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# **Cross Examination of Submissions to the Investigation into the Regulation of Mobile Termination**

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*A report prepared by Marsden Jacob Associates  
for TelstraClear*

**PUBLIC VERSION**

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*Associates*

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## TABLE OF CONTENTS

	Page
<b>1.Introduction .....</b>	<b>1</b>
<b>2.Submission by Telecom .....</b>	<b>3</b>
2.1.The fixed calling market.....	3
2.2.Mobile termination rates.....	6
2.3.Mobile services market .....	6
2.4.Fixed line toll calling market.....	6
2.5.Consumer surplus and the “waterbed effect” .....	7
2.6.Fixed to mobile price elasticity .....	7
2.7.Pass through, Factual 1 and Factual 2 .....	7
2.8.Summary Public Benefits Test.....	7
<b>3.Submission by CRA.....</b>	<b>8</b>
3.1.The Commission's Methodology.....	8
3.2.Sensitivity Testing .....	8
3.3.Pass-Through .....	11
3.3.1. Pass-through in Factual 1 .....	11
3.3.2. Pass-Through in Factual 2 .....	13
3.4.Spreadsheet Errors.....	15
3.5.Results .....	15
3.6.The Initial UK Experience .....	19
3.7.Appendix A.....	20
<b>4.Submission by Vodafone .....</b>	<b>22</b>
4.1.Overall the benefits of regulation are less than the costs.....	22
4.2.The counterfactual starts too high and the fall is too slow.....	23
4.3.We predict a different path for prices and quantities .....	24
4.4.Only benefits that arise from increased competition count.....	25
4.5.Further work on Ramsey prices is needed .....	25
4.6.The regulated price should include an allowance for the network externality .....	25
4.7.There are some technical flaws in the modelling.....	27
<b>5.Submission by Covec.....</b>	<b>28</b>
5.1.The Commission's Approach.....	28
5.2.An Econometric Model of Fixed-to-Mobile Demand and Supply .....	29
5.3.Historic Fixed-to-Mobile Markups and Pass-through.....	29
5.4.The Commission's Factual Scenarios .....	30
5.5.Pass-through and Competition .....	31
5.6.Alternative Cost Benefit Analysis.....	31
5.7.Factual Scenarios .....	32
5.8.Direct Costs .....	32
5.9.Cost-Benefit Analysis.....	32
5.10. Summary of Alternative Cost-Benefit Analysis.....	32
5.11. Appendix 1: Forecasting Mobile Subscribers.....	32
5.12. Appendix 2: Pass-through Incentives of Existing Fixed-to-Mobile Firms .....	33
<b>6.Conclusions and Recommendations .....</b>	<b>34</b>
6.1.Telecom .....	34
6.2.CRA.....	34
6.3.Vodafone.....	36
6.4.Covec.....	36
6.5.Overall views.....	37

# 1. Introduction

1. TelstraClear has requested that Marsden Jacob Associates (MJA) review four submissions specifically related to the Commerce Commission's (hereafter 'Commission') cost-benefit analysis, conducted as part of its investigation into whether mobile termination should be regulated. These submissions are:
  - Section E of Telecom's submission "Submission in respect of the Commerce Commission's Draft Report for its Schedule 3 Investigation into Regulation of Mobile Termination", 30 November 2004.
  - Annex B of Telecom's submission: Charles River Associates "Mobile Termination - Review of Commerce Commission modelling", 30 November 2004 (including their revised cost-benefit model).
  - Section VIII of Vodafone's submission "Schedule 3 Investigation into Regulation of Mobile Termination Draft report", 30 November 2004.
  - Covec "Modelling Regulation of Mobile Termination Rates", 29 November 2004" (including their revised cost-benefit model).
2. Outside of the scope of our review are issues in the above submissions that deal with:
  - the choice of consumer surplus or total surplus test;
  - the benchmarked Mobile Termination Rate (MTR);
  - arguments relating to the "waterbed effect" (except a review of the UK experience); and
  - discussion of indirect cost estimates.
3. We understand that TelstraClear has engaged other consultants to review the comments provided on these issues.
4. The comments and opinions expressed in this paper are those of MJA and do not necessarily reflect those of TelstraClear.
5. This submission contains confidential information:
  - TelstraClear and Telecom Commission Only Information – labelled TCLCOI and TCNZCOI.

6. Accordingly, two versions of the report have been produced – a TelstraClear, Telecom and Commission only version and one Public version.
7. This report discusses each of the submissions in turn. In section 2 we comment on Section E of Telecom's submission. Section 3 discusses the issues raised by Charles River Associates (CRA) in their review of the Commission's modelling. In section 4 we comment on Section VIII of the Vodafone submission and finally in Section 5 we review Covec's comments on modelling regulation of MTR. Our main conclusions and recommendations are summarised in section 6.
8. We assume the reader to a large extent has read all of the above papers and those submitted by TelstraClear and, consequently, only brief summaries of the main points are provided.

## 2. Submission by Telecom

9. Table 1 below shows the subsections contained in Section E (The Impact of Regulation and Cost Benefit Analysis) of Telecom’s submission, and which of those subsections we have reviewed.

**TABLE 1: SECTION E, TELECOM SUBMISSION**

<b>Table of Contents</b>	<b>Reviewed</b>	<b>Direct reference</b>	<b>Cross reference</b>
<b>THE FACTUAL – MARKET PERFORMANCE FOLLOWING REGULATION</b>			
The mobile services market			
<i>The economic framework of the mobile services market</i>	No		
<i>Market evidence of price setting and price rebalancing</i>	No		
<i>Overseas evidence of the “waterbed” effect</i>	No		
The fixed calling market	Yes	2.1	
<b>THE COUNTERFACTUAL – IN THE ABSENCE OF REGULATION</b>			
Mobile termination rates	Yes	2.2, 3.2 & 3.3	4.2
Mobile services market	Yes	2.3	
Fixed line toll calling market	Yes	2.4	
<b>THE COMMISSION'S COST BENEFIT ANALYSIS</b>			
Transfers as a benefit of regulation	No		
Consumer surplus and the “waterbed effect”	(Yes)	2.5	3.7
Fixed to mobile price elasticity	Yes	2.6 & 3.2	5.2
Pass through, Factual 1 and Factual 2	Yes	2.7 & 3.3	4.1, 5.3 - 5.5
Indirect Cost of regulation	No		
Summary Public Benefits Test	Yes	2.8 & 3.5	5.6 & 5.9

10. We review each of the selected sections in turn below.

### 2.1. The fixed calling market

11. Telecom critique the Commission’s assumption that pass-through will increase in the Factual as compared to the Counterfactual.
12. They note that the degree of pass-through varies by customer segment. In particular the FTM prices are highest for residential customers and lowest in the corporate segment, with the SME segment falling in between. They argue that this price structure has evolved for the following reasons:
- SME and corporate customers can exert countervailing power over calling providers;

- FTM calls are viewed by residential customers primarily as “functional”; and
  - National and international calls are key components in the residential consumer calling pricing. FTM offerings are only “incidental”;
13. According to Telecom, however, the competitive nature of the service offerings is changing with FTM calls being an increasingly important component (relative to other services).
14. Telecom notes that (paragraph 291):
- “...the recent reduction of the mobile termination rate to 27 cents per minute was not material to the change in the retail price. This highlights how the general competitive dynamics of the consumer segment of the calling market are unchanged by variations in the mobile termination rate.”*
15. However, in the preceding paragraph Telecom state:
- “...the price of fixed to mobile calls is becoming a more important component ... of the overall fixed calling market.”*
16. FTM calls are therefore increasingly becoming an important competitive component of fixed call offerings. Looking forward we would therefore expect that reductions in the MTR to be passed on to consumers. The size of this pass-through, however, is another issue.
17. For corporate customers Telecom consider that any Factual scenario (where there are significant reductions in the MTR) will result in a significant pass-through in response to the exercise of countervailing power by the corporate customers. We agree. As such if the Commission were to decide to conduct a CBA where different customer segments are identified separately we would expect the FTM prices to closely follow suit. In our view this competitive pressure is likely to be independent of the Factual or Counterfactual scenario and would equally apply to both.
18. For SME and residential customers Telecom assert that the FTM call prices would continue to be set by prevailing competitive forces regardless of scenario – Factual or Counterfactual. We disagree. Any permanent reduction in the MTR is likely to affect the competitive dynamics of the industry for these segments. As noted by Telecom, FTM calls are becoming increasingly more important. If margins are raised on this particular call type it would be naïve to expect little or no changes in competitive conduct

(e.g., the likelihood of new entry, and the conduct of existing FTM operators who would benefit more from aggressive competitive conduct).

19. Further, Telecom's assertions seem to misunderstand or neglect the important role input costs play in influencing market structure and the competitive environment. For example:
  - Classical economic models of competitive interaction typically assume that firms have access to the same technology and production possibilities. These models therefore implicitly assume that firms face the same input costs. This basic assumption is made to ease the theoretical analysis. However, it is clear that once these assumptions are relaxed the equilibrium outcome in these basic models will change.
  - Lower input costs decrease the barriers to entry to the industry. A new entrant facing lower input costs is likely have a greater chance of long-term success in a market, as it can charge a lower price than would otherwise be the case, while still making a normal rate of return.
20. Further, Telecom's description of market pricing clearly suggests that there is significant price discrimination between FTM rates available for residential and SME customers as compared with those enjoyed by corporate customers. Such distortions are possible because of the absence of competitive pressures.
21. In paragraph 294 Telecom state:

*"...looking longer term into the factual, some "pass through" is possible. But the only point at which genuine "pass through" could confidently be said to have occurred under the factual would be when the retail fixed to mobile prices in consumer and/or SME markets fall below the effective price "floor" of the relevant mobile termination rate under the counterfactual. Until that point, no material distinction can be identified as between prices under the factual and the counterfactual. In that case, the likely decline in the price of fixed to mobile calls could only be said to be coincidental with, but not to result from, the imposition of a reduced regulated mobile termination rate."*
22. It is unclear what Telecom is implying by this argument. However, Telecom seems to mistakenly imply that there are dependencies between Counterfactual and Factual scenarios. From a conceptual perspective these scenarios are separate and should not be mixed, see section 3.2 for more comments on this issue.
23. Telecom refute that in the Factual scenario they will have a reduced ability to use retail fixed to mobile price squeezes. They simply note (paragraph

295) that “*this would not be the case*”. We disagree. Any reduction in the MTR will, all other things being equal, increase the FTM margin and hence reduce the ability to engage in price squeezes. Further, as Telecom themselves note the margin in the corporate segment is likely to be small, hence margin squeezes are a valid concern of the Commission.

## **2.2. Mobile termination rates**

24. Telecom refers to analysis and results of the CRA report. Refer to our comments on this report in section 3.3.

## **2.3. Mobile services market**

25. Telecom analyse the likely (Counterfactual) development of the mobile market – noting that any such analysis is uncertain.
26. Interestingly, Telecom suggest they adopt a ‘follower’ strategy in which they respond to any market developments by Vodafone. No comments are made of the economics of the market as in their evaluation of the Factual scenario, where considerable effort is made to justify the “waterbed effect” and rate re-balancing.
27. One can speculate where Telecom would be willing to engage in a “follower” strategy if the waterbed effect was a ‘real’ threat. If Vodafone, in response to a regulated reduction in mobile termination, were to increase retail prices would Telecom be willing to do the same, given that they would stand to benefit from a potential migration of mobile customers and increase in market share? We suggest that this is unlikely. As such we are sceptical of Telecom comments (paragraph 248) that “*commercial reality dictates that Telecom will seek to increase retail mobile prices in response to termination rate regulation going forward*”. Further, we note that Vodafone in their current and previous submission have stated clearly their belief that regulation of the MTR will benefit Telecom (improve their competitive position) relative to Vodafone. This also suggests that Telecom would not increase (or would not have to increase) their retail mobile prices.

## **2.4. Fixed line toll calling market**

28. Telecom note that Counterfactual FTM will be unchanged compared with the existing competitive practices that are summarised above. We agree. This implies that the pass-through assumptions should be the same as those

that may be observed historically (and lower than the pass-through assumed in the Factual).

## **2.5. Consumer surplus and the “waterbed effect”**

29. Professor Hausman estimates that the waterbed impact of reducing the subsidy on handsets and increased the prices for outgoing calls is to increase subscription charges such that the number of subscribers falls by 122,200.

30. We are unable to replicate his analysis without further details on his assumed prices, costs, volumes and elasticity for outgoing calls and the costs of subscription to meet the information requirements of his equation (1). Consequently, the information provided should not be relied on by the Commission.

## **2.6. Fixed to mobile price elasticity**

31. Refer to our comments to the CRA report, section 3.2 below.

## **2.7. Pass through, Factual 1 and Factual 2**

32. Refer to our comments to the CRA report, section 3.3 below.

## **2.8. Summary Public Benefits Test**

33. With regard to the values reported by Telecom, refer to our comments below to the CRA report, section 3.5.

### 3. Submission by CRA

34. Table 2 below shows the sections contained in the CRA submission, and which of those subsections we have reviewed.

**TABLE 2: CRA SUBMISSION**

<b>Table of Contents</b>	<b>Reviewed</b>	<b>Direct reference</b>	<b>Cross reference</b>
<b>2. REVIEW OF THE COMMISSION'S MODELLING</b>			
2.1 The Commission's Methodology	Yes	3.1	5.1
2.2 Sensitivity Testing	Yes	3.2 & 2.2	4.2
2.3 Pass-Through	Yes	3.3 & 2.2	4.1
2.4 Cost of Regulation	No		
2.5 Spreadsheet Errors	Yes	3.4	
2.6 Results	(Yes)	3.5 & 2.8	5.10
<b>3. THE INITIAL UK EXPERIENCE</b>	Yes	3.6	
<b>APPENDIX A</b>	Yes	3.7	

35. We review each of the selected sections in turn below.

#### 3.1. The Commission's Methodology

36. This element of the paper describes briefly the Commission's approach. We make no comment on this section.

#### 3.2. Sensitivity Testing

37. CRA undertake a sensitivity analysis that relies on proportionate change. In common with MJA's findings<sup>1</sup>, they highlight the importance of the regulated MTR and elasticity. For these key inputs we reiterate that an appropriate approach is to use the likely bounds for the parameter.

38. We have no comment on the appropriate MTR to add to those in our earlier submission. We note that corrections to the Commission's benchmarking would result in a lower (than 16cpm) MTR, and reiterate our view an appropriate benchmark should be set at the 50<sup>th</sup> percentile rather than 75<sup>th</sup> (or higher) percentile that the Commission has applied.

<sup>1</sup> MJA (2004), Review of the Cost-Benefit Analysis of Fixed to Mobile Termination, 23 November, Section 7.

39. On the issue of the elasticity of demand, we consider that the Commission's estimate of  $-0.6$  provides a reasonable basis, again with sensitivities for a likely range of between  $-0.2$  and  $-0.8$  given the evidence provided.
40. CRA plot the estimates of DotEcon, Frontier Economics, Holden Pearmain and Access Economics. We point out again that there are some concerns about all of these estimates.<sup>2</sup> In particular, there are concerns about:
- whether DotEcon estimates actually measure the price elasticity;
  - the stability of the Frontier estimate. The value varied significantly when estimated over sub-periods of Frontier's analysis; and
  - the Holden Pearmain estimate is derived from a consumer survey of potential reactions to hypothetical price movements. As such, it may provide an underestimate of responsiveness to changes.<sup>3</sup>
41. CRA note that (p 10):
- “... we would point out here that the market pricing data are entirely inconsistent with any argument that residential customers are more elastic than business customers; in fact the data imply the opposite. The Commission's own data ... has the average residential FTM price in 2004 as being \$0.566, while the average business price is \$0.3351. It is our understanding that this difference is explained entirely by demand-side factors, and that the cost of provision between residential and business customers does not vary materially.”*
42. CRA imply that if residential demand were more elastic, then its price would be below that of business customers. This seems to confuse market and firm demand with elastic and inelastic demand. We consider that the lower price for business is evidence that the demand for each supplier with respect to business customers is probably highly elastic. Individual businesses will be sensitive to relative prices and switch between suppliers. Competition (and countervailing buying power) will therefore be more likely to push these prices down. However, this does not mean that the individual firms make proportionately more calls.
43. The evidence from DotEcon suggests that the volume of work-hour FTM phone calls is less elastic than other time periods. If the residential market is less competitive, with less switching, there are fewer benefits from lowering

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<sup>2</sup> Discussed in section 5.3.2 of our previous submission. MJA (2004), Review of the Cost-Benefit Analysis of Fixed to Mobile Termination, 23 November

<sup>3</sup> In the case of Holden Pearmain, the estimate is based on intentions and not actual behaviour. As a result, it is a less robust measure of elasticity but a useful indicator of relative elasticities. As noted elsewhere, the Access Economics estimates relate to studies from the 1980s.

prices. And while the residential market is more elastic than the business, it is still inelastic in an absolute sense. Dropping prices will lead to greater volumes but not an increase in revenues. There is therefore less incentive for suppliers to lower residential prices. This relative competitiveness is confirmed by Telecom, cf. section 2.1 above.

44. CRA note that the appropriate measure of cost benefit uses the compensated (or Hicksian) demand curve. We concur that this is the case and agree that the difference between consumer surplus measured under a Hicksian demand curve and that measured under an ordinary (or Marshallian) demand curve arises from the income effect of the price change.
45. However, since the income effect of price change is distributed among all services an individual consumes, the effect on the level of consumption of a service whose change in price caused the income effect is likely to be very small. Hence the Hicksian and Marshallian demand curves are likely to be similar and the measured benefits approximately the same or slightly lower.
46. However, we note the demand curve currently used in the Commission's analysis is at best an approximation. Errors in estimating the curve are likely to be very minor compared with any distinction between the theoretical curves. As such we regard the Commission's approach as adequate.
47. Finally, CRA raise concerns with the consistency of the Factual and Counterfactual prices and MTRs used by the Commission in Factual 2. CRA's concerns reflect the fixed relationship between the Counterfactual and the Factual FTM rates. CRA notes that this relationship produces increased consumer benefits when the Counterfactual rate falls. We also consider there are inconsistencies with the Commission's approach.
48. However, we do not have a problem with the approach chosen by the Commission, as outlined above, but with the relationships between the Counterfactual FTM rate and the MT cost. As noted in section 4.1.1 of our previous submission<sup>4</sup>, these relativities should be consistent with the assumptions underlying the Commission's approach. We consider that the Commission should review the expected decline in the MT cost to better reflect market outcomes where there is no regulation (see also section 3.3.2). In these instances, the MTR cannot be expected to decline as aggressively (and indeed may rise). We consider that for the Counterfactual,

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<sup>4</sup> MJA (2004), Review of the Cost-Benefit Analysis of Fixed to Mobile Termination, 23 November,

MTR should fall by 1 cpm in 2005 and 2006 with at most a further 0.5 cpm decline over the next five years.

### 3.3. Pass-Through

#### 3.3.1. Pass-through in Factual 1

49. The Commission's approach under Factual 1 is to reduce the FTM price to cost over the period 2004 to 2010, taking the implied pass-through rate since 1997 from 65% to 123%. CRA claim that there are two problems with this approach:

- problems with reducing the price down to "*marginal*" cost; and
- the assumption that there are different competitive dynamics between Factual and the Counterfactual.

50. With regard to the first point we consider that 16 cpm is not an estimate of marginal cost, if anything it is closer in spirit to a TSLRIC estimate (which includes a contribution to forward-looking common costs).

51. Marginal costs are those that would arise as a result of a small increase in the volume of a particular output. As a cost-oriented approach, the marginal cost approach shares similar objectives with the TSLRIC approach. However, TSLRIC includes the costs that an efficient firm would incur in the long run when supplying the service in question, whereas marginal cost is limited to costs incurred in the short run. Hence, marginal costs are limited to those costs that an operator would immediately avoid. In practical terms, the marginal cost approach will yield prices that are below those which would be set under a TSLRIC approach.

52. In the context of mobile networks, (short-run) marginal costs are likely to be highly variable as a result of the modularity of capacity:

- if a small increase in demand can be accommodated within the existing capacity, then the short run marginal cost will be close to zero; or
- if a small increase in demand cannot be accommodated, then a large cost will be incurred to increase the capacity by more than enough to cope with the small increase in demand, and the corresponding short-run marginal cost will be very high.

53. It would not be appropriate or even practical to set prices based on such highly variable costs. While it is conceivable that these variations could be

smoothed out, we are not aware of any precedents in this respect. On the contrary, regulators who have carried out cost modelling of mobile termination have relied on LRIC approaches which is also the case of the estimates on which the 16 cpm estimate is based.<sup>5</sup>

54. We agree with CRA that the presence of large fixed and common costs would not be sustainable in equilibrium without any other source of revenue to offset such costs. Prices have to include a surcharge over and above the marginal cost level. Through this surcharge firms can generate contributions towards the fixed and common costs that allow mobile operators to operate without losses and to survive in the market. Failure to take notice of this will be detrimental to the development of the mobile market.
55. While we are not aware of whether all the estimates on which the 16 cpm is based includes contributions towards common costs, it is clear that they include a contribution to the fixed cost by virtue of being LRIC estimates. However, we note that common costs are present in the UK estimate. Further, if the UK LRIC model is taken as a guideline, then the level of common costs would be small.
56. Further, we understand from TelstraClear that in practice Telecom does set FTM retail prices below the FTM retail cost that the Commission has assumed. TelstraClear has indicated that they have copies of Telecom invoices with prices below this level, for example at 30 cents per minute. If Telecom considered that the Commission's FTM cost estimate reflected marginal cost and was not sustainable (because it did not recover fixed costs) then we would not expect to see Telecom pricing below this level, unless Telecom was purposely engaging in anti-competitive (price squeezes) behaviour.
57. With regard to the second point, we noted in our previous submission that lower MTRs would be passed through to FTM rates. Further, CRA go so far as to argue that that the regulation of the MTR will reduce competition relative to the Counterfactual. Their reasoning is that as mobile penetration increases mobile to mobile calling places greater competitive pressure on FTM calling. This argument relies on the existence of the waterbed effect to curtail penetration levels. As we have noted in our previous submission we agree with the Commission that there will be no material 'waterbed' effect.

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<sup>5</sup> See Network Strategies, Estimating the Cost of Mobile Termination - A Review of the Commerce Commission's Benchmarking Study, Report for TelstraClear, November 2004, Exhibit 2.

### 3.3.2. Pass-Through in Factual 2

58. CRA discusses the Commission's construction of Factual 2 and provides an alternative mechanism to evaluate the Factual and Counterfactual MTR and FTM price.
59. CRA notes that the Commission's approach to modelling Factual 2 is (internally) inconsistent. They conclude that it is appropriate to assume that changes in the Counterfactual (factual) FTM rates are driven by changes in Counterfactual (factual) MTRs. We agree that this is reasonable, except that (i) the pass-through in the Factual should be higher than the Counterfactual (as we pointed out earlier in our previous report); and (ii) the pass-through rates (in the Factual) that CRA assume are too low.
60. CRA suggest that extrapolating a future MTR price path from the historic trend (using logarithmic trend) would be valid. While we do not dispute that taking the historical trend is an appropriate starting point for extrapolation of the trend we would point to a number of one-off factors that may have played a role in past reductions (see also our previous submission):<sup>6</sup>
- the threat of regulation with the introduction of the Telecommunications Bill; and
  - the possibility of this investigation occurring. We note that it has been a general trend that markets where the calling party pays principle is in place have been subject to cost based regulation of MTR.
61. If these effects are sufficiently large the logarithmic trend will provide misleading results. Further, one should not neglect the potential impacts of a result where the Commission fails to designate mobile termination. In this case the incentive structure of the mobile operators change compared with their current situation, where they are likely to have sought to reduce the risk of designation by lowering MTRs "voluntarily".<sup>7</sup> In particular, if the operators historically have reduced rates due to the threat of regulation it seems reasonable to expect that they would be reluctant to engage in further reductions in the short-to-medium term when this threat disappears.

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<sup>6</sup> See MJA (2004), *Review of the Cost-Benefit Analysis of Fixed to Mobile Termination*, 23 November, where we also point to international experience that suggests that MTR in fact may increase.

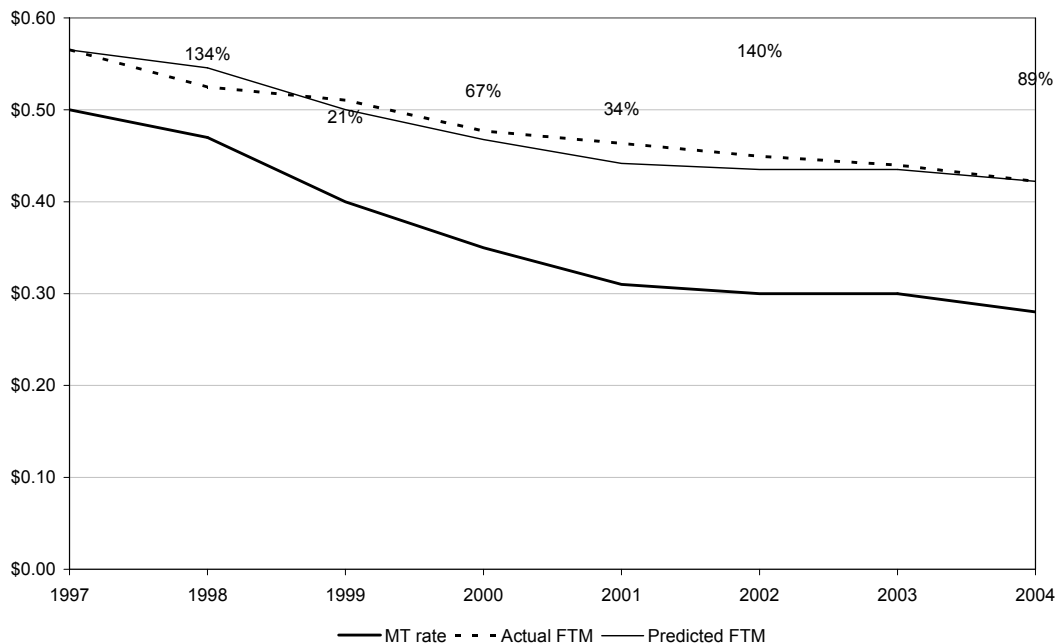
<sup>7</sup> Notably, over the last decade, the "threat of regulation" has been a key tenant of New Zealand's regulatory regime, being one of three component of light-handed regulation: (i) the Commerce Act; (ii) information disclosure; and (iii) the threat of regulation.

62. Finally, we understand from TelstraClear that [ ] [TCLCOI and TCNZCOI]. We therefore suggest that Commission be extremely cautious in their reliance on historical trends.

63. Nevertheless, it should be noted though that the logarithmic trend assumes results in a rate of decline that is slowing over time. We regard this assumption as reasonable compared with an average % trend. However, the rate is in excess (on average) of 1cpm per annum. The trend is therefore more aggressive than that originally proposed by the Commission.

64. CRA point out in paragraph 57 that if a different pass-through rate is applied to historical figures, then the result is different from history. We do not disagree with this part of the argument. However, past pass-through rates are not an indicator of future pass-through rates where there is a reasonable expectation that regulation will affect behaviour. We therefore disagree that CRA's Chart 14 provides any insight into future behaviour. A comparison of applying the Commission's one year pass-through rate in each year from 1997 to 2004 generates Figure 1. As can be seen, the pass-through rate has been increasing since 2001 (in 2003, FTM rates fell despite no decline in MTRs). This corresponds with the Commission's historical analysis which is also shown in CRA's Figure 15.

**FIGURE 1: MT, FTM AND ANNUAL PASS-THROUGH**



65. As noted by CRA, this time series is too short to conduct a rigorous analysis of the relationship between MTRs and FTM rates. It is not unreasonable to

expect therefore that the average rate could be expected to apply for the Counterfactual. A greater level of precision (and lag) of pass-through as modelled by CRA may be appropriate but cannot be estimated given the short time series.

### 3.4. Spreadsheet Errors

66. CRA point to number of spreadsheet errors. We agree with CRA's "formulaic corrections" for discounting and ensuring the consistent use of demand curves. However on CRA's third bullet point, we note that issues related to the sensitivity analysis are not errors but rather issues of model functionality (i.e. the Commission's sensitivity analysis).
67. The correction on the "formulaic errors" have little impact on the analysis. However, CRA also includes "indirect costs" in the category of "Spreadsheet error". We disagree that the treatment of indirect costs is a "Spreadsheet error" as it is consistent with the assumptions made by the Commission. The treatment of indirect costs is examined in the next section.

### 3.5. Results

68. We have examined the CRA estimates of the Consumer Benefit and Net Public Benefit of regulation. In their analysis, they have "corrected" the Commission's results for errors identified by CRA.
69. These corrections comprise six components:
- reduced elasticity (from  $-0.6$  to  $-0.4$ );
  - no change in passthrough (65% for all years);
  - fixed computational errors;<sup>8</sup>
  - fixed regulatory error (applies one estimate of indirect cost to both types of benefit); and
  - fitted logarithmic MTR (rather than a fixed rate of change).
70. Table 3 shows the impact of each individual change of input identified above on both measures of benefit (NCB and NPB) for both Factual 1 and 2. Table 4 shows the cumulative effects of these "corrections".<sup>9</sup>

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<sup>8</sup> As demonstrated in the tables, these "fixes" have only a limited impact on the value of the measures.

<sup>9</sup> The "order" by which the cumulative changes are displayed is arbitrary.

**TABLE 3: EFFECT OF INDIVIDUAL “CORRECTIONS”**

	Level				Differences			
	Net consumer benefit		Net public benefit		Net consumer benefit		Net public benefit	
	Factual 1	Factual 2	Factual 1	Factual 2	Factual 1	Factual 2	Factual 1	Factual 2
Base case	<b>216.7m</b>	<b>185.0m</b>	<b>27.9m</b>	<b>27.3m</b>				
Fix elasticity	204.9m	176.6m	14.4m	14.1m	-11.8m	-8.4m	-13.5m	-13.2m
Fix pass-through	216.7m	149.8m	27.9m	22.1m	-	-35.2m	-	-5.1m
Fix errors	218.0m	185.2m	31.4m	26.0m	1.4m	0.2m	3.5m	-1.2m
Fix regulatory errors	216.7m	185.0m	-47.2m	-33.1m	-	-	-75.2m	-60.4m
Logarithmic MT	216.7m	151.2m	27.9m	25.6m	-	-33.8m	-	-1.6m

SOURCE: MJA FROM CRA MODEL.

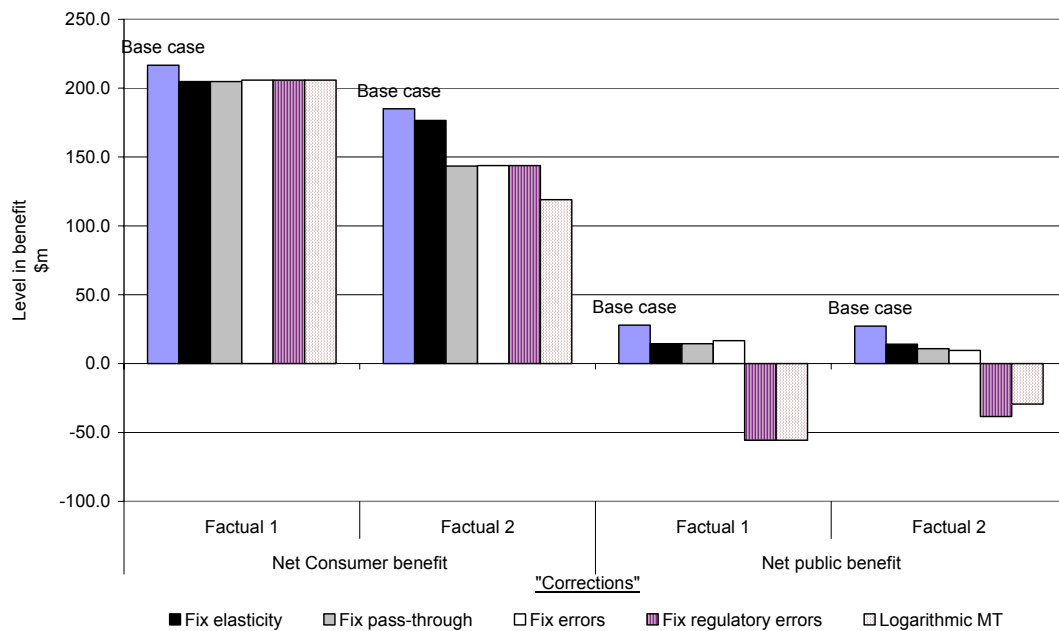
**TABLE 4: CUMULATIVE EFFECT OF “CORRECTIONS”**

	Level				Differences			
	Net consumer benefit		Net public benefit		Net consumer benefit		Net public benefit	
	Factual 1	Factual 2	Factual 1	Factual 2	Factual 1	Factual 2	Factual 1	Factual 2
Base case	<b>216.7m</b>	<b>185.0m</b>	<b>27.9m</b>	<b>27.3m</b>				
Fix elasticity	204.9m	176.6m	14.4m	14.1m	-11.8m	-8.4m	-13.5m	-13.2m
Fix pass-through	204.9m	143.5m	14.4m	10.8m	-11.8m	-41.5m	-13.5m	-16.5m
Fix errors	205.9m	143.8m	16.6m	9.5m	-10.8m	-41.2m	-11.3m	-17.8m
Fix regulatory errors	205.9m	143.8m	-55.7m	-38.4m	-10.8m	-41.2m	-83.6m	-65.6m
Logarithmic MT	205.9m	119.0m	-55.7m	-29.5m	-10.8m	-66.0m	-83.6m	-56.7m

SOURCE: MJA FROM CRA MODEL.

71. Cumulatively, the “corrections” reduce the estimates for the Net Consumer Benefit and Net Public Benefit under both Factual scenarios. In the case of the Net Public Benefit, the CRA estimates suggest that regulation imposes a net cost. Not surprisingly, Factual 1 is significantly affected by the change in the elasticity input and Factual 2 by the change in pass-through. In addition, the estimates of Net Public Benefit are significantly reduced by the “regulatory error fix” which predominantly affects the estimate of “indirect costs”. The effect of using a logarithmic MT has different impacts between Net Consumer Benefit and Net Public Benefit. Fixes for the computational errors have little effect. The cumulative effects are displayed graphically in Figure 2.

**FIGURE 2: CUMULATIVE EFFECTS**



72. Interestingly, if the Net Public Benefit base for “Indirect Costs” is used, the “corrected” estimates are significantly higher. This is shown in Table 5.

**TABLE 5: USING THE NET PUBLIC BENEFIT BASE FOR INDIRECT COSTS**

	Level			
	Net consumer benefit		Net public benefit	
	Factual 1	Factual 2	Factual 1	Factual 2
Base case	<b>216.7m</b>	<b>185.0m</b>	<b>27.9m</b>	<b>27.3m</b>
Corrections				
Using Net Consumer Surplus	205.9m	119.0m	-55.7m	-29.5m
Using Net Public Benefit	278.2m	157.8m	16.6m	9.3m

73. We accept CRA’s correction that the Counterfactual and Factual demand curves should have the same form (the “computational error”). However, other than that we reject most of the “corrections” made by CRA, in particular:

- as discussed above, we do not accept that the Commission has made an error in using a point estimate for elasticity of  $-0.6$ ;
- we do not agree that the rate of pass-through modelled by CRA is appropriate;
- we consider that the appropriate path for the Counterfactual MTRs is for a 1 cpm decline in each of 2005 and 2006 but only 0.5 cpm across the

following five years. While we concur that a logarithmic fit for MT may be more appropriate than the fixed rate of change used by the Commission, we contend that both approaches be retained primarily to allow consideration of the sensitivity to this assumption;

- we do not agree with CRA's correction of regulatory errors; and finally
- we consider that the estimates used by the Commission for indirect costs are consistent with its assumptions about those errors (this is discussed further below).

74. Although we do not comment directly on the methodology used to estimate indirect costs, in using the Commission's methodology of indirect costs it is important to acknowledge its basis – it is a discount to the benefits of regulation.<sup>10</sup>

*“This involved a scaling back of the estimated benefits,...*

*This approach to accounting for indirect costs involves a proportionate reduction in benefits. Therefore, to the extent that benefits are positive, the net effect of this specific adjustment will result in a smaller positive benefit.”*

75. Under this definition, indirect costs are related solely to the level of benefit expected to be achieved – it is therefore inappropriate to use the discount estimate of indirect costs based on Consumer Surplus for Net Public Benefit.

76. We consider that there is little impact of the remaining “corrections” on the conclusion that regulation will generate net benefits.

77. CRA provide evidence on the likely split between business and residential users of the benefits as conceptually defined by the Commission and measured by CRA. As the Act requires the Commission to have regard to the long-term benefits of end-users, it is not clear under conditions of equal elasticities that this disaggregation is important. CRA further point out that a large proportion of business users are foreign-owned. The section 18 purpose in the Telecommunications Act requires that the “end-user” be an end-user “of telecommunications services within New Zealand”. There is no requirement that – if the end-user is a business – the end-user be New Zealand based. It is curious that CRA make a distinction between New Zealand and foreign owned businesses in the context of end-users, but do not make such a distinction in relation to producers. This is particularly

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<sup>10</sup> Commerce Commission (2004), *Schedule 3 Investigation into the Regulation of Mobile Termination, Draft Report*, 18 October, pp. 91-2, paras 496, 498.

curious given their advocacy of a total surplus test, under which whether a producer is foreign-owned or not is highly relevant (functionless rents earned by foreign-owned producers is a loss to New Zealand under a total surplus test, as well as a consumer surplus test).

### 3.6. The Initial UK Experience

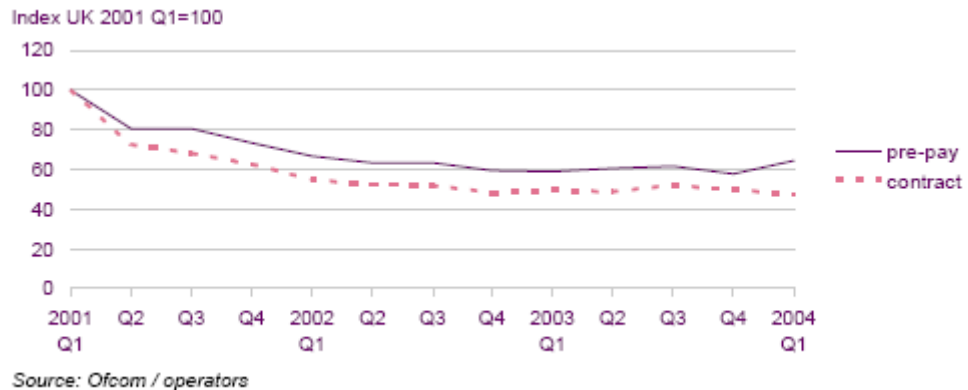
78. With reference to the UK experience CRA argue that UK regulators overestimated the consumer benefits of reducing MTRs, as a substantial proportion of the reduction in the MTRs have not been passed-through into lower FTM prices. Further, they argue that evidence presented in the UK is consistent with a waterbed effect taking place.
79. We have reviewed the UK evidence and provide the following comments to the CRA presentation.
80. With regard to the development of FTM calls we are in general agreement with the CRA observations. However, we note that operators characterised as “other indirect access” have lower FTM prices than BT. Hence even though these providers do not operate under a price cap regime they seem to pass-through are larger share of the reductions in the MTR than BT.
81. Regarding mobile retail prices we concur that the figures reported by Ofcom suggest a slight increase in mobile call revenue per minute from Q2 2003 to Q2 2004. However, we note that this increase may have been driven by an increase in data revenues and a migration from pre-pay to post-pay subscriptions. In particular, Ofcom note that:<sup>11</sup>
- “During the three month period to June, the proportion of pre-pay customers on the four largest networks fell by 0.3%. This, together with an increase in the proportion of data revenues to 17%, meant that overall revenue growth was 4% in the quarter.”*
82. Further, we refer to the development of mobile prices from 2001 to Q1 2004 that show no obvious increases of prices in general, cf. figure below<sup>12</sup> taken from The Communications Market 2004 – Telecommunications (p 54).

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<sup>11</sup> Ofcom (2004b), *The Communications Market October 2004 Quarterly Update*, p 35.

<sup>12</sup> Ofcom (2004a), *The Communications Market 2004 – Telecommunications*, p 54.

**FIGURE 3: UK MOBILE TELECOMS PRICE TRENDS, 2001-2004**



83. Finally, when mobile penetration approaches 100% the average revenue per minute earned on the marginal mobile customer is likely to increase. All other things being equal, we would therefore expect the average revenue per minute to increase as penetration increases.
84. As regards the development in mobile penetration, we note the evidence provided without doubt suggests that the penetration has increased although CRA try to discount this development with reference to churn, double counting of subscribers and segmentation of consumers.
85. In summary, we agree with CRA that it is difficult to draw strong conclusions from the UK experience. Indeed we suggest that the UK experience does not provide conclusive evidence of the waterbed effect. As such we do not agree with CRA that claim that retail prices would be higher than they otherwise would have been without regulation of mobile termination. To further support this note that Ofcom in phase 1 of their strategic review of the telecommunications sector found that mobile prices in the UK to be competitive with other markets and following a similar price trend to other European countries in the period from 2001 to 2003.<sup>13</sup>

### 3.7. Appendix A

86. Appendix A is based on the “waterbed” effect. Irrespective of whether this is accepted as a valid assumption, the rest of the analysis quantifies the sensitivity of the net benefit estimate to a proposed waterbed effect. The

<sup>13</sup> See e.g., Ofcom (2004a), *The Communications Market 2004 – Telecommunications*, Figure 50 and 51

figures shown represent the maximum decline in each year that will equate the benefit from regulation to a decline in mobile subscription.

87. As would be expected the Public Benefits (total surplus) sensitivity is significantly lower than that for the Net Consumer Benefit. While the linear simplifications provide a guide and should not be taken as an accurate estimate consistent with a constant elasticity model, we point out one mistake in the algebra used to estimate the maximum reduction under a Public Benefits approach.

88. The solution to equation on p. 46

$$d^2 - 2 \cdot d + \frac{(Q_1 - Q_0)^2}{Q_1^2} = 0 \text{ should be}$$

$$d = -(-2) \pm \sqrt{2^2 - 4 \cdot 1 \cdot \frac{(Q_1 - Q_0)^2}{Q_1^2}} = 2 \cdot \left( 1 \pm \sqrt{1 - \left( 1 - \frac{Q_0}{Q_1} \right)^2} \right)$$

89. In effect the maximum is double that suggested on page 48. As a result, the “Maximum Reduction in Post-Reg Demand (Allocative Efficiency only)” is twice that shown in CRA’s Table 6 (and Table 8). Hence the benefit from regulation as measured by the Net Public Benefit is completely offset at twice the values suggested by CRA. CRA have therefore overstated the sensitivity of the CBA to the waterbed effect.

**TABLE 6: REVISIONS TO MAXIMUM REDUCTION IN POST-REG DEMAND (ALLOCATIVE EFFICIENCY ONLY)**

	2004	2005	2006	2007	2008	2009	2010
CRA	0.0%	0.0%	-0.1%	-0.3%	-0.7%	-1.0%	-1.4%
MJA	0.0%	0.0%	0.2%	0.7%	1.3%	2.1%	2.8%

## 4. Submission by Vodafone

90. Table 6 below shows the subsections of Section VIII of the Vodafone submission (“The Commission has overstated the benefits of regulation”), and which of those subsections we have reviewed.

**TABLE 7: SECTION VIII, VODAFONE SUBMISSION**

<b>Table of Contents</b>	<b>Reviewed</b>	<b>Direct reference</b>	<b>Cross reference</b>
Overall the benefits of regulation are less than the costs	(Yes)	4.1 & 5.6	2.7 & 3.3
The Counterfactual starts too high and the fall is too slow	Yes	4.2	2.2, 3.2 & 3.3
We predict a different path for prices and quantities	Yes	4.3, 5.2 & 5.11	
16 cents is too low	No		
Transfers are not relevant benefits	No		
Only benefits that arise from increased competition count	Yes	4.4 & 5.5	
Further work on Ramsey prices is needed	Yes	4.5	
The regulated price should include an allowance for the network externality	Yes	4.6	
The modelling of indirect costs is mistaken	No		
There are some technical flaws in the modelling	Yes	4.7 & 5.1 – 5.5	

91. We review each of the selected sections in turn below.

### 4.1. Overall the benefits of regulation are less than the costs

92. Vodafone refer to results provided by an alternative CBA model built by their consultants Covec. Refer to section 5.6 for a discussion of their model.
93. Vodafone draws on Covec’s econometric analysis of the relationship between MTRs and FTM rates to suggest that only 28% of the decline in FTM rates in a year is attributable to declines in MTRs for that year. This suggests that had MTRs remained unchanged, then the “other factors” alluded to by Vodafone would have resulted in the remainder of the fall in FTM rates. As the difference between costs and rates was minimal in 1997, this suggests that these other factors may have resulted in losses being incurred. We consider that the “other factors” are “picking up” the lagged effects of earlier reductions in MTRs. Given the short time series it is not possible to identify the structure of this relationship. As a short-cut the observed pass-through to FTM rates over the time period can be used as an approximation to a yet-to-be-identified relationship. Further discussion of the Covec model is undertaken in section 5

## 4.2. The counterfactual starts too high and the fall is too slow

94. Vodafone argue that the Commission's assumptions about the Counterfactual MTR are too pessimistic. In particular they regard the 27 cpm MTR for 2005 as too high and that the annual fall of 1 cpm as too little (even though this annual reduction is based on comments by Vodafone in previous submissions).
95. Further, Vodafone suggest that in the absence of regulation they could commit to a price path for the MTR of CPI-10% from 2005 to 2010. This price path is not publicly available.
96. While the resultant reduction in MTR is not as significant as the one proposed by the Commission in the Factual scenarios it is considerably larger than the Counterfactual scenario suggested by the Commission.
97. We find this commitment implausible for the following reasons:
- A CPI-10% glide path is a significant departure from previous statements by Vodafone that a 1 cpm per year (until 2006) was appropriate. Vodafone provide no rationale or reason for this apparent radical adjustment of expectations.
  - Vodafone's submission clearly suggests that their view is that the MTR should be much higher than the figure suggested by the Commission and also higher than the figure that is a result of the price path under their "commitment" (implied by our calculation). Their main arguments are the existence of network externalities, the waterbed effect and analysis by Vodafone Australia on the cost of mobile termination. In this respect it is unclear why Vodafone would be willing to commit to such a price path if it considered that it would be so injurious to itself (resulting in a price that is below cost) and not to the benefit of end-users. This apparent inconsistency raises concerns about the credibility of the commitment.
  - Likewise Vodafone's credibility is not improved by restricting access to their proposed price schedule. If Vodafone were genuinely willing to commit to such price reductions they would be willing to make them publicly available.
98. Further, it should be noted that Telecom make no such commitment in their submission [ ] [TCLCOI and TCNZCOI]. Hence even if a price path of CPI-10% was assumed in the Counterfactual, the markets for

mobile termination are separate, hence there is no reason to expect that Telecom would follow the same price path as Vodafone.

99. In addition, the estimate of the prices for 2005 – 2010 that Vodafone has used assumes an inflation rate of 1.3%. This is an unrealistic assumption. Inflation can be reasonably predicted to be 2% per annum. This is the mid-point of the Reserve Bank's Policy Targets Agreement (PTA). The current PTA signed in September 2002, defines price stability as annual increases in the Consumers Price Index (CPI) of between 1 and 3 per cent on average over the medium term. Most macro-economic commentators would assume an inflation rate of 2% or higher. Applying a higher inflation rate would result in higher mobile termination rates (offered by Vodafone) in the Counterfactual than Vodafone would suggest.

### **4.3. We predict a different path for prices and quantities**

100. Vodafone rely on an alternative CBA model by their consultants Covec to determine price paths for price and quantities. We review the Covec submission in section 5. However, we note that we agree that a model of the FTM market should include growth in 'organic' demand. Our previous submission included an estimate of a likely growth path for demand<sup>14</sup> while the Covec model generates this demand through an increase in mobile penetration and hence mobile subscribers (outlined in Covec's section 2.2 and detailed in Appendix 1).
101. Both methodologies generate growth in demand with a declining growth rate. Both methodologies generate slightly over 1,000 million minutes by 2010. There would appear to be little material difference in the preferred output between the two approaches, but the Covec modelling does allow user input to set the maximum number of subscribers if unsatisfied with the model's extrapolation. We examine this aspect of the Covec model at paragraph 132 below.
102. Vodafone also note that the Commission needs to add the factors of pre-selection and regulated wholesaling when evaluating the degree of pass-through in the Counterfactual. We agree that consistency is needed in the modelling of the different scenarios. However, it is clear that any regulation of mobile termination will promote competition and increase pass-through

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<sup>14</sup> MJA (2004), *Review of the Cost-Benefit Analysis of Fixed to Mobile Termination*, 23 November, Section 4.2.

relative to the Counterfactual scenario. This is also recognised by Vodafone, see section below.

#### **4.4. Only benefits that arise from increased competition count**

103. Vodafone note (paragraph 386):

*“...In the respect of MTR regulation, any promotion of competition will be reflected in a higher pass-through rate as compared with the historical pass-through rate.”*

104. We agree. However, Vodafone also argue that the Commission should only count benefits associated with the promotion of competition in evaluating the benefits of regulation (paragraph 386):

*“... the Commission ought only to count the benefits arising from any promotion of competition resulting from regulation.”*

105. This argument implies that the Commission should not count, as a benefit of the proposed regulation, the benefits that would have flowed in any case given the historical pass-through. The logical consequence of such an interpretation is that the Commission could be required to recommend against regulation when regulation is to the long-term benefit of end-users, because the cause of some of the benefit was of the wrong type (not directly related to the promotion of competition).

106. We find Vodafone’s reasoning as to why the Commission should discriminate between different causes of benefits to be unclear and their assertion that the quantitative analysis of benefits to end-users is only relevant to the extent that they promote competition to be mistaken.

#### **4.5. Further work on Ramsey prices is needed**

107. In principle, we agree with Vodafone that Ramsey allocations are desirable. However, without specific modelling of the MTR we would not recommend such an adjustment as it will be fraught with uncertainty and highly arbitrary.

#### **4.6. The regulated price should include an allowance for the network externality**

108. Vodafone argue that the regulated price should include an allowance for network externalities. The purpose of incorporating a network externality

surcharge on the MTR is to provide incentives for new customers to join a mobile network that from society's perspective may be under-utilised due to the existence of the externality.

109. This is a matter discussed in the Martin Cave and Tommaso Valletti report "Comments on the Commerce Commission's Draft Report into Regulation of Mobile Termination: issues of market definition, market power and the application of TSLRIC" (28 November 2004). In addition, we have a number of concerns with such an approach, including:

- for there to be any benefit in allowing higher mobile termination rates – because of network externalities – it is necessary that there are significant waterbed effects. If there are not significant waterbed effects the higher mobile termination rates will result in greater profits for mobile network operators and they will not result in lower handset/mobile access charges so the potential network externalities will be lost anyway;
- no allowance is currently made for network externalities in the fixed network business although the externality will apply in both directions. A consumer choosing between a fixed line or a mobile phone will all other things being equal choose to subscribe to the mobile network since it receives a subsidy financed by other mobile subscribers (including fixed network subscribers);
- the fact that many new mobile subscribers already may be contacted on the fixed network will limit the size of the externality;
- when penetration increases, the number of potential new subscribers is increasingly limited, eroding the benefit of including a surcharge over time. Although New Zealand does not have a penetration level equivalent to many European countries, levels are nevertheless high;
- many subscribers are likely to join the network without an additional subsidy or at purely cost based rates. For these customers no additional benefits will accrue to society. The surcharge will only act as a demand distorting mechanism;
- there may be offsetting externalities. If mobile subscribers receive utility from receiving calls, Armstrong (2002)<sup>15</sup> demonstrates that this lowers the socially optimal termination rate; and
- if the regulated MTR is above costs (or on an above cost glide path) there is no convincing argument for taking account of network

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<sup>15</sup> Armstrong, M (2002), "The theory of access pricing and interconnection", in: M. Cave, S. Majumdar and I. Vogelsang (eds.), *Handbook of Telecommunications Economics*, Volume 1. Amsterdam, Elsevier Science, 295-384

externalities. For example, were Vodafone to commit to a CPI-10% glide path it would make little sense to add an externality surcharge as the rate would exceed costs.

110. Detailed evidence regarding the existence of network externalities (and waterbed effects) would have to be demonstrated before it could be considered appropriate to factor them in the regulated mobile termination rate.

#### **4.7. There are some technical flaws in the modelling**

111. Vodafone list a number of technical flaws in the modelling. These are based on observations by Covec. We refer to sections 5.1 – 5.5, for further comment on these issues.

## 5. Submission by Covec

112. Table 9 below shows the sections of Covec submission “*Modelling Regulation of Mobile Termination Rates: prepared for Vodafone New Zealand*”, and which of those sections we have reviewed.

**TABLE 8: COVEC SUBMISSION**

<b>Table of Contents</b>	<b>Reviewed</b>	<b>Direct reference</b>	<b>Cross reference</b>
2. Fixed-to-Mobile Demand and Supply			
2.1. The Commission’s Approach	Yes	5.1 & 4.7	3.1
2.2. An Econometric Model of Fixed-to-Mobile Demand and Supply	Yes	5.2 & 4.7	2.6 & 3.2
3. Pass-through			
3.1. Historic Fixed-to-Mobile Markups and Pass-through	Yes	5.3 & 4.7	2.7 & 3.3
3.2. Pass-through Incentives and Regulation	Yes	5.3 & 4.7	2.7 & 3.3
3.3. The Commission’s Factual Scenarios	Yes	5.4 & 4.7	2.7 & 3.3
3.4. Pass-through and Competition	Yes	5.5, 4.4 & 4.7	2.7 & 3.3
4. Indirect Costs	No		
5. An Alternative Cost-Benefit Analysis			
5.1. The Counterfactual	Yes	5.6	2.8 & 3.5
5.2. Factual Scenarios	Yes	5.7	
5.3. Summary of Counterfactual and Factual Scenarios	Yes	5.8	
5.4. Costs			
5.4.1. Direct Costs	Yes	5.9	2.8 & 3.5
5.4.2. Indirect Costs	No		
5.5. Cost-Benefit Analysis	Yes	5.10	3.5
5.6. Summary of Alternative Cost-Benefit Analysis	Yes	5.11	4.3
6. Offsetting Detriments in the Mobile Market	No		
Appendix 1: Forecasting Mobile Subscribers	Yes	5.12 & 3.5	
Appendix 2: Pass-through Incentives of Existing Fixed-to-Mobile Firms	Yes	5.13	

113. We review each of the selected sections in turn below.

### 5.1. The Commission’s Approach

114. Covec reviewed the Commission’s model and also identified a number of concerns with the assumptions and implications. These are addressed below. Covec’s paper identifies the inconsistency between a single linear demand curve and a constant price elasticity of demand. Covec suggests that a possible solution is to estimate the demand curve reflecting known

information. Covec also suggest that the relationship between MTRs and FTM rates should be founded on a quantitative model.

115. We have no concerns with increasing the rigour behind the analysis of the relationships between price and demand, and between MTRs and FTM rates. However, one of the key reasons that overseas studies have been relied upon for this determination has been the paucity of data and therefore analysis of these relationships in New Zealand. It is not clear that the analyses undertaken by Covec address the first concern.

## **5.2. An Econometric Model of Fixed-to-Mobile Demand and Supply**

116. Covec considers that there is sufficient information from NZ data to enable a model to be developed that effectively reflects statistically robust relationships. We disagree. Covec's econometric model derives from only eight observations from 1997 to 2004. As such, significant caution should be exercised, particularly when using it to forecast expected prices and quantities. Over such a short time period and using nominal data, simple time trends can explain for significant proportions of movements in the dependent variable.
117. Covec point out that the model shows that elasticity has declined significantly over time and that "other determinants" of the FTM rate have been identified. However, our inspection of the Covec results suggests that the elasticity may be flattening out around the  $-0.5$  to  $-0.6$  level. Further, Covec's analysis of the "other determinants", is effectively the number of subscribers, but does not include income or price series for complements, for example. Covec's modelling indicates that growth in the number of subscribers have been and will continue to be more muted, and level out around 3.8 million.

## **5.3. Historic Fixed-to-Mobile Markups and Pass-through**

118. Covec review the historical pass-through of MTRs to FTM rates, drawing on their earlier work on pass-through.<sup>16</sup> Covec identify four areas that limit competition in the FTM market:
- barriers to entry/exit such as fixed costs and consumer preference for comprehensive service providers;

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<sup>16</sup> Covec (2004) *Regulating Mobile Termination: Pass-through Issues*, 14 July

- degree of product differentiation;
  - switching costs; and
  - information availability.
119. These potential barriers affect the scope under both the Counterfactual and the Factual scenarios for benefits to be passed on through greater competition. It is the impact of regulation to provide an alternative incentive for competition in the downstream market that is being estimated through this CBA process. Indeed if there were not these areas limiting competition, there would be no need for intervention.

#### **5.4. The Commission's Factual Scenarios**

120. Covec identifies problems with the Commission's calculation of pass-through under both Factual scenarios. We note that the Commission's calculations do not represent the pass-through rate achieved historically. However, we disagree that the Commission's approach should be changed; we agree with the Commission's approach to identifying the benefits of regulation through Factuals 1 and 2 and have only concerns with its implementation.
121. Covec does not consider that under Factual 1, FTM rates will fall to "cost". Covec contends that the upper limit for any reductions is the full pass-through of the reduction in MTRs. We consider that a price equal to the "cost" estimate under Factual 1 is possible. We do not agree that this represents losses for "any firm supplying calls". The "cost" estimate is based on TSLRIC. A firm charging a price equivalent to TSLRIC (including an allowance for forward-looking common costs) will not be losing money for that operation (see paragraphs 44ff).
122. With regard to Factual 2, we disagree with Covec's contention that the Commission's assumptions on pass-through are too optimistic. Between 1997 and 2004, the decline in FTM rates represented 65% of the reduction in MTRs. In any particular year, the relationship between change in FTM rate and MTRs varied. It is not known how much of each year's movement in FTM rates reflected movements in that year's MTR and how much reflected earlier movements (or indeed tried to anticipate and take advantage of future savings). Determining this relationship and any lags associated with implementation requires more data than currently available.

123. However as noted in our previous submission, the annual rate of pass-through in recent years appears to be increasing. Using the 65% average represents a conservative estimate and is therefore defensible as the starting point for pass-through under Factual 2 as indeed should be used for the Counterfactual throughout.

## **5.5. Pass-through and Competition**

124. Covec contends that the pass-through of any cost savings is not a sufficient indication of the “promotion of competition”. It argues that the demonstration of the promotion of competition is observed only where the pass-through rate is increased. This argument seems to put the means (promoting competition) before the ends (“long-term benefit of end users”). This suggests, for example, that regulation of monopoly prices to end-users does not meet the objective of benefiting end-users except for that part of the benefits that has occurred from increased competition (see also section 4.4).

## **5.6. Alternative Cost Benefit Analysis**

125. Covec provides a CBA based on its econometric analysis of the FTM market and lower pass-through rates. As discussed above, we do not consider the pass-through approach used by the Commission to be unrealistic.
126. Similarly to CRA, Covec fit a logarithmic function for the Counterfactual MTR. However, as noted in our discussion of the CRA model (see section 3.2), we recommend that the Commission set expected MT costs for the Counterfactual to reflect a 1 cpm decline in 2005 and 2006, with either no increase in following years or at most, 0.5 cpm spread over the next five years. However, we would recommend that both the logarithmic and constant growth models be also retained as sensitivity tests.
127. In addition, Covec forecasts the number of subscribers through to 2010. Mobile numbers are derived from its quantitative analysis. Reflecting the growth in subscribers, the volume of calls under the Counterfactual is higher than expected by the Commission; see also our comments in section 5.11.

## **5.7. Factual Scenarios**

128. We have outlined above our concerns with Covec's assumptions on pass-through and achieving "cost" levels of price. The changes calculated by Covec primarily reflect these changes.

## **5.8. Direct Costs**

129. Covec retains the Commission's estimate of direct costs. As stated in our previous submission we consider that this estimate should be reduced.

## **5.9. Cost-Benefit Analysis**

130. As expected from the assumptions used, the estimates of net benefits obtained by Covec are well below those of the Commission.

## **5.10. Summary of Alternative Cost-Benefit Analysis**

131. Covec notes that the differences between the Commission's results and Covec's equivalent approach reflect the Commission's "*implausible assumptions regarding pass-through, and simplistic modelling of the fixed-to-mobile market*". However, if we use the Commission's "implausible" assumptions about pass-through, Covec's model generates significant benefits under Factual 1. Under Factual 2, the use of a glide path rather than allowing the 65% pass-through in the first year, significantly reduces the benefits under the Covec model. The most significant component of Covec's modelling appears to be its interpretation of the likely pass-through mechanism.

## **5.11. Appendix 1: Forecasting Mobile Subscribers**

132. We have no comments on the modelling of subscriber numbers but consider it represents a method of generating growth in quantity separate from price effects. Both the Covec and MJA approaches result in slightly over 1,000 million minutes of traffic by 2010. There would therefore appear to be little relative benefit in preferring one methodology over the other. The independent similarity of the two figures nevertheless suggests that the aggregate forecast growth is reasonable.

## **5.12. Appendix 2: Pass-through Incentives of Existing Fixed-to-Mobile Firms**

133. We have no comments on this appendix.

## 6. Conclusions and Recommendations

134. Telecom, CRA, Vodafone and Covec raise a number of concerns with the Commissions approach to the CBA. In general, we consider that the comments provided by the parties (that are within our review) provide little or no new evidence to the investigation. That said they do point to few issues where the Commission may consider revising its CBA. Below we highlight the main issues.

### 6.1. Telecom

135. Telecom describe in much detail the competitive workings of the fixed call market. They assert that the competitive dynamics differ between corporate, SME and residential markets. While we agree that this is case, we disagree when Telecom state the competitive pressures do change under the Factual and Counterfactual scenario for SME and residential customers. Telecom also seem to misunderstand the important role input costs play in any competitive environment.

136. Telecom refute that they, in the Factual scenario, will have a reduced ability to use retail fixed to mobile price squeezes. We disagree. Any reduction in the MTR will, all other things being equal, increase the FTM margin and hence reduce the ability to engage in price squeezes.

137. In Telecom's submission they refer to Professor Hausman who estimates that the waterbed impact of reducing the subsidy on handsets and increased the prices for outgoing calls is to increase subscription charges such that the number of subscribers falls by 122,200. We recommend that the information provided should not be relied on by the Commission.<sup>17</sup>

### 6.2. CRA

138. CRA conduct a sensitivity analysis of the Commission's CBA and raise a number of concerns, including the MTR and elasticity estimate. With regard to the elasticity estimate no new evidence is presented that would lead us to change our view on the Commission's estimate of -0.6. Regarding the MTR

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<sup>17</sup> For further comments on the dynamics of the waterbed effect and the consequences for the CBA, please refer to Cave, Martin and Valletti, Tommaso, *Comments on the Commerce Commission's Draft Report into regulation of Mobile Termination: issues of market definition, market power and the application of TSLRIC*, 28 November 2004.

analysis we refer to Network Strategies'<sup>18</sup> who concluded that correction of flaws in the Commission's benchmarking reduces the upper quartile from 15.42cpm to 14.11cpm<sup>19</sup>. Further, we do not consider it appropriate to select the 75<sup>th</sup> quartile. Instead the Commission should select the median estimate.<sup>20</sup>

139. CRA note that the appropriate measure of cost benefit uses the compensated demand curve. While we agree with this observation, we regard the errors in estimating the curve are likely to be very minor compared with any distinction between the theoretical curves. As such we do not recommend the Commission's change their approach.
140. CRA note that the Commission's approach to modelling of Factual 2 is (internally) inconsistent. We also consider there are inconsistencies with the Commission's approach. However, our main concern is that the relationship between the Counterfactual FTM rate and the MT cost should be consistent with the assumptions underlying the Commission's approach. Hence we consider that the Commission should review the expected decline in the Counterfactual MTR to better reflect market outcomes where there is no regulation (see also paragraph 143).
141. CRA argue that that the regulation of the MTR will reduce competition relative the Counterfactual. Their reasoning relies on the existence of the waterbed effect to curtail penetration levels. As we have noted in our previous submission we agree with the Commission that there will be no material 'waterbed' effect.
142. CRA notes that the Commission's approach to modelling Factual 2 is (internally) inconsistent and conclude that it is appropriate to assume that changes in the Counterfactual (factual) FTM rates are driven by changes in Counterfactual (factual) MTRs. We agree that this is reasonable, except that (i) the pass-through in the Factual should be higher than the Counterfactual; and (ii) the pass-through rates (in the Factual) that CRA assume are too low.
143. CRA suggest that extrapolating a future MTR price path from the historic trend (using logarithmic trend) would be valid. While we regard a rate of

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<sup>18</sup> Network Strategies (2004), *Estimating the Cost of Mobile Termination - A Review of the Commerce Commission's Benchmarking Study*, 18 November.

<sup>19</sup> Use of Purchasing Power Parity (PPP) instead of nominal exchange rates, further reduces the upper quartile to 12.56cpm.

<sup>20</sup> For further comments on the use of the median cost estimate refer to MJA (2004), *Review of the Cost-Benefit Analysis of Fixed to Mobile Termination*, 23 November, Section 5.2.

decline that is slowing over time as reasonable we are concerned that simple extrapolation from a logarithmic trend will be misleading. In particular, the approach fails to take account of the historic developments leading up to this investigation and the incentives of the mobile operators if designation was not to result.

144. CRA create their own model of the Commission CBA. While we accept their correction that the Counterfactual and Factual demand curves should have the same form, we reject most of the other adjustments made by CRA. We therefore do not consider the Commission should rely on the CRA model without considerable adjustments.
145. Finally, CRA review the UK experience. Our review of the same evidence suggests that it does not provide conclusive evidence of the waterbed effect.

### **6.3. Vodafone**

146. Vodafone suggest that they could commit to a CPI-10% price path from 2005 to 2010. We have considerable reservations about the consistency and credibility of Vodafone's arguments and note that there is no reason to expect that Telecom would follow the same price path as Vodafone.
147. Vodafone also argue that the Commission should only count benefits associated with the promotion of competition in evaluating the benefits of regulation. With reference to the relevant sections of the Act we regard this assertion as mistaken.
148. Vodafone argue that the CBA should make allowance for network externalities. We have a number of concerns with such an approach as outlined in section 4.6. Further, we consider detailed evidence would be needed to support such a claim.

### **6.4. Covec**

149. Covec have built an econometric model of the FTM market based on eight years of data. Given this short time period and the odd implications of its results, it is not clear that this model is sufficiently robust for decision making. We consider that the Commission should not base its CBA modelling on an econometric analysis with limited data.
150. The modelling by Covec does include an allowance for continued growth in FTM volumes representing growth in mobile penetration. This approach is

conceptually similar to that adopted by MJA. The Commission should include an organic growth element in its CBA modelling.

151. Covec claim that the Commission assumptions on pass-through are too optimistic. We note that there are considerable uncertainties in these assumptions. In our view using the 65% average represents a conservative estimate and is therefore defensible as the starting point for pass-through under Factual 2 as indeed should be used for the Counterfactual throughout.

## 6.5. Overall views

152. There is nothing in the submissions from Vodafone and Telecom (and their respective consultants) that would lead us to change our view that:
- the general approach the Commission has taken to the CBA is appropriate.
  - the Commission’s CBA demonstrates that there are substantial net benefits from regulating MTRs, regardless of whether a consumer or total surplus test is used; and
  - the Commission has understated the net benefits of regulating MTRs.
153. There are some suggestions that Vodafone and Telecom have made that we agree with. These are summarised in the following table:

**TABLE 9: AREAS OF AGREEMENT**

<b>Telecom (CRA)</b>	<i>Description</i>
FTM pricing in Counterfactual (paragraph 303 of the Telecom submission)	Telecom argue that Counterfactual FTM pricing will be unchanged compared with the existing competitive practices. We agree, as a result, the pass-through rate assumptions should be the same as those observed historically.
Competitive dynamics of corporate customers. (paragraph 292 of the Telecom submission)	For corporate customers Telecom considers that any Factual scenario will result in a significant pass-through in response to the exercise of countervailing power by the corporate customers. We agree.
Consistency of MTR and FTM under Factual 2 (paragraph 44 of the CRA submission)	CRA note that it is appropriate to assume that changes in the Counterfactual (factual) FTM rates are driven by changes in Counterfactual (factual) MTRs. We agree, except that (i) the pass-through in the Factual should be higher than the Counterfactual; and (ii) the pass-through rates (in the Factual) that CRA assume are too low.
Formulaic errors (paragraph 78 of the CRA submission)	We agree with CRA’s “formulaic corrections” for discounting and ensuring the consistent use of demand curves.
<b>Vodafone (Covec)</b>	
Organic demand	We agree that the FTM market should include growth in ‘organic’ demand.

154. That said, we reject the notion that rectifying the shortcomings in the Commission's modelling could result in net detriments arising from regulation of MTRs.
155. The Commission's CBA can therefore be relied on to conclude that regulating MTR will be to the long-term benefit of end-users.