Final report for Vodafone

Assessment of the position of the Commerce Commission of New Zealand in determining MTAS prices

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1 Executive Summary

Analysys Mason has carried out an independent assessment of the draft recommendations of the Commerce Commission of New Zealand (the Commission) with respect to the regulation of mobile termination access services (MTAS) in New Zealand.

The main findings of our assessment are summarised below and described in greater detail in the rest of this report.

- The Commission's benchmark analysis of MTAS costs is simplistic and produces a result that risks being inaccurate. The Commission's international benchmarks for MTAS costs show a very large variance, and are taken from a limited sample of international jurisdictions, without any adjustment for local market and economic conditions. France is included in the Commission's analysis, although the costing methodology used in that market is inconsistent with the methodology recommended by the Commission. Hungary, by contrast, uses a costing methodology that is consistent with the Commission's recommended approach, but is excluded from the analysis. In light of this, we would recommend that the Commission reconsiders its recommendation regarding mobile termination rates (MTRs) in New Zealand. We suggest that the Commission develops a cost model with the objective of calculating the actual cost of providing mobile termination services in New Zealand, or at least revises its benchmarking analysis (for instance, revisiting the list of countries considered and defining the reference MTAS cost using more prudent approaches, such as the 'top of the range' or the '75th percentile' instead of the current selection based on the median).

- As the results of the Commission's benchmarking exercise appear not to be very robust, we recommend that the Commission revises its position regarding the definition of cost-oriented MTRs. We believe it should implement a gradual reduction in MTRs over time, in order to avoid any sudden distortional effects on the market, ultimately to the detriment of both operators and consumers.

- The Commission's recommendation on movements in MTRs over time is based on benchmark information on 'cost-paths' from only two countries (Sweden and Denmark) and does not consider additional information available from three benchmarked countries (Israel, Malaysia and Netherlands). For these three countries, the 'cost-path' results of the models indicate that the MTAS cost remains broadly flat over time. In addition to being based on a small benchmark sample, with limited statistical significance, the Commission's analysis fails to consider that results of cost models are dependent on a large number of country-specific inputs (e.g. traffic evolution and annualisation method) and that they cannot be reliably used to estimate the MTAS 'cost-path' in New Zealand. Therefore, we recommend that the Commission revises its recommendation regarding

movements in MTRs over time, proposing a new trend, possibly supported by the results of a cost model developed for New Zealand.

- The Commission makes incorrect use of the European Commission (EC) target MTR for 2012 when cross-checking the reasonableness of the proposed MTR target for New Zealand. It erroneously puts on the same 'cost-path' the results of existing cost models in benchmark countries and an MTR target for 2012 that is purported to reflect the new EC Recommendation, without taking into account the significant differences between the methodology being recommended by the EC in its new Recommendation and the currently applicable costing standards. Further, we highlight that the EC 2012 target referenced by the Commission in its analysis is not a formal target expressed by the EC in its official Recommendation documentation.

- In its Draft Report, the Commission reiterates its view that "no allowance should be made for the costs of transitioning from 2G to 3G", and includes in its benchmark 2G-only cost models[1]. We do not agree with the Commission's statement, as the Commission should be ready to consider the costs incurred by an operator that transitions efficiently from 2G to 3G. However, we are in agreement with the Commission's conclusion on the appropriateness of benchmarking against 2G-only models as such costs are sufficient to allow the recovery of the actual costs incurred over time by an efficient operator that moves from 2G to 3G. We must stress that it would be incorrect in the future to move on to benchmarking costs against the results of 3G-only models, or even developing a 3G-only model to calculate the termination costs in New Zealand, without due consideration of the under-recovery of costs that would occur when switching instantaneously from 2G-only to 3G-only cost modelling.

[1] With exception of the model developed by Ofcom in the UK, which is a 2G/3G model

2 Introduction

Analysys Mason has been engaged by Vodafone to carry out an independent assessment of the draft recommendations of the Commission of New Zealand (referred to hereafter as the Commission) in its Draft Report[2] with respect to the regulation of mobile termination access services (MTAS) in New Zealand.

Over the last decade, Analysys Mason has been at the forefront of the application of cost models to mobile termination. We have a unique appreciation of the policy, regulatory and practical aspects of planning, developing and applying mobile costing systems, through our numerous studies for both regulators and operators involved in mobile termination cost modelling throughout the world. Since 2000, we have completed more than 60 assignments in the areas of mobile LRIC cost modelling. Among the others, Analysys Mason has developed cost models in seven of the nine jurisdictions[3] included by the Commission in its international benchmarking of mobile termination costs.

This report presents Analysys Mason's view of the main items discussed by the Commission in the above-mentioned report, with a focus on the determination of the factual price for MTAS, as in pages 113-141 of the Commission's Draft Report.

2 *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*, Commerce Commission of New Zealand, 30 June 2009

3 Out of the cost models referred to by the Commission in its benchmarking analysis, Analysys Mason developed those in use in France, Denmark, Israel, the Netherlands, Norway, Sweden and the UK

3 Analysys Mason's assessment of the Commission's position on the determination of the factual price for MTAS

The Commission's benchmark analysis of MTAS costs is simplistic and produces a result that risks being inaccurate: it is based on a limited sample of benchmarked MTAS costs, characterised by a large variance and, without any adjustments to take into account the limited comparability of the countries included in the benchmark. Further, the erroneous exclusion of relevant benchmark data for Hungary and the inclusion of France (with a different costing methodology compared to the one recommended by the Commission) has a significant impact on the result.

1. The Commission has taken benchmarks for MTAS costs from a set of nine international jurisdictions for which cost information, calculated on the basis of a TSLRIC methodology consistent with the one prescribed in New Zealand, is publicly available. It has selected the median value within the benchmark range to be the MTAS cost for New Zealand. We believe that this approach is overly simplistic and risks leading to inaccurate results, as explained in the remainder of this section.

2. The benchmarks for MTAS costs used by the Commission are distributed across a very wide range, between NZD0.0483/min (France) and NZD0.1252/min (UK). This variance alone points to the limited reliability of any conclusion based on such benchmarks.

3. The large variance observed in the benchmarks for MRAS costs is explained by the fact that TSLRIC-calculated MTAS costs are very sensitive to a number of country-specific inputs, including geodemographic, demand and cost model inputs such as:

    - density and distribution of the population
    - network traffic (driven by the demand per subscriber and the number of subscribers, in turn a function of the total number of subscribers in the market and operators' individual market shares)
    - the spectrum bands used
    - equipment prices
    - the investments made in 3G licence acquisition
    - WACC rate considered for the calculation of cost of capital
    - depreciation methodology used for costing purposes.

4. The report *Cost driver sensitivity analyses with mobile cost models* (prepared by WIK for the Commission in December 2008) has presented how the results produced by WIK's model change for three different sets of countries (small, densely populated; medium-sized, densely populated; large, sparsely populated) under different demand and cost model inputs. Figure 1 presents a set of results from WIK's model under different country-specific. As an example,

under WIK's base case scenario, the model produces a cost for MTAS of EUR0.0351/min for a small, densely populated country and EUR0.0418/min for a large, sparsely populated country. In the case of lower traffic demand, as in WIK's Scenario 2, the cost per minute in a large, sparsely populated country would be as high as EUR0.0502/min.

Scenarios	*Small, densely populated country*	*Medium-sized, densely populated country*	*Large, sparsely populated country*
Base case: 35% market share and 10% WACC	0.0351	0.0369	0.0418
Scenario 1: decrease in market share from 35% to 25%	0.0378	0.0382	0.0483
Scenario 2: decrease in demand by 28.5%	0.0388	NA	0.0502
Scenario 6: increase in WACC from 10% to 15%	0.0399	0.0402	0.0461
Scenario 7: increase in facilities and equipment prices by 10%	0.0379	0.0392	0.0448

Figure 1: WIK's cost model results under different input scenarios (EUR) [Source: WIK's report Cost driver sensitivity analyses with mobile cost models*, 22 December 2008]*

5. The results calculated by WIK's model for different types of country and different sets of demand and cost model inputs clearly show how sensitive MTAS costs are to country-specific inputs. In light of this, we highlight how the definition of MTAS costs on the basis of international benchmarking is an extremely complex exercise, which should be conducted on a set of countries that are comparable in terms of:

   - geodemographic characteristics (e.g. population density and distribution)
   - traffic demand (e.g., traffic per user, number of operators and market share)
   - cost model inputs (e.g., spectrum bands used, equipment prices, 3G investments, WACC and depreciation methodology).

6. When the benchmark countries are comparable along these various dimensions we would expect the MTAS cost calculated by means of TSLRIC models to be broadly consistent across the various countries.

7. The large variance in the MTAS costs calculated for the countries included in the Commission's benchmark lead to the conclusion that these countries selected for the benchmarking process are in fact not comparable to each other, or to New Zealand, in terms of the key characteristics mentioned above. Therefore, the related MTAS costs should not be considered as viable benchmarks for estimating MTAS cost in New Zealand.

8. In this respect, we note that the Commission acknowledges that "*comparability is important where conditions or factors that are likely to influence the cost of supplying the service vary*

across jurisdictions", and that "*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*". Given this statement, we would have expected the Commission to place significant emphasis on the assessment of the comparability of the benchmark countries on the basis of cost drivers, or rather on adjusting the benchmarks before selecting the median value as the reference MTAS cost in New Zealand.

9. We believe that, in order to make the output of benchmark models applicable to the New Zealand market, the Commission should have adjusted the models with revised inputs, relevant to its market. However, the Commission did not implement any such adjustment to the benchmark models and related results. In fact, it could only source MTAS cost information from reports of regulators in international jurisdictions and did not have access in most of the cases to the actual cost models.

10. We understand that the Commission uses the median value to eliminate the country-specific bias from the set of benchmark observations. However, we believe that, as a result of the large variance in benchmark values and the limited size of the observation sample, the application of the median is not sufficient to provide a reliable estimate of the MTAS cost in New Zealand. To support this position, we note that:

    - should the MTAS cost, calculated by the Commission as the median in the benchmark range and equal to NZD0.0716/min, be compared with the actual MTAS cost for each of the countries considered in the benchmark, it would lead to very large bias, as shown in Figure 2. Such differences (ranging between -43% and +48%) are indicative of the hypothetical error that this methodology would produce if it were adopted to estimate the MTAS for any of the countries in the benchmark.

Country	*Actual MTAS cost, as in the Commission's benchmark (NZD/min)*	*Difference between the 'median' of benchmarked MTAS costs and actual MTAS cost (NZD/min)*	*Percentage difference between median of benchmarked MTAS costs and actual MTAS cost*
France	0.0483	0.0233	48%
Malaysia	0.0523	0.0193	37%
Australia	0.0654	0.0062	9%
Sweden	0.0696	0.0020	3%
Israel	0.0716	0.0000	0%
Norway	0.0953	-0.0237	-25%
Netherlands	0.1044	-0.0328	-31%
Denmark	0.1177	-0.0461	-39%
UK	0.1252	-0.0536	-43%

Figure 2: Analysis of hypothetical error that would be committed when applying the MTAS benchmark results to each of the countries included in the Commission's benchmark [Source: Analysys Mason, on the basis of data provided by the Commission]

- the result calculated applying the median is very sensitive to the presence of specific observations within the benchmark sample. Should any of the benchmarks be removed from the benchmark (or if different benchmarks countries were used), the median result would change significantly[4].

11. Furthermore, we note that the Commission has not included in its benchmark the information available on the MTAS cost in Hungary, where the regulatory authority, NHH, calculated MTAS costs in 2008 using a bottom-up LRIC model based on the forward-looking current cost standard. NHH calculates MTAS costs of HUF11.86/min[5]. which corresponds to NZD0.1001 considering an exchange rate of 128.42[6]. We note that, should this data point be added to the Commission's benchmark sample, the median of the benchmark data would be equal to NZD0.0835/min, i.e. 17% higher than the value calculated by the Commission (NZD0.0716/min).

12. In addition, we note that the Commission has included in its benchmark the MTAS cost calculated in France, using the cost model developed by Analysys Mason for ARCEP in 2007.

4 For example, if we removed from the benchmark set the data point related to the MTAS cost in Australia (NZD0.0654/min), the 'median' result would be NZD0.08345/min, 17% higher than that calculated by the Commission (NZD0.0716/min)

5 Source: *DH-25712-48/2008 – Market definition, assessment of market power and definition of SMP obligations in Market 7 [piacmeghatározás, a jelentős piaci erővel rendelkező szolgáltatók azonosítása és kötelezettségek előírása (új 7-es piac)]*, NHH, 19 December 2008. Cost information is available in Paragraph 143, page 91, of the document, sourced from http://www.nhh.hu/index.php?id=hir&cid=6592&mid=1139

6 The exchange rate is calculated with a methodology consistent with that employed by the Commission in its MTAS Comments Letter issued on 25 March 2009, i.e. considering the average of weekly exchange rates, over the ten-year period from 15 January 1999 to 14 January 2009, sourced from www.oanda.com

In this regard, we must note that this model is based on the historical cost accounting (HCA) standard[7], and not on current cost accounting (CCA). In contradiction with the principles set by the Commission for the selection of benchmark jurisdictions. In fact, in its letter released to Vodafone on 22 July 2009[8], the Commission states that "*the Commission has excluded benchmarks that rely solely on top-down modelling or historic cost inputs*". Therefore, according to this statement, the Commission should remove France from the set of benchmarking jurisdictions. We note that, should the Commission eliminate France and add Hungary to the benchmarking sample, the median of the MTAS cost benchmarks would be equal to NZD0.0953/min, i.e. 33% higher than the value calculated by the Commission (NZD0.0716/min).

13. While we can understand that the Commission might not have been in a position to conduct an accurate benchmarking analysis, including adjustments on benchmark data on the basis of publicly available information, we are surprised that, in the absence of a such a solid analysis, it could still develop a conclusive position on MTAS costs in New Zealand on the basis of benchmarking only. Furthermore, the Commission has selected the result of the MTAS cost benchmark using the median, rather than more prudent approaches (such as the 'top of the range' or the '75th percentile') taken in previous occasions by the Commission itself and by other regulatory bodies who have regulated wholesale prices using international benchmarking, such as the ACCC in Australia.

14. In conclusion, we believe that the approach taken by the Commission to estimate the MTAS cost for New Zealand is flawed. In fact, the Commission defines the MTAS cost for New Zealand as the median value out of the range of MTAS cost information collected for benchmark countries, without taking into account the fact that (i) the observation sample covered by the benchmark is extremely limited in size (only nine jurisdictions are included in the benchmark), and that (ii) the range of benchmarked MTAS costs presents a very high variance, both of which could lead together to significant inaccuracies in the result of the benchmarking exercise. Furthermore, the Commission does not carry out a robust assessment, as it itself recommends, of the comparability of the countries included in the benchmark, which would involve a comparative analysis of the main cost drivers between New Zealand and the countries included in the benchmark. Finally, the Commission includes in its benchmarking cost results for France, which should have been excluded on the grounds of inconsistency with the Commission's preferred costing methodology, and does not include relevant cost results for Hungary. If the benchmarking analysis included the result from Hungary and excluded that of France, the benchmarking would provide very different results, with a 33% increase in the reference MTAS cost defined for New Zealand. Given the

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7 As stated in the cost model documentation published by ARCEP, "*the model outputs service costs on the basis of historic cost accounting (HCA)*". Source: Analysys Mason, *Bottom-up mobile LRIC model for ARCEP (Releas 2): Model Documentation*, 10 May 2007, available on http://www.arcep.fr/uploads/tx_gspublication/modele-mobile-juin2007.zip

8 The letter's subject reads "Investigation into Mobile Termination Access Service (MTAS): Benchmarking"

uncertainty in the results, we conclude that the Commission's use of the median represents a significant risk.

The Commission recommends the definition of MTRs charges 'at cost', not evaluating any of the factors considered by other regulators to set cost-oriented MTRs.

15. In its Draft Report the Commission presents a benchmarking analysis of the MTAS costs calculated in other jurisdictions, for the purpose of estimating the MTAS cost in New Zealand. As a result of this analysis, the Commission recommends the definition of mobile termination rates (MTRs, i.e. the prices for the MTAS) at the level of benchmarked MTAS cost.

16. Therefore, despite under the initial pricing principle (IPP), *"the price for the MTAS should be "based on benchmarking against cost-based prices"*[9], the Commission is effectively benchmarking MTAS costs and defining MTRs 'at cost'.

17. We believe that the Commission's approach to benchmarking MTAS costs (rather than MTRs), would be generally appropriate as a first step towards estimating the indicative cost of MTAS, to be used as an input for the definition of 'cost-based' MTRs. However, the Commission recommends that MTRs are set at the level of benchmarked costs, without evaluating any of the factors that other regulators have presented in setting cost-based MTRs that are higher than the underlying costs.

18. We note that 'cost-based' (or 'cost-oriented') MTRs should not necessarily be equal to the costs of providing the service, but rather follow the development of the related costs to take into account:

    - the possibility that model results are different from the actual service costs. Therefore, when the degree of confidence in the model results is limited, setting MTRs above the modelled costs would avoid situations where market players are negatively affected by under-recovery of costs.
    - the possibility to allow for a gradual transition of MTRs, from the currently applicable prices to the cost level calculated by means of cost models, in order to avoid market distortions due to the abrupt decrease in prices.

19. With respect to the first of the points above, we note that in both France and Australia, the regulator has developed models to estimate the cost of termination services, but has eventually set MTRs above the cost model results. In fact, as illustrated in Figure 3, in both cases the regulatory authority concluded that the results were insufficiently precise and robust to justify the application of MTRs at the level of modelled costs.

9 *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,* Commerce Commission, 30 June 2009

Regulatory authority	*Position on the definition of MTRs above the underlying MTAS costs*
ARCEP (France)	"In particular, the estimate of cost levels, while dependable, nonetheless uses range relatively wide and over time must be gradually adjusted to take into account a more precise target as the tariffs converge with the reference incremental costs"[10]
ACCC (Australia)	"the ACCC considers that the WIK model provides an estimate of the TSLRIC+ of supplying the MTAS somewhat lower than that achievable in reality".[11]

Figure 3: Arguments presented by regulatory authorities to explain the application of cost-based MTRs that are higher than MTAS costs [Source: Regulators, as indicated in footnotes]

20. We believe that the considerations taken into account by the French and Australian regulatory authorities should be carefully considered by the Commission, in light of the limitations – outlined earlier in this report – of the benchmarking approach. Given the limited reliability of the output of the Commission's benchmarking, the application of MTRs at benchmarked MTAS cost levels would ultimately risk having a negative impact on market players and consumers.

21. Furthermore, we note that regulatory authorities in international jurisdictions have typically applied cost-based MTRs that decline gradually over a number of years to the underlying MTAS cost, by means of so-called 'glide-paths'. Regulators have typically followed this approach in order to avoid sudden, distorting effects on the market. In Figure 4 we list in detail some of the arguments presented by different regulatory authorities for applying MTRs that are above the underlying MTAS costs.

10 *Décision n° 08-1176 de l'Autorité de régulation des communications électroniques et des postes en date du 2 décembre 2008 portant définition de l'encadrement tarifaire des prestations de terminaison d'appel vocal mobile des opérateurs Orange France, SFR et Bouygues Telecom pour la période du 1er juillet 2009 au 31 décembre 2010*, ARCEP 2 December 2008. Quoted text is a translation of the original text in French. As a result of this consideration, ARCEP decided to set a glide-path with MTRs declining in 2010 at levels (EUR0.03-0.04/min, depending on the operator) that are well above the modelled MTAS costs (EUR0.024-0.029/min).

11 *Domestic Mobile Terminating Access Service Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, ACCC, 19 March 2009. As a result of this consideration, ACCC decided to set a price (of AUD0.09/min) that is well above the modelled MTAS cost (AUD0.058/min).

Regulatory authority	*Position on the definition of MTRs (as opposed to the underlying MTAS costs)*
IRG (EU)	*"An immediate implementation of charge control that sets charges at the competitive level could cause disproportionate problems for mobile operators. In such cases NRAs may apply a price cap system or a glide path to achieve a competitive level over a reasonable period of years"*[12]
Ofcom (UK)	*"In broad terms, the path of reductions in charges should give due consideration to balancing two objectives:* *• reductions should be achieved sufficiently quickly in order to deliver substantial benefits to consumers, including benefits to be derived by addressing possible competitive distortions; and* *• reductions should allow sufficient time for operators and customers to adjust to new levels and structures of mobile charges and take these changes into account in their business plans and planned capital expenditure"* *[…]* *Ofcom recognises that a balance must be achieved between serving the short term welfare of consumers (through lower prices and hence immediate reductions of prices to a level consistent with the underlying costs), and conversely the need for efficient investment incentives for existing and prospective network operators and service providers by allowing a sufficient period of time for operators and customers to adjust to new levels and structures of mobile charges (which benefit consumers in the longer term)"*[13]
ARCEP (France)	*"Even though the Authority estimates that it would be consistent to consider a regulation of mobile termination rates based on incremental costs, it considers that it would not be realistic to set immediately the tariff ceilings at the levels corresponding to this new target of costs reference, as the gap between the target and the current levels is too wide. Therefore an adapted transitory period of several years seem necessary to allow the operators to adapt their offers to the new concept and to learn progressively how to adapt to preferences of consumers in this new context"*[14].
OPTA (Netherlands)	*"OPTA carries out a welfare analysis because - according to the TAC (Dutch Trade Appeals Council) - in the previous decision […] the advantages of tariff regulation for fixed providers and fixed end users were not compared to the other related interests in a recognisable way, including the possible disadvantages of tariff regulation for fixed providers and fixed end users and the benefits and disadvantages for mobile providers and mobile end users. OPTA bases its welfare analysis on the assumption that a decrease of mobile termination rates (MTRs) of 1 € cent could lead to an increase in retail rates of 0,25 – 0,75 € cent ("waterbed effect"). OPTA finds that due to this waterbed effect, overall welfare (i.e. the sum of fixed and mobile producer surplus and fixed and mobile consumer surplus) does not suffer significantly if MTRs are not reduced to the BULRIC level (5,6 €cent for the GSM 900 operators), but instead capped at a slightly higher level to which the M(V)NOs agreed in a covenant signed on 11 May 2007. The covenant foresees a reduction of MTRs according to the glidepath indicated below. OPTA is of the opinion that the welfare analysis justifies the imposition of maximum MTRs at the level agreed by the M(V)NOs"*[15]

12 Independent Regulators Group, Principles of Implementation and Best Practice on the application of remedies in the Mobile Voice termination market, 2004

13 *Call Termination Statement*, Ofcom, 27 March 2007

14 *Décision n° 08-1176 de l'Autorité de régulation des communications électroniques et des postes en date du 2 décembre 2008 portant définition de l'encadrement tarifaire des prestations de terminaison d'appel vocal mobile des opérateurs Orange France, SFR et Bouygues Telecom pour la période du 1er juillet 2009 au 31 décembre 2010*, ARCEP, 2 December 2008. Quoted text is a translation of the original text in French

15 *Case NL/2007/0634 – Call termination on individual mobile networks in the Netherlands – Comments pursuant to Article 7(3) of the framework Directive*, EC, 27 June 2007

CMT (Spain)	*"The Commission considers that, in line with the methodology currently used to regulate mobile termination rates, it is appropriate the definition of a new glide path. The regulation of termination rates by means of a glide-path is justified when the immediate application of the cost control at competitive levels could cause disproportionate problems to mobile operators. This is a tool that allows regulators to control the impact of reduced termination rates taking into account the foreseen evolution of the costs and ensuring that in any case the principle of cost orientation is achieved along the period of regulation"*[16]
NHH (Hungary)	*"Considering the large difference between the cost-based target rate and the currently applied mobile termination rates, NHH is of the view that an immediate implementation of cost-based termination rates could cause significant difficulties to the operators' businesses and therefore proposes to set the following glide path in order to reach the calculated target rate by 1 December 2010"*[17]
ACCC (Australia)	*"Whilst the Commission believes that a closer association of the price of mobile termination services and its underlying TSLRIC+ of production would generate a number of benefits in terms of promoting the LTIE, a sudden decrease could also cause substantial adjustment costs. In particular, any move substantially to reduce the price of MTASs could generate significant disruption to the pricing and business strategies of MNOs. This, in turn, would impinge upon the legitimate business interests of access providers who have, to date, based their business plans around existing pricing structures"*[18]

Figure 4: Arguments developed by regulatory authorities to propose the implementation of a glide-path for defining cost-based MTRs [Source: Regulators, as indicated in footnotes]

22. In conclusion, considering the approach taken by regulatory authorities in other jurisdictions when calculating cost-based MTRs, we recommend that the Commission evaluates the opportunity to define MTRs above the level of the reference MTAS cost estimated by means of benchmarking, and reduces MTRs in a gradual manner by adopting a 'glide-path'. As the results of the Commission's benchmarking exercise appear not to be very robust, the application of MTRs at (assumed) cost would risk having a very significant impact on operators in terms under-recovery of their actual costs. The implementation of an immediate and marked reduction in MTRs risks causing a distortional effect on the market, ultimately to the detriment of both operators and consumers.

16 *Resolución del Consejo de la CMT de 18/12/2008 por la que se aprueba la definición y el análisis de los mercados de terminación de llamadas vocales en redes móviles individuales, la designación de operadores con poder significativo de mercado y la imposición de obligaciones específicas, y se acuerda su notificación a la Comisión Europea (MTZ 2008/1193)*, CMT, 18 December 2008. Quoted text is a translation of the original text in Spanish

17 *Case HU/2008/0829: Wholesale voice call termination on individual mobile networks in Hungary – Comments pursuant to Article 7(3) of the framework Directive*, EC, 27 June 2007

18 *Mobile Services Review, Mobile Terminating Access Services – Final Decision on whether or not the Commission should extend, vary or revoke its existing declaration of the mobile terminating access service*, ACCC, 30 June 2004

The Commission's recommendation on movements in MTRs over time is based on limited benchmark information, with little statistical significance.

23. Starting from the recommended MTR for 2009 (NZD0.072/min), the Commission proposes in its Draft Report that MTRs fall at an annual decline of 10% over the period to 2015 to NZD0.038/min. The Commission supports this recommendation with benchmark information on the 'cost paths' calculated in Sweden[19] (for the period 2009-13) and Denmark[20] (for the period 2008-09), which suggest a annual reduction in MTAS costs of 10% and 13% respectively.

24. In this regard, we note that the Commission's recommendation appears to be founded on weak foundations. In fact, we believe that the use of benchmark information on 'cost paths' sourced from only two countries has little value from a statistical standpoint.

25. We note that the Commission has not taken into account some 'cost path' information available for the countries included in its benchmark, notably for Israel, Malaysia and the Netherlands. In fact, for both these countries, the MTAS costs are available for a period spanning more than one year. In particular:

- the model developed in 2004 by Analysys Mason for the Israeli Ministry of Communication calculated that MTAS costs[21] would decline from ILS0.135/min in 2005 to ILS0.127/min in 2009, as shown in Figure 5. This corresponds to a compound annual growth rate (CAGR) of -1.5% over 2005-09.

Item	*2005*	*2006*	*2007*	*2008*	*2009*
MTAS cost	0.147	0.144	0.142	0.141	0.139
Externality charge	0.012	0.012	0.012	0.012	0.012
MTAS cost *minus* externality charge	0.135	0.132	0.130	0.129	0.127

Figure 5: Movements of MTAS costs (ILS/min) calculated in Israel over the period 2005-09 [Source: Analysys Mason's report for the Israel Ministry of Communications, Response to issues raised concerning the Analysys cost model*, 15 December 2004]*

- the model developed in 2005 by NERA for the MCMC in Malaysia calculated that MTAS costs[22] would rise from MYR0.0846/min in 2006 to MYR0.0877/min in 2008 and then

19 For Sweden, the cost-path is available over the period 2009-13 for both upper bound and lower bound of MTAS costs. The Commission has calculated the cost-path for the mid-point of MTAS costs (i.e. the average of upper bound and lower bound), which implies a compound annual growth rate (CAGR) of -10% over the period 2009-13

20 For Denmark, the Commission has sourced cost-path information for the period 2008-09, with a yearly change of -13%.

21 Costs are calculated excluding the externality charge, consistent with the approach taken by the Commission in its benchmark

22 Costs are calculated considering the average of local MTAS and national MTAS, consistent with the approach taken by the Commission in its benchmark

remain flat until June 2010[23], as shown in Figure 6. This corresponds to a CAGR of +1% over 2006-2010.

Item	*2006*	*2007*	*1 January 2008 to 30 June 2010*
Local MTAS cost	0.0805	0.0818	0.0836[23]
National MTAS cost	0.0886	0.0900	0.0917[23]
Average MTAS cost	0.0846	0.0859	0.0877

Figure 6: Movements of MTAS costs (MYR/min) calculated in Malaysia over the period 2006-10 [Source: MCMC, Variation to Commission determination on the Mandatory Standard on Access Pricing (Determination No.1 of 2006) – Determination No. 1 of 2008*, 30 December 2008]*

- the model developed in 2006 by Analysys Mason for OPTA in the Netherlands calculated that MTAS costs[24] would decrease in real terms (using 2004 prices as a reference), from EUR0.0549/min in 2004 to EUR0.0496/min in 2008 and EUR0.0482/min in 2012, with an overall CAGR over the period from 2004 to 2012 of -1.6%. However, after adjusting these costs, calculated in real terms, with an inflation rate of 1.4% per annum[25] the MTAS cost would actually increase over time, from EUR0.0549/min in 2004 to EUR0.0525/min in 2008 and EUR0.0532/min in 2012, with an overall CAGR of -0.2%.

23 We note that we have revised the MTAS cost sourced by the Commission in its Draft Report and earlier Comments Letter, where it referred to MTAS costs of MYR0.0823/min and MYR0.09.13/min respectively for local and national calls. In fact, we have found that, after the original indication of MTAS costs in the *"Access Pricing"* consultation (whose document, dated 30 November 2005, the Commission uses as a source), the MCMC has revised its calculation of MTAS costs, equal to the value in the table above, sourced from MCMC's *"Commission determination on the Mandatory Standard on Access Pricing (Determination No.1 of 2006)"*, published on 10 February 2006, and the subsequent variation document, *"Variation to Commission determination on the Mandatory Standard on Access Pricing (Determination No.1 of 2006) – Determination No. 1 of 2008"*, published on 30 December 2008, which extended the validity of the MTAS costs calculated for 2008 until June 2010.

24 Costs are calculated considering the average of local MTAS and national MTAS, consistent with the approach taken by the Commission in its benchmark

25 1.4% inflation per annum is consistent with actual and forecast data sourced from EIU for the period 2004-12. For sake of simplicity, we have applied in Figure 7 a flat rate over the period

Item	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*
MTAS cost (real terms, 2004)	0.0549	0.0536	0.0510	0.0500	0.0496	0.0493	0.0489	0.0485	0.0482
MTAS cost (nominal terms, 1.4% inflation p.a.)	0.0549	0.0544	0.0525	0.0522	0.0525	0.0528	0.0531	0.0535	0.0539

Figure 7: Movements of MTAS costs (EUR/min) calculated in the Netherlands over the period 2004-12 [Source: Analysys Mason's cost model for OPTA[26], 15 May 2007]

26. We believe that, in the event the Commission considered the whole set of information available on cost-paths in benchmark countries (including Israel, Malaysia and the Netherlands, in addition to Sweden and Denmark), it would not have been in a position to recommend a reduction in MTRs of 10% per annum.

27. We note that it is not possible to use the results of cost models developed in benchmark countries in a straight-forward manner in order to establish a robust cost-path for MTAS costs for New Zealand. As discussed above, the evolution of cost model results are dependent on a large number of inputs that are largely country-specific, including for example the evolution of traffic over time and the depreciation methodology considered to calculate annualised costs. These demand and modelling inputs are not necessarily applicable to New Zealand. Therefore, the model results in terms of cost-paths could not be applied to the New Zealand situation.

28. The fact that the trends calculated on the basis of cost-paths calculated by models in Sweden, Denmark, Israel, the Netherlands and Malaysia are very different from each other[27] is itself a proof of the fact that the benchmark countries are not directly comparable to each other, and therefore not comparable to new Zealand as a whole, in terms of the underlying cost drivers, as already noted earlier in this report.

29. As a further example of the limited comparability of benchmarks with the New Zealand market, we note that the models developed in Sweden and Denmark – i.e. the two countries considered by the Commission as benchmarks of cost movements – are both based on economic depreciation, while the depreciation methodology prescribed by the Commission is, according to its TSRLIC principles paper[28], 'tilted annuity depreciation' (which, although an approximation of the economic depreciation methodology would ultimately produce different results).

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26 The cost model is publicly available on OPTA's website, in the form of a Microsoft Excel file named "06 annex d4 ontwerpbesluit mta - bulric model.xls". The MTAS cost results (in real 2004 terms) illustrated in Figure 7 are extracted from worksheet 'Results', when running the model under the 'Hypothetical operator 900+1800' scenario, to be set in worksheet 'NwDes_Para'.

27 For example, the Swedish model outputs costs decreasing over time with a CAGR of -10%, while the Malaysian model calculates costs to increase with a CAGR of +1%

28 Commerce Commission, *Implementation of TSLRIC Pricing Methodology for Access Determinations under the Telecommunications Act 2001 – Principles Paper*, 20 February 2004

30. In conclusion, we believe that the Commission's recommendation on cost-paths is dubious. It is based on benchmarks from only two countries (Sweden and Denmark), and therefore has very limited statistical significance. The Commission analysis selectively omits in its benchmark analysis three countries (Israel, Malaysia and the Netherlands), for which the cost-path results of cost models indicate that MTAS cost remain broadly flat over time. The Commission does not carry out a comparability analysis between New Zealand and the benchmark countries, and fails to consider that results of cost models are dependent on a large number of country-specific inputs (e.g. traffic evolution and annualisation method) and that they cannot be reliably used to estimate the MTAS cost-path in New Zealand.

The Commission's makes incorrect use of the EC target MTR for 2012 when cross-checking the reasonableness of the proposed MTR target for New Zealand.

31. In its Draft Report, the Commission carries out a cross-check on its proposed MTRs by comparing the MTR target for New Zealand in 2012 with the EC target for the same year. According to the Commission, the 2012 target MTR for New Zealand, of NZD0.052/min, is comparable to the EC's recommendation that average MTRs in Europe should be reduced to EUR0.025/min by 2012, i.e. around NZD0.0495/min, after applying a 10% mark-up to allow for a contribution to common costs. On the basis of this calculation, the Commission concludes that "the EC cost-based target for 2012 supports the Commission's benchmarking".

32. As a first comment to the approach taken by the Commission to cross-check the validity of its proposed MTR target for 2012, we note that we have not been able to identify the source referenced by the Commission for the EC MTR target of EUR0.025/min[29]. While we are aware that the EC has indicated in a press release its expectation that MTRs will decline considerably under the new Recommendation, and has (illustratively) indicated a range within which the MTRs are expected to lie in 2012, we note that the EC has not taken in its Recommendation a formal view on the target MTR for 2012. As a result of this, we believe that the use by the Commission in its cross-check analysis of EUR0.025/min as a benchmark target MTR in 2012 is not appropriate.

33. The approach taken by the Commission to validate the proposed cost-path is inappropriate, as it does not take into account that there are significant differences between the methodologies employed for calculating the starting points on the basis of benchmarking[30] and the new methodology being recommended by the EC in its new Recommendation[31]

34. The fundamental difference between the current EC methodology and the one recommended by the EC for future use lies in the definition of the 'increment'. In fact, under the new EC Recommendation, the 'increment' is defined narrowly in a manner that is different from the current *de-facto* practice in EU member states.

35. According to the new EC Recommendation, "the incremental costs of call termination are only those costs that can be avoided if the call termination service were no longer provided (avoidable costs)". The EC describes further what it means by 'avoidable costs' and how to identify the termination increment:

29 On page 127 of its Draft Report, the Commission indicates the MTR target of EUR0.025/min is sourced from the *Staff Working Document* issued by the EC on 7 May 2009

30 In fact, the MTAS costs considered by the Commission when recommending MTAS costs include results of cost models developed in six EU/EEA countries, built on the basis of the current prevailing methodology

31 *Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU*, EC, 7 May 2009

- "the avoidable costs of the wholesale call termination increment may be calculated by identifying the total long-run cost of an operator providing its full range of services and then identifying the long-run costs of this same operator in the absence of the wholesale call termination service being provided to third parties. This may then be subtracted from the total long-run costs of the business to derive the defined increment".

- "an appropriate way of accurately identifying only those residual costs which may be attributed to the wholesale call termination service may be to first allocate costs to services other than wholesale voice call termination, with only the residual being allocated to the wholesale call termination increment".

36. The latter specification of the EC of the approach to identifying incremental costs in call termination is meant to ensure that the termination costs are calculated 'at the margin' – as the last service in the stack. This minimises the incremental cost of termination because this marginal service benefits from all of the economies of scale and scope generated in reaching the total scale of the business.

37. This approach deviates significantly from the one used for mobile network costing throughout the EU, where a number of homogeneous services are grouped together and the volume of the increment is larger, and might even accommodate the entire service volume of the network. Under the latter approach, economies of scale gained in reaching the total volume and other shared costs are subsumed into the incremental cost of the group of services.

38. In light of the above considerations, it is clear that the termination costs calculated according to the new EC Recommendation will be lower than those currently calculated according to the applicable costing standards in EU/EEA member states (including the ones used by the Commission in its benchmarking).

39. In conclusion, we believe that the Commission's attempt to validate its proposed MTRs in New Zealand is methodologically incorrect. It erroneously puts on the same level the results of existing cost models in benchmark countries and an MTR target for 2012 that is purported to reflect the new EC Recommendation, using a LRIC costing approach that is significantly different from the currently applicable costing standards.

While the Commission's approach to compare the cost outputs of 2G-only models is appropriate, it would be incorrect in the future to set prices on the basis of 3G-only modelled costs.

40. In its Draft Report, the Commission reiterates its view that "no allowance should be made for the costs of transitioning from 2G to 3G", and includes in its benchmark 2G-only cost models[32].

41. The Commission believes 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".

42. We do not agree with the Commission's statements that "no allowance should be made for the costs of transitioning from 2G to 3G" and that "voice and SMS services should not be used to subsidise such a move". The Commission and WIK have acknowledged that 3G is a more efficient technology that not only enables the delivery of data services, but also reduces in the long term the cost of standard voice and SMS services. As such, it would be inappropriate to penalise operators that invest in 3G. Given that the objective of regulation is to allow the recovery of the costs incurred by an efficient operator, the Commission should be ready to consider the costs incurred by an operator that transitions efficiently from 2G to 3G.

43. An efficient operator would face, when transitioning from 2G to 3G costs, blended costs that are higher than the costs calculated considering a 2G-only model, as illustrated in Figure 8(b).

32 With exception of the model developed by Ofcom in the UK, which is a 2G/3G model

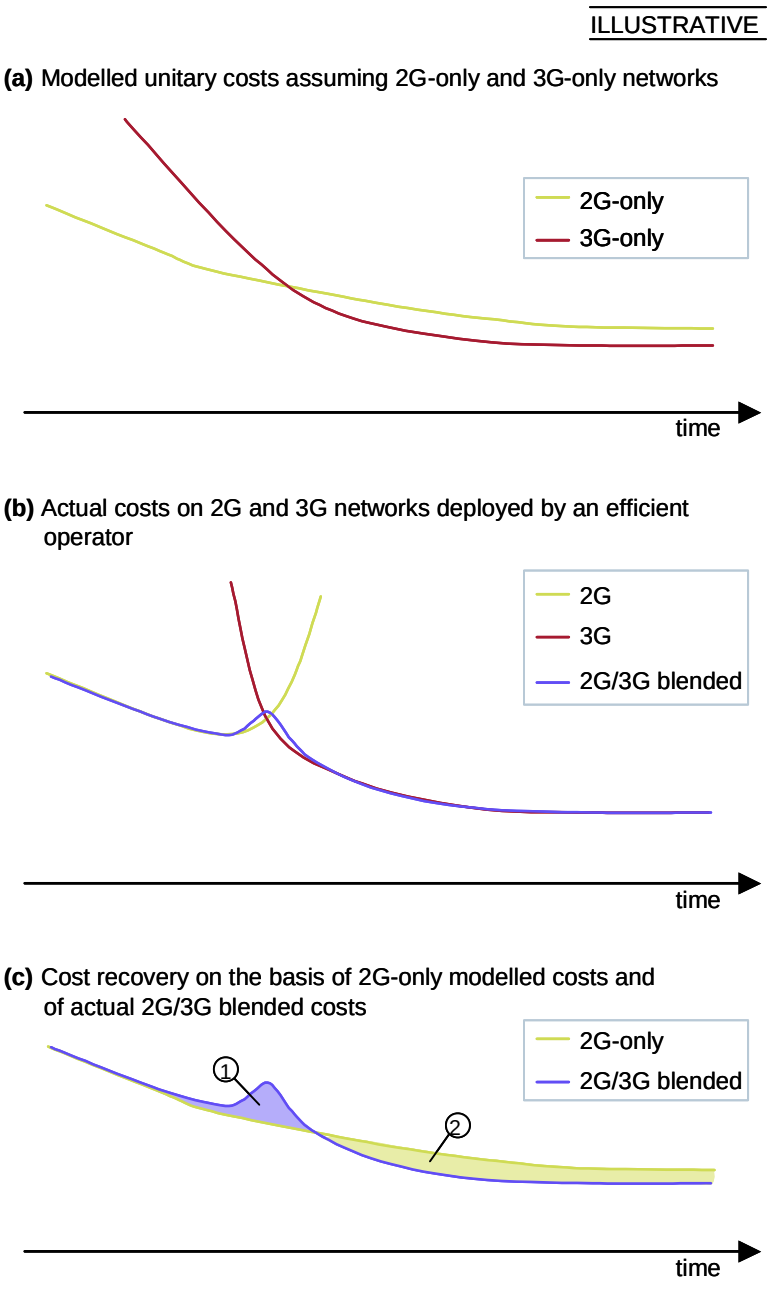

Figure 8: Illustrative representation of: (a) unitary costs modelled on the basis of 2G-only and 3G-only networks; (b) actual costs on 2G and 3G networks deployed by an efficient operator; (c) profile of cost recovery on the basis of MTRs equal to 2G-only modelled costs and on the basis of actual 2G/3G blended costs of an efficient operator [Source: Analysys Mason]

44. We are in agreement with the Commission's conclusion on the appropriateness of benchmarking against 2G-only models as (in line with the Commission's quote from Analysys Mason's report for OPTA in the Netherlands) "modelling 2G only, operators retain the benefits of migration because the long-run cost of 3G termination is below that of 2G termination". In fact, as shown in Figure 8(c), as a result of the lower 3G costs in the long run, the definition of MTRs on the basis of 2G-only modelled costs is sufficient to allow the recovery of the actual costs incurred over time by an efficient operator that transitions from 2G to 3G. This is illustratively represented in Figure 8(c), where the area ② is larger than the area ①.

45. Nonetheless we note a significant flaw in one of the arguments brought forward by the Commission to support its approach, based the following conclusion of WIK: "3G technology offers greater scope for services and lower cost 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"

46. In fact, whilst we fundamentally agree with WIK on the fact that 3G technology offers greater scope for services and lower cost of existing services, as illustrated in Figure 8(a), we believe its proposed approach, according to which 2G technology should be used to estimate costs until such time as a pure 3G operator is present, is inappropriate as it would lead to significant distortions in the calculation of costs and would not provide an adequate recovery of the investments incurred by operators in 2G and 3G networks.

47. According to the approach proposed by WIK, the costs would be estimated over time by switching instantaneously (from one year to the next) the cost modelling scenario from 2G-only to 3G-only as soon as a pure 3G operator is present. We believe that, following this methodology, the costs calculated by the 2G-only model would not be fully recovered when the transition from 2G-only to 3G-only modelling occurs.

48. In fact, the modelling of costs under a 2G-only scenario calculates the unitary cost in a way that ensures the full recovery of costs over a given period in net present value (NPV) terms. Therefore, the above approach would cause a truncation in the recovery of 2G network costs originally calculated over the period, whilst the costs calculated by the 2G-only model over a shorter period would have been higher, as illustrated in Figure 9.

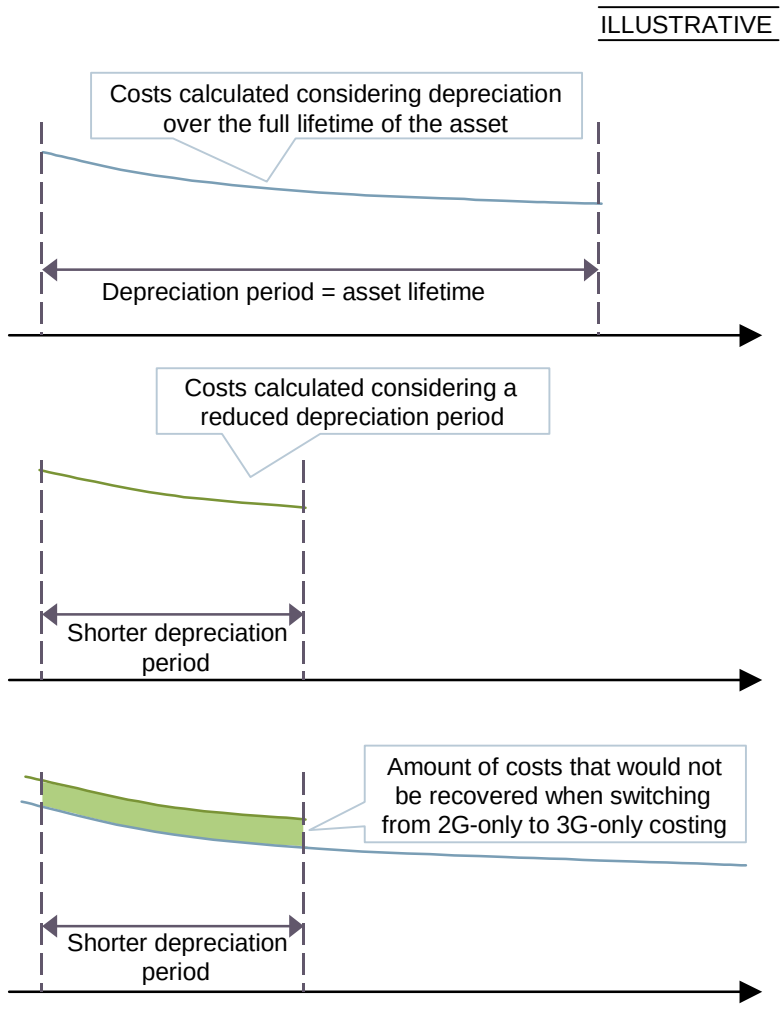

Figure 9: Illustrative representation of the cost profile over time for different depreciation period with the tilted annuity depreciation method, and illustration of the non-recovery of costs when switching from 2G-only to 3G-only cost modelling [Source: Analysys Mason]

49. This consideration holds if we consider both the economic depreciation methodology (used in many of the countries included in the Commission's benchmark) and the tilted annuity depreciation method (prescribed in New Zealand). Under both depreciation methodologies, the unitary cost for the service is calculated to guarantee the total recovery of costs, considering the whole output of the assets over a given period of time. This period is equal to the lifetime of the asset in the case of the tilted annuity method and to the modelling horizon (typically 50 years) in the case of economic depreciation.

50. In conclusion, we acknowledge the validity of the Commission's methodology in benchmarking termination costs on the basis of the results of 2G-only cost models, but believe that it would be incorrect in the future to move on to benchmarking costs against the results of 3G-only models, or even developing a 3G-only model to calculate the termination costs in New Zealand, without due consideration of the under-recovery of costs in the 2G-only scenario.