

New Zealand mobile costs and prices - a
critique of issues raised in the Vodafone
submission on MTRs

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0 Executive summary

We have reviewed a number of issues raised by Vodafone in its recent submission¹ to the Commerce Commission on Mobile Termination Rates (MTRs). In particular, we considered Vodafone's issues regarding the OECD and MED retail mobile service price benchmarking, and mobile network costs and drivers. Our key conclusions are as follows:

- Vodafone's criticism of the OECD methodology is unjustified. In particular, the OECD methodology:
 - appropriately uses publicly available pricing whereas the Vodafone pricing is customer-specific
 - rightly focuses on a basket of goods comprising the standardised primary means of communication – namely voice calls and SMS messages
- the New Zealand mobile market appears to be less competitive than comparable countries in the OECD. This is supported by the fact that New Zealand has the second most expensive retail mobile prices in the OECD.
- Vodafone argues that there is good reason to expect that the cost of providing mobile services in New Zealand is relatively high and this results in relatively high retail prices. Vodafone does not provide any empirical evidence to support its proposition, despite Vodafone being the largest mobile operator in the world and therefore having internal access to relevant cost data. A comparison with the most comparable OECD countries does not appear to bear out Vodafone's view.
- Norway is the most comparable OECD country to New Zealand on the basis of geography and population but despite the similarity of Norway and New Zealand the former has significantly lower retail prices and MTRs than New Zealand.

1 Introduction

In this paper Network Strategies has considered issues raised by Vodafone regarding:

¹ Vodafone (2004). Submission to The Commerce Commission. Schedule 3 investigation into Regulation of Mobile Termination. Draft report. 30 November 2004. Public Version.

- the OECD and MED retail mobile service price benchmarking
- mobile network costs and drivers.

Vodafone's concerns were raised in its recent submission to the Commerce Commission on the Commission's Draft Report on mobile termination².

Although this paper was commissioned by TelstraClear the views expressed here are entirely those of Network Strategies.

Following this introduction, sections 2 and 3 address Vodafone's issues with the OECD and MED mobile retail price benchmarking respectively, section 4 discusses mobile network costs and drivers, and, finally, section 5 contains concluding remarks.

2 The OECD retail mobile service price benchmarking

Choice of lowest priced plan

Vodafone questions the validity of the OECD benchmarking methodology of choosing the cheapest of the publicly available plans from each country. Vodafone argues that most of its 'business customers have arrangements designed specifically for them that are not based around a plan, and are cheaper than the best deal the customer could get from any plan'³.

Network Strategies believes that the OECD's approach of choosing the lowest published price plan to be a valid one on the basis that most retail consumers are price sensitive and will attempt to find the lowest priced plan. The OECD methodology does not specify whether residential and business services should be compared on an equal basis or whether they should be compared separately. The relatively low call volumes⁴ would suggest that

² Commerce Commission (2004). *Schedule 3 investigation into regulation of mobile termination. Draft report*. 18 October 2004.

³ See Vodafone (2004) Submission to The Commerce Commission. Schedule 3 investigation into Regulation of Mobile Termination. Draft report. 30 November 2004. Public Version, paragraph 122.

⁴ 25, 75 and 150 originated calls per month for low, medium and high usage respectively. Call durations vary by type of call and usage level.

the OECD's focus is on residential services. The inclusion of results for business plans in a recent report by the European Commission⁵ (EC) indicates that the EC compares residential and business services on an equal basis.

Vodafone's assertion that its custom plans for business users are priced at a lower level than its published retail prices for the OECD basket is irrelevant for the following reasons:

- the OECD results are based on publicly available retail prices whereas the Vodafone custom plans are not
- Vodafone's custom business plans will be priced according to a number of company-specific factors and are therefore not available to all consumers on an equal basis
- the majority of MNOs in the OECD are likely to also produce custom plans for business users on request and these plans may also be priced at a lower level than their published rates.

Inclusion of talkZoneZero

Vodafone states⁶ that the OECD model cannot include talkZoneZero which allows business customers to pay a fixed monthly fee for all calls within a business. We note that talkZoneZero is recommended for businesses originating less than 1500 call minutes per month. There are also plans for users originating over 1500 minutes per month but these users are recommended to contact Vodafone who will 'tailor a mobile solution to your business needs'⁷. talkZoneZero is priced as follows:

- free calls to Vodafone mobiles within a Team – people within the business with the same account number

⁵ European Commission (2004). *European Electronic Communications Regulation and Markets 2004 (10th Report)*, Volume II. 2 December 2004.

⁶ See paragraph 123, Vodafone submission.

⁷ Vodafone website. http://www.vodafone.co.nz/pricing_plans/bp_talkzone.jsp?item=business&subitem=talkzone

- a per-minute charge to one frequently called number (FCNs). The FCN must be a landline number or an 021 or 029 mobile
- a per-minute charge for national calls to non-Team and non-FCN numbers
- per-minute international call charges.

The OECD methodology distributes calls over the following call types:

- calls to local fixed numbers;
- calls to national fixed numbers;
- calls to on-net mobiles; and
- calls to off-net mobiles.

Network Strategies believes that Vodafone could include the talkZoneZero service through modification of the OECD methodology to create distributions for Team and FCN calls within local and national fixed and on-net mobile calls. However, due to the business-orientation of the talkZoneZero service described above it is likely to have a very different time of day traffic distribution to most residential services.

Network Strategies believes that:

- the number of talkZoneZero users is likely to be low compared with Vodafone's other business and residential subscribers
- overseas MNOs may offer similar services on request.

Data and content services

Vodafone states⁸ that the OECD methodology includes only voice calls and SMS messages and ignores value-added services such as Voicemail, PXT, whoCalled and Vodafone Live!. We note that the OECD methodology does not specify why only voice calls and SMS messages are included. The methodology was developed in 2002, at which time the take-up of data and content services was relatively low.

⁸ See paragraph 124, Vodafone submission.

Network Strategies believes that the inclusion of value added services in the basket:

- would be complicated by the incomparability of services
- would have little impact on overall benchmarking results owing to the predominance of voice calls and SMS messages within the average monthly bill
- may not improve the rank of New Zealand due to the fact that many OECD countries have well developed markets for value added mobile services.

3 The MED comparisons

Vodafone is concerned⁹ with the MED's sole use of PPP exchange rates in comparisons, claiming that it is normal to use a number of different exchange rate methodologies.

In our 2002 report *Currency conversion for telecommunications benchmarking*¹⁰, we undertook a comprehensive review of telecommunications benchmarking studies conducted by regulatory authorities. This showed that the use of PPP is standard practice across the world. Only two studies from twenty did not use PPP rates as the method of currency conversion. We did not find that it was normal practice to use other exchange rate methodologies.

Vodafone has suggested¹¹ that the MED develop a 'more reliable and relevant' benchmarking approach. Network Strategies understands that the MED's benchmarking¹² results are based on Teligen's implementation of the OECD's methodology. In our view, any retail price benchmarking study should focus on a basket of goods comprising the standardised primary means of communication – namely, voice calls and SMS messages. We do not agree with Vodafone's suggestion for the reasons provided in the 'Data and content services' section above.

⁹ See paragraph 124, Vodafone submission.

¹⁰ Network Strategies (2002), *Currency conversion for telecommunications benchmarking*, report no. 22015, 5 June 2002.

¹¹ See paragraph 125, Vodafone submission.

¹² MED (2004). *Benchmarking the comparative performance of New Zealand's telecommunications regime*. 30 June 2004. Available at <http://www.med.govt.nz>.

4 Mobile network costs and drivers

Costs of serving small markets

Vodafone argues¹³ that the high retail mobile prices in New Zealand, compared to other OECD countries, cannot be used as evidence of a domestic market that is not competitive. The argument is based on the proposition that the costs associated with serving a small market such as New Zealand are likely to be higher than the costs of equivalent services in other countries. Furthermore, Vodafone claims that high returns are not made on MTRs because of New Zealand's competitive retail mobile market. The Commission has not formed a definitive view on whether or not competition in retail mobile services is limited, but it has not been convinced there is enough competition to ensure profits from mobile termination are dispersed through the retail services.

We note that Vodafone has provided no empirical evidence to support the proposition that the New Zealand market is very costly to serve, thus resulting in high retail rates. Given Vodafone's position as the largest mobile operator in the world we would assume that Vodafone New Zealand would have internal access to the information required to test this proposition.

Impact of population distribution on cost

Vodafone states¹⁴ that it is the distribution of population rather than the average population density that drives cost differences. Network Strategies believes that while this is true, these are not the only factors affecting cost differences. Key drivers of cost differences between mobile networks in different countries are likely to be:

- population density and its distribution – the density of the population served by the network, how concentrated or sparse the distribution is, and the homogeneity of the

¹³ See paragraph 126, Vodafone submission.

¹⁴ See paragraph 128, Vodafone submission.

population all affect mobile network costs. Costs per unit of traffic (e.g. Erlang, call or minute) are lowest for a large densely populated area where the network is deployed to meet traffic needs, and is therefore highly utilised. Conversely, costs are highest where traffic is lowest. This is generally the case along transport routes (roads) in rural areas where the network is deployed to meet coverage and therefore has very low utilisations.

- population size – larger populations mean the operator can reach greater economies of scale
- geography – in general, cities and towns in New Zealand are in locations no more hilly or rugged than those in other countries. However:
 - transport routes between cities and towns are often a lot more rugged than in other countries, from rolling hill country to extremely mountainous. To provide coverage along such routes may be expensive
 - a number of towns and cities, such as Wellington and Dunedin, are in hilly areas that are difficult and expensive to cover.

Cost drivers in New Zealand

Vodafone identifies a number of factors¹⁵ that drive unit costs of mobile services and uses these to explain why costs in New Zealand may be higher. Vodafone argues that Australia's larger population may lead to greater economies of scale and lower unit costs. Unit costs are also proportional to population density - it should be noted that New Zealand's average population density is five times greater than Australia's.

Network Strategies agrees with the majority of factors identified by Vodafone and has studied the 30 OECD countries to identify those with similar factors to New Zealand. Network Strategies considers Norway, Denmark and Ireland to be most geographically and demographically comparable to New Zealand. Of the three, Norway's geography is closest to New Zealand, whereas Denmark and Ireland are not as mountainous. Exhibit 1 evaluates a number of key cost drivers between these three countries and New Zealand, and also considers the evidence of competition in the respective mobile markets.

¹⁵ See paragraphs 129 to 125, Vodafone submission.

<i>Cost factors/evidence of competition</i>	<i>New Zealand</i>	<i>Norway</i>	<i>Denmark</i>	<i>Ireland</i>
Land area (km ²)	267 990	306 830	42 430	68 890
Population	4 009 000	4 560 000	5 387 000	3 947 000
Population density ¹	15	15	127	57
Urbanisation ²	86	79	85	60
Number of mobile networks	2	2	4	3
Mobile penetration ³	62	84	83	76
GDP/capita (NZD-PPP)	32 772	52 661	43 474	48 011
Annual mobile spend as a percentage of GDP/capita (2002)				
Low user (300 calls per year)	1.15%	0.58%	0.38%	0.56%
Medium user (900 calls per year)	3.76%	1.53%	1.46%	1.95%
High user (1800 calls per year)	6.56%	2.42%	2.30%	3.37%
OECD price rank (2002/2004)				
Low user (300 calls per year)	20/28	11/7	1/1	8/5
Medium user (900 calls per year)	27/29	15/6	4/1	19/12
High user (1800 calls per year)	27/29	14/4	3/1	19/16
1	Number of people per km ² .			
2	Number of urban residents per 100 people.			
3	Number of mobile customers per 100 people (2002 data).			

Exhibit 1: Comparison of mobile cost factors and domestic competition of sample countries (2003 data unless specified) [Source: OECD, World Bank, Network Strategies]

Denmark's mobile services were ranked the cheapest in the OECD in 2004¹⁶. With four mobile operators ensuring intense competition, Denmark's mobile prices are also the most affordable (as a proportion of income – this proportion being about a third of that in New Zealand).

Ireland has a population slightly smaller than New Zealand, yet it is served by three mobile networks. Consequently prices are both cheaper and more affordable than in New Zealand.

¹⁶ MED (2004). *Benchmarking the comparative performance of New Zealand's telecommunications regime*. 30 June 2004. Available at <http://www.med.govt.nz>.

The difference in prices and affordability between New Zealand and Norway is striking. The two countries have very similar land area, population and population density. Both countries' mobile markets consist of two operators and the level of urbanisation is lower in Norway. However Norway is ranked in the lower ten by price, while New Zealand is the second and third most expensive. Comparing the cost of mobile services as a proportion of income suggests that mobile services are twice as affordable in Norway than in New Zealand. In July 2004 an IRG (Independent Regulators Group) benchmarking study found Norway to have the second lowest MTRs, of 27 European countries¹⁷. The rates for Norway, Denmark and Ireland are provided in Exhibit 2.

The rankings for retail mobile prices in Norway, Denmark and Ireland fell between 2002 and 2004, while New Zealand's ranking worsened. Clearly mobile prices have fallen faster in other countries than in New Zealand. Furthermore, all three countries have lower MTRs than New Zealand.

<i>Jurisdiction</i>	<i>Weighted average MTR per minute (NZD – PPP)</i>
Norway	0.12
Denmark	0.14
Ireland	0.17

Exhibit 2: MTRs as at 1 July 2004
 [Source: IRG, Network Strategies]

5 Concluding remarks

Network Strategies believes that:

- Vodafone's criticism of the OECD methodology is unjustified. In particular, the OECD methodology:
 - appropriately uses publicly available pricing whereas the Vodafone pricing is customer-specific
 - rightly focuses on a basket of goods comprising the standardised primary means of communication – namely voice calls and SMS messages.

¹⁷ IRG (2004). *IRG MTR snapshot – July 2004*.

- Vodafone’s criticism of the MED’s sole use of PPP rates in retail price comparisons is unjustified on the grounds that standard regulatory practice in telecommunications benchmarking is in fact to apply only PPP as the means of currency conversion
- the New Zealand mobile market appears to be less competitive than comparable countries in the OECD. This is supported by the fact that New Zealand has the second most expensive retail mobile prices in the OECD.
- Vodafone argues that there is good reason to expect that the cost of providing mobile services in New Zealand is relatively high and this results in relatively high retail prices. Vodafone does not provide any empirical evidence to support its proposition, despite Vodafone being the largest mobile operator in the world and therefore having internal access to relevant cost data. A comparison with the most comparable OECD countries does not appear to bear out Vodafone’s view.
- Norway is the most comparable OECD country to New Zealand on the basis of geography and population but despite the similarity of Norway and New Zealand the former has significantly lower retail prices and MTRs than New Zealand.