against prices for similar services in comparable countries that use forward looking cost-based pricing method” is prescribed for services similar to MTAS.
136. Telecom submitted that it is inappropriate for the Commission to suggest appropriate cost-based rates for MTR in New Zealand based solely on multi-jurisdictional TSLRIC modelling given the evidence that many regulators have regulated at rates that have been adjusted from the cost modelled rates.
137. Telecom submitted that forming an appropriate view on the undertakings should be done by considering the actual regulated rates applied by regulators in comparable countries.
138. Telecom noted the benchmarking NERA conducts using regulated rates and the 75th percentile rather than the median, reaches markedly different results to that of the Commission.
139. Telecom is concerned with the approach applied to currency conversion by the Commission and the change in methodology from that used in the mobile termination and roaming investigations. Telecom submitted that the use of the average PPP and 10 year exchange rate is not appropriate and the use of the average 10 year exchange rate is a better estimate of the underlying exchange rate.
140. Telecom asserted that the Commission’s approach gives rise to increased risk of regulatory error due to the standard of efficiency applied in TSLRIC modelling and the high incidence of benchmarked models not assessing 3G networks.
141. In light of the perceived risk of asymmetric regulatory error Telecom submitted that the use of the 75th percentile is more appropriate than the use of the median.
142. Telecom submitted that glide paths are appropriate because:
- an immediate reduction in rates cause disruption to business plans and this has numerous flow on effects;
 - provide certainty around expected changes in underlying costs;
 - correspond to a tilt in an annuity calculation applied to convert a capital cost into an annual equivalent; and
 - match with spreading a fixed cost over an increasing number of minutes when minutes are expected to increase over time.

143. Telecom noted that an immediate reduction in termination rates would be likely to amplify the “waterbed” effect.
144. Telecom stated that the Act provides for achieving outcomes for the long-term benefit of end-users and the Commission is required to make the recommendations on that basis. Telecom believes that it is difficult to reconcile this aim without allowing for a glide path.

NERA

145. NERA noted the benchmarking methodology used in the mobile termination and roaming investigations differs from the methodology used in the current investigation, in relation to the approach to benchmarks, the point chosen within the benchmark set, and the foreign currency conversion methodology.
146. NERA submitted that TSLRIC models do not reflect the realities of (efficient) network investment because TSLRIC assumes the entire network is built in one go and thus economies of scale can be realised. In addition, NERA submitted that in reality efficient network investment is at least partially sunk, and requires spare capacity to be built into the network to reflect demand uncertainties and the future evolution of the network. TSLRIC models also assume best in use technology is implemented when this is not the case in practice.
147. NERA suggested that these factors lead to TSLRIC models producing a lower cost estimate than is attainable in practice. This can reduce incentives for network investment as operators may not expect to recover the higher costs from the actual realised network investment. NERA note that this is recognised by the ACCC in their 2009 MTAS pricing principles determination.
148. NERA stated that TSLRIC models also neglect to account for technological change and the fact that operators must periodically transition from one technology to another. This is the case with the transition from 2G to 3G networks. NERA understand that the majority of the benchmarked rates used by the Commission do not account for the transition from 2G to 3G networks. NERA accept that a 3G network may have a lower per unit cost they point out that many operators are in transition phase between two networks and the current environment cannot be easily compared to a pure 2G or pure 3G cost model estimate. NERA note that the ACCC accounted for this occurrence in its 2009 determination by stating that “it will remain efficient for a hypothetical MNO to concurrently operate both 2G and 3G networks for a period of time”⁵¹⁰ and concluding that the WIK Consult model generated for Australia provides a floor price for supply termination on a 2G network.
149. NERA highlighted a couple of minor errors in the Commission’s benchmarks. Specifically, the Israeli benchmarked rate was quoted at 0.159NIS/min and had an externality charge of 1.1 arotot/min subtracted from it. NERA pointed out that the 0.159NI/min already had the externality charge subtracted from it. The second adjustment concerned the UK rate where an updated rate was published after the Commission initially released its benchmarking. This had the effect of adjusting the cost modelled rate from £0.045 to £0.0484.

⁵¹⁰ ACCC, *Domestic Mobile Termination Access Service Pricing Principals Determination and indicative prices for the period 1 January to 31 December 2011*”, March 2009.

150. NERA proposed an alternative set of benchmarks, in Table 58 below. NERA's benchmarks included regulated rates and both the top and bottom of any range of asymmetric rates. Spain was added to the countries benchmarked.
151. Depending on the approach taken the benchmarking shows the median varying between \$0.0711 and \$0.1142 and the 75th percentile varying between \$0.1040 and \$0.1481.
152. NERA stated that the primary reason for using the 75th percentile rather than the median is to address the asymmetric risk of regulatory error. NERA submitted that, in general, the associated risks are:
- regulating prices too high harms allocative efficiency; and
 - regulating prices too low harms dynamic efficiency.
153. NERA stated that the welfare consequences of investment not occurring in the network outweigh the deadweight loss associated with higher prices. NERA argued that it is appropriate to use the 75th percentile when the estimate is subject to uncertainty, which NERA conclude exists in the MTAS Investigation.
154. NERA also outlined that regulators have accepted the need for the use of glide paths and notes that of the Commission's benchmarked countries two do not use them. Reasons given for the implementation of a glide path include;
- immediate reductions in rates can generate harmful disruption to business plans of operators;
 - immediate reductions in rates may unduly affect demand patterns; and
 - reductions in rates need to maintain investment incentives by allowing a sufficient period of time to adjust.
155. NERA outlined that the waterbed effect could be exacerbated if a rapid reduction in MTRs is implemented, which could have the effect of increasing subscription prices and/or reducing handset subsidies. NERA noted that in the current transition from 2G to 3G networks, customers are likely to need new handsets. Any increase in the waterbed effect will make customers less likely, or slower, to transition to the newer network thus having the effect of lowering consumer surplus and delaying the shutdown of the old network. As a result, the transition to the new network and the effect of MTAS rate reductions on switching costs provide a valid rationale for a glide path.

Table 58: NERA's adjusted benchmarking

	NZCC MTR Home Currency (year of modelled rate), corrected	Actual MTR Applied Home Currency (bottom of range)	Actual MTR Applied Home Currency (top of range)	NZCC FX rate	NZCC MTR NZD	NZCC MTR NZD (corrected)	Lower bound applied MTR NZD	Upper bound applied MTR NZD
Australia	AU\$0.058 (2008)	AU\$0.0900	AU\$0.0900	0.8883	0.0653	0.0653	0.1013	
Denmark	kr 0.54 (2009)	kr 0.5400	kr 0.7400	4.5984	0.1174	0.1174	0.1174	
France	€0.029 (2008)	€0.0300	€0.0400	0.5516	0.0526	0.0526	0.0544	
Israel	NIS 0.1720 (2008)	NIS 0.2090	NIS 0.2090	2.4190	0.0666	0.0711	0.0864	
Malaysia	MYR 0.0873 (2008)	MYR 0.0877	MYR 0.0877	1.6695	0.0523	0.0523	0.0525	
Netherlands	€0.056 (2008)	€0.0700	€0.0810	0.5387	0.1040	0.1040	0.1299	
Norway	NOK 0.4800 (2008)	NOK 0.4800	NOK 0.71	5.0299	0.0954	0.0954	0.0954	
Sweden	kr 0.3675 (2008)	kr 0.4300	kr 0.4300	5.2937	0.0694	0.0694	0.0812	
UK	£0.0484 (2009)	£0.0471	£0.0484	0.3811	0.1290	0.1270	0.1236	
Spain	N/A	€0.07	€0.10	0.5066	N/A	N/A	0.1382	
				Mean	0.0836	0.0838	0.0980	
				Median	0.0694	0.0711	0.0984	
				75th Percentile	0.1040	0.1040	0.1221	

Source: NERA (2009).⁵¹¹

⁵¹¹ NERA, *MTAS Benchmarking – Response to Commission Comments on Undertakings*, 6 May 2009, Table 3, page 9 (footnotes omitted).

156. NERA comments on the treatment of glide paths in benchmarked countries are set out in Table 59.

Table 59: NERA table “Glide Paths in Commission’s Benchmark Countries”

Country	Glide path noted in Commission’s letter	Further details on glide path	Rationale for glide path
Australia	Not proposed for 2009-2011	Glide path was used in the first regulatory control periods of 2004 to 2007	The glide path was implemented due to the ACCC’s concerns that an immediate reduction might “generate significant and potentially harmful disruption to mobile operators’ business plans”.
Denmark	Yes		
France	Yes, concludes at the end of 2010		
Israel	No	A glide path is in fact used, with termination rates falling over the 2005 to 2009 period	Network operators raised concerns about the rapid reduction in termination rates under the proposed glide path initially proposed, and its effect on the operators and on consumer behaviour. However, a less rapid glide path was used, and Analysys notes that this takes into account the operators’ concerns and ensures that demand patterns should not be unduly affected.
Malaysia	No	A glide path is used, although termination rates increase over the 2006 to 2008 period	
Netherlands	Yes, concluding in 2009		
Norway	Yes, concluding in 2010		The Norwegian Post and Telecommunications Authority (NPT) states that, because the reduction in termination rates is relatively large, it should be spread over the regulatory control period using a glide path. In addition, NPT refers to the EC “proportionality principle” (the burden of remedies imposed should be proportionate to what they seek to achieve) and states that this dictates that price controls

			entailing substantial revenue reductions should be carried out by a glide path instead of one large immediate price fall.
Sweden	No		
UK	Yes, concluding in 2010/2011		Ofcom considered that the glide path needs to balance the short-term welfare of consumers (through an immediate reduction in prices) with maintaining investment incentives for existing and prospective network operators by allowing a sufficient period of time for adjustment. Ofcom also stated that an immediate price reduction would go against regulatory precedent and might not be in the long-term interests of consumers if it presented a material risk to further investment in mobile services.

Source: NERA (2009).⁵¹²

⁵¹² NERA, *MTAS Benchmarking – Response to Commission Comments on Undertakings*, 6 May 2009, Table 2, pages 12-13 (footnotes omitted).

Appendix 5: Quantitative Assessment Sensitivities

Baseline

Factual FTM pass-through increasing from 75% (2008) to 100% (2015)
 Factual MTR 5.8 cpm (2011) declining to 3.8 cpm (2015)
 FTM elasticity -0.60
 Mobile subscription elasticity -0.43
 Waterbed effect 50%

Sensitivity 1: Lower FTM pass-through with regulation

Factual FTM pass-through held constant at 75%

Net Benefits (5-year NPV, linear demand)

	Consumer Surplus	Total Surplus
Baseline	111.1	51.3
Lower factual FTM pass-through	50.0	33.0

Net Benefits (5-year NPV, constant elasticity demand)

	Consumer Surplus	Total Surplus
Baseline	92.8	55.3
Lower factual FTM pass-through	30.4	31.0

Comment: both sets of results (CS, TS) sensitive to the factual FTM pass-through rate.

Sensitivity 2: Faster Increase in FTM pass-through with regulation

Factual FTM pass-through reaches 100% by 2013

Net Benefits (5-year NPV, linear demand)

	Consumer Surplus	Total Surplus
Baseline	111.1	51.3
Higher factual MTAS price	135.2	58.0

Net Benefits (5-year NPV, constant elasticity demand)

	Consumer Surplus	Total Surplus
Baseline	92.8	55.3
Higher factual MTAS price	117.6	64.7

Comment: both sets of results (CS, TS) sensitive to the factual FTM pass-through rate.

Sensitivity 3: Higher MTAS benchmark

Factual MTAS benchmark +2cpm (2011 7.8cpm; 2015 5.8cpm)

Net Benefits (5-year NPV, linear demand)

	Consumer Surplus	Total Surplus
Baseline	111.1	51.3
Higher factual MTAS price	73.9	29.6

Net Benefits (5-year NPV, constant elasticity demand)

	Consumer Surplus	Total Surplus
Baseline	92.8	55.3
Higher factual MTAS price	59.8	27.1

Comment: both sets of results (CS, TS) sensitive to the factual MTAS price (especially TS). Benefits are driven by gap between factual and counterfactual MTRs, which is typically 6-7cpm. A 2cpm margin added to the baseline factual MTR represents a significant proportion of this gap.

Sensitivity 4: Lower FTM Elasticity

FTM demand elasticity reduced from -0.60 to -0.50

Net Benefits (5-year NPV, linear demand)

	Consumer Surplus	Total Surplus
Baseline	111.1	51.3
Higher factual MTAS price	106.4	35.8

Net Benefits (5-year NPV, constant elasticity demand)

	Consumer Surplus	Total Surplus
Baseline	92.8	55.3
Higher factual MTAS price	86.6	33.2

Comment: FTM elasticity determines the level of FTM demand expansion in response to a decline in the FTM price. CS results relatively insensitive to FTM elasticity, as CS has a significant transfer component (which does not vary with the demand expansion). TS results more sensitive to FTM elasticity, as TS is driven by the new demand.

Sensitivity 5: Higher Mobile Subscription Elasticity

Mobile subscription demand elasticity increased from -0.43 to -0.50

Net Benefits (5-year NPV, linear demand)

	Consumer Surplus	Total Surplus
Baseline	111.1	51.3
Higher factual MTAS price	109.8	46.4

Net Benefits (5-year NPV, constant elasticity demand)

	Consumer Surplus	Total Surplus
Baseline	92.8	55.3
Higher factual MTAS price	88.0	46.9

Comment: mobile subscription elasticity determines the reduction in subscription levels in response to the waterbed-induced increase in mobile subscription prices. Both sets of results relatively insensitive to mobile subscription elasticity.