bemobile submission to NICTA on the need for a Retail Service Determination regarding Digicel's retail mobile pricing

16th December, 2011

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1. Executive Summary

1.1. bemobile welcomes this opportunity to comment on the Public Inquiry Discussion Paper issued by NICTA into the need for a Retail Service Determination regarding certain mobile telephony services.

1.2. NICTA is right to hold this discussion and we are supportive of a number of the findings in the report.

1.3. Unless appropriate Retail Service Determination is recommended and enacted urgently, it will cause irreparable damage to this immature but critical industry much to the detriment of end users, innovation and investment in PNG.

1.4. Setting the correct rules around telecommunications practices and in particular the issue of on-net / off-net retail price differentials is one of the most important decisions that NICTA is likely to make. The repercussions of failing to act now could be felt for many years to come and could hold PNG back from its potential for significant growth over coming years and decades.

1.5. There is a fundamental competition problem in telecommunications, exacerbated by the anti-competitive practices of Digicel which seeks to stifle the enjoyment of telecommunications services not only for its own customers but more importantly for its competitors' customers by the use of high retail price differentials between on-net and off-net services.

1.6. This submission will show that retail price discrimination between on-net and off-net calls and SMS by Digicel is deeply damaging to competition, is an anti-competitive abuse of dominant position and designed to harm the enjoyment of telecommunications services by subscribers to Digicel's rival networks.

1.7. It will show that there is overwhelming economic evidence to support our claims.

1.8. It will propose a regulatory solution that does not limit competition or impede an operator's freedom to innovate, price or market goods and services as it sees fit, on the condition that it does not discriminate between the prices for on-net and off-net calls.

1.9. It will also show that regulators the world over are demanding non-discrimination legislation is imposed on dominant operators to safeguard competition in their markets.

1.10. This investigation provides NICTA with the opportunity to solve a problem expediently that has persisted in many markets due to a lack of understanding of network dynamics by some national regulatory authorities.

1.11. Elsewhere, predominantly in Europe, it was assumed for many years that the price differentials between on-net and off-net calls and SMS came about as a direct result of the prevailing Mobile Termination Rate (MTR) for the services. It was thought that reducing the termination rate would remove the incentives for operators to implement retail price differences between on-net and off-net calls. However, despite a decade or more of MTR reviews, models, legislation, court cases and similar, the competition problems associated with retail price differentials still remain in many markets.

1.12. NICTA is in a fortunate position. The European regulatory authorities had limited powers to intervene on retail markets and so focussed their attentions on the wholesale access market with limited success.

1.13. NICTA has the authority and in our view duty, to recommend a Retail Service Determination. This power, if enacted as we propose, will enable PNG to enjoy the full benefits of competition and the concomitant investment and innovation that results for years to come.

1.14. An opportunity must now be taken to be forward looking for the benefits not just of the PNG consumer, but also for PNG's ability to compete with the rest of the world.

Structure of this submission

This submission has the following sections:

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Section 2: Introduction and Overview

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Section 7: Real and Present Danger of Foreclosure

Section 8: Regulatory good practice and the real world pros and cons of imposing a Retail Services Determination.

Section 9: International Precedents for Retail Services Determinations preventing the effects of on-net / off-net retail price differentials.

Section 10: Concluding Remarks

Section 11: Answers to Specific NICTA Questions

This submission is supported by an Independent Economist's Report which should be read in conjunction with the main body of the submission.

2. Introduction and Overview:

2.1. It is well recognised in the economic literature that there are strong incentives on large operators to set high on-net / off-net price differentials in order to reduce the value of subscribing to smaller networks and hence impede their ability to compete.

2.2. The barrier to growth created by the differential between on-net discounts and off-net surcharges derives from two inter-related factors:

- First, when on-net calls are priced below off-net calls, subscribers to large networks experience lower average call charges since more of their calls are made on-net.
- Second, when large networks set high off-net surcharges, subscribers to smaller networks receive fewer calls, reducing the utility subscribers receive from joining a smaller network, and hence the ability of the smaller network to compete.

2.3. Strategic incentives for off-net surcharges and the strength of call externalities (or the enjoyment customers derive from receiving calls and SMS messages) are critical to consideration of both the Retail Service Determination pricing methodology most likely to meet the purpose of the Act and whether a simple non-discrimination condition is justified.

2.4. By imposing high off-net calling charges combined with low on-net charges, the dominant player attempts to reduce the enjoyment of other network's customers.

2.5. The fact that users of mobile phones enjoy both making and receiving calls is not in dispute. There is generally a tacit understanding between individuals that they will call each other an equal number of times. If the dominant operator uses excessive tariffs to choke off calls or SMS to a rival network's customers then it results in a significant loss of utility for the other networks' customers. Clearly, the more customers the dominant operator has, the fewer calls the other networks' customers will receive. We understand that Digicel now enjoys in the region of 80% market share or higher and employs excessive prices for off-net calls so it follows that bemobile's customers will suffer a significant reduction in their enjoyment of their service due to a shortfall in received traffic.

2.6. From the information we have available, fewer calls are made of from Digicel to bemobile than from bemobile to Digicel. This appears to be primarily driven by the excessive price charged by Digicel for cross network calls. This may seem a counter intuitive strategy by Digicel as it would seem clear that if the market were simply about maximising the profits from call origination, they would be far better off reducing their prices and so encouraging higher call volumes which would increase their profits.

2.7. But, profit maximisation in networked industries is more complex. If Digicel can make it as unattractive as possible to call a bemobile customer by imposing penalty rates for those calls, then its customers will stop doing it entirely, or less frequently or for shorter durations (as it would be expensive to do otherwise). The result is the same. bemobile customers will suffer an access deficit through the strategic moves of another network operator and not be contacted as often by friends on Digicel.

2.8. In order to stay in touch with friends, the bemobile customer then has to make more calls and SMS messages to Digicel than they should normally expect to do – which would not only increase their overall costs (as they have to make more calls) but it also stifles their enjoyment of the bemobile service as they don't receive calls and SMS from friends.

2.9. For a bemobile customer, there is then a strong temptation to join their friends on the much larger Digicel network. Not only should it reduce their monthly costs (as Digicel discounts on-net calls quite heavily) but they would then expect to receive more calls of longer duration from Digicel customers, closing the access deficit.

2.10. Let's assume that the bemobile customer switches to Digicel for these reasons and enjoys lower call costs to other Digicel customers and greater inbound utility from those customers. In these circumstances, the customer would also face a potential problem with friends who remain on the bemobile network as Digicel charge excessive prices for calls to bemobile. The new customer could continue to call people on the bemobile network despite the excessive prices but that seems unlikely. Assuming that they reduce the number of calls and the duration of those calls in response to the retail pricing signals of Digicel, the remaining bemobile customers face an even greater access deficit as another customer joins the dominant operator – the snowball effect is now in motion and the more people that subscribe to Digicel, the greater the access deficit and the higher the cost of subscribing to any other network.

2.11. Dominance then accelerates, to the detriment of all other players and ultimately foreclosure can result (and is a real and substantial threat here) which would lead to a situation where choice becomes entirely absent from the PNG market, innovation and investment can effectively cease and Digicel becomes free to raise prices as will.

2.12. The tipping point has now been breached and regulatory action is urgently required.

2.13. Any delay would play into Digicel's hands. It is well understood that it is more difficult to persuade a user to switch provider (in the absence of strong network effects) than to win a new customer. Digicel will realise that once its customers become comfortable with their service (even if a non-discrimination condition is enacted) it is likely to keep them for the long term. This is exacerbated by related conditions in PNG which allow for both SIM-locking of handsets and lack Mobile Number Portability provisions. Regulatory action is therefore urgent and justified.

3. What bemobile Want:

3.1. We previously submitted that a price cap on off-net calls would be an appropriate action to be taken by NICTA to alleviate the competition problem.

3.2. Since making that proposal, we have been able to understand in much greater detail how regulators the world over have dealt with the competition issue we have identified. Findings from other jurisdictions are discussed in some detail in sections 9 & 10 of this report, but in summary, some regulatory authorities attempted to deal with the problem by introducing a price cap for off-net calls but the action did not result in the desired effect.

3.3. While MTR price regulation was also often used to tackle the competition concerns in the countries reviewed, it too proved an insufficient remedy, especially where a single operator had a high market share.

3.4. The reason why these measures failed was because regulatory authorities implicitly disregarded the continued strategic incentives for large MNOs to impose significant differentials between on-net and off-net prices even under a scenario of 1) cost-based MTR regulation and 2) situations where a price cap for off-net traffic was imposed.

3.5. As a consequence, competitive distortions stemming from *on-net/off-net* price differentiation persisted (and even increased) and required some regulatory authorities to go back, reassess market conditions and adopt additional, more targeted remedies to address *on-net/off-net* price differentiation. Any half measures just don't work.

3.6. Most then imposed a simple non-discrimination principle for Dominant Service Providers so that under no circumstances would they be able to charge different rates for calls or SMS terminating on-net verses off-net.

3.7. Informed by the evidence gathered from other regulatory authorities, bemobile therefore proposes that NICTA uses its powers to impose a Retail Services Determination which prevents any retail price discrimination for national calls or SMS generated by customers of the Dominant Service Provider.

4. Independent Economist Report

4.1. Please refer to the accompanying economic analysis and report by New Zealand based economist Emma Lanigan. Please also refer to her strong credentials on this matter as detailed in her CV at Annex A of her report.

4.2. To determine whether retail regulation is justified to address the issue of high off-net pricing by Digicel involves establishing whether Digicel holds SMP, which first requires definition of the relevant market. If SMP is found, a retail determination can be made if the criteria set out in section 158 of the NICT Act are satisfied.

4.3. The economist's report makes the following conclusions:

- The relevant market should be modified to include all national mobile calls and SMS
- Digicel does have SMP in this market, and;
- the imposition of a retail non-discrimination rule would satisfy the retail regulation criteria set out in the Act.

What is the relevant market?

4.4. Application of the standard test for substitutability finds that on-net and off-net services fall into a single market. By focusing only on demand-side substitutability, NICTA has defined a narrower market for off-net services alone. A broader market including on-net and off-net services is not only implied by supply-side substitution but it is also more consistent with the commercial reality that firms compete for the entirety of mobile subscribers domestic mobile services rather than individual call or SMS types.

4.5. Indeed the very nature of the issue being considered – that Digicel's pricing of off-net calling is a strategy intended to retain its mobile subscriber base and prevent switching to competing networks – is consistent with the hypothesis that firms are not competing for a certain individual call type but rather for the customer's entire mobile usage.

4.6. Therefore, it is **recommended that NICTA defines the relevant market to be;**

"The national retail market for the supply of domestic on-net and off-net mobile voice and SMS services."

Does Digicel have SMP in the relevant market?

4.7. There are a number of very significant barriers to effective competition in the retail mobile market. Of particular importance is that:

4.7.1. It is unlikely to be economic for rivals to replicate Digicel's coverage in rural and remote areas which not only means that they cannot contest those customers but also reduces their ability to put competitive pressure on Digicel in urban areas (because mobile customers typically value having access to national coverage even if they make little use of it);

4.7.2. The high fixed cost nature of mobile networks means that Digicel, having a very large market share, benefits from substantial economies of scale;

4.7.3. Digicel is also likely to have other significant cost advantages as a result of its size, given that it is not only the largest PNG mobile services supplier but also has a strong international presence;

4.7.4. There are high customer switching costs given the prevalence of SIM locking and the lack of number portability; and

4.7.5. The network effects that are created through on-net/off-net price discrimination create a strategic barrier to entry and expansion that is extremely difficult to overcome given the high market share of Digicel.

4.8. The above factors, combined with the observation that Digicel's market share is in excess of 70% (and perhaps very much higher than this) with no evidence to suggest that rivals have been successful in eroding that share despite undercutting Digicel's pricing **leads to the conclusion that Digicel does hold SMP in the supply of retail mobile services.**

4.9. Although Digicel's entry into the market has likely brought significant benefits to consumers in the past (for example, through breaking the previous mobile market monopoly, and investing in significantly increased coverage), what is concerning is that having acquired a very high share of subscribers, and likely an even higher share of market revenues such that, given the competition barriers identified above, Digicel's degree of market power has been growing over time and is now very substantial and extremely difficult for rivals to erode without regulatory intervention.

Is retail regulation justified in the PNG mobile market?

4.10. The data available to our economist on traffic flows and market share strongly indicate that the extent of price discrimination is severe and is having an acute effect on the extent of inter-network traffic. This implies strong network effects which would form a barrier to effective competition in the PNG mobile market.

4.11. Going forward, if regulatory intervention does not occur it appears highly likely that there will continue to be one large network (Digicel) and either one or two small networks that contest only a small niche of customers. In that scenario, efficient investment will be curtailed – the smaller network will not have the means nor the business case to invest further and Digicel's incentive to invest will be reduced due to muted competition. This leads to a loss of dynamic efficiencies that would result from consumers having access to new and innovative services. There would be little constraint on Digicel's market behaviour implying that its degree of market power will continue and strengthen.

4.12. Given this it seems highly likely that **the imposition of a retail non-discrimination rule would satisfy the retail regulation criteria set out in the Act.**

5. Economic Theory and Literature

5.1.1. In the accompanying report from independent economist Emma Lanigan, there is a section describing the current thinking and latest publications on the matter of on-net/off-net price discrimination. This section should be read in conjunction with that report.

5.1.2. In the economics literature it is well accepted that on-net/off-net retail price discrimination can serve as a strategic barrier to entry to retail markets in mobile telephony. Large incumbent operators have strategic incentives to set lower prices for on-net calls than for off-net calls in order to induce price mediated network effects. Thereby, a barrier to growth and expansion if not entry is erected for smaller networks and new entrants. While for some models (such as Hoernig, 2007) call externalities (or the enjoyment derived from receiving calls) are crucial, Lopez and Rey (2009) have shown that even without call externalities a combination of consumer switching costs and on-net/off-net price differences may also serve as a barrier to entry.

5.1.3. In fact, subscribers are heavily influenced by the choices of others they regularly communicate with and so the utility that consumers derive from using their mobile device heavily depends on who of their potential calling partners has already subscribed and to which network. Consumers will prefer carriers with a large number of subscribers where on-net / off-net retail price differentials exist.

5.1.4. In summary, the concern that tariff-mediated network effects can be strategically used to stifle market competition and to secure market power is well founded and should be of concern to NICTA.

5.1.5. If consumers did not value receiving calls (which is extremely unlikely otherwise why would anyone give out a phone number or answer a call?), any low priced on-net offers from dominant providers could easily be replicated by smaller players (i.e. by charging equally low off-net prices) assuming that MTRs are set at the level of incremental cost (and so long as dominant prices are not predatory). In that case, the smaller network's customers would face the same charge when calling an incumbent network customer as the incumbent's customers when placing an on-net call.

5.1.6. This logic, however, no longer applies once it is recognised that consumers value receiving calls. This value is referred to as a call externality in the literature and once it is recognised that it plays a role, it becomes obvious why a dominant operator has strategic incentives to increase its off-net charges. It does so in order to deprive a rival's customer from enjoying receiving calls and so hopefully induce churn (to the larger network).

5.1.7. As long as the demand for off-net calls is not completely inelastic, price differences should also induce differences in traffic flows between the two networks, at least once these price differences become significant. If prices for off-net calls are higher in general, at least a number of calls will be suppressed resulting in reduced utility for end users and smaller revenues for the rival operator in the form of mobile termination rates.

5.1.8. We see this effect being played out in PNG where the imbalance of payments between mobile operators is stark and come about as a direct result of Digicel's excessive off-net retail prices in the market.

5.1.9. Given that consumers receive utility from receiving calls and messages, a mobile network is less attractive if its customers do not receive as many calls as other networks' customers. While this effect may not be exactly measurable if prices for on-net and off-net calls do not differ substantially, it would seem likely that there is a certain price limit from which customers realize that they do not receive as many calls from their friends as on the dominant network.

5.1.10. Again, the interconnect payment balances between bemobile and Digicel suggest strongly that this theoretical price limit has been breached and intentionally so on Digicel's part.

5.1.11. Furthermore, given that a very high percentage of all calls/SMS appear to be (or are very likely to be) on the same network, the dominant operator's customers are hardly hurt by high off-net charges (as they hardly place any off-net calls). However, any consumer of that dominant operator who considers switching networks will know that (s)he will receive significantly fewer calls in that case. Hence, high off-net charges serve as a barrier to switch for the dominant operator's customers and so competition is stifled.

5.1.12. If customers groups face switching costs (as they do in PNG, not least because they need a new phone and phone number) or cannot coordinate larger groups to switch jointly, high off-net charges serve to lock-in the existing customer base. Therefore, a smaller network will face significant difficulties in attracting or retaining customers. The introduction of significant off-net surcharges by dominant operators can, therefore, be used to effectively foreclose the market. Put differently, dominant operators have both the opportunity and the incentive to introduce high off-net charges to stifle market competition.

5.1.13. In fact, Digicel's off-net calling prices for prepaid customers as shown below illustrates very clearly how strong these incentives are.

Table 1: PNG mobile network standard prepaid on-net and off-net pricing during peak hours, KINA per minute (including GST)

	On-net price			Off-net price			Differential
	First minute	Subsequent minute	5-minute average	First minute	Subsequent minute	5-minute average	per minute
Digicel	0.99	0.11	0.29	1.70	1.70	1.70	1.41
bemobile	0.79	0.10	0.24	0.99	0.99	0.99	0.75
Citifon	0.02	0.02	0.02	0.39	0.39	0.39	0.37

Reproduced from independent economist's report attached to this submission.

More on strategic incentives:

5.1.14. Economic literature recognises the strategic incentives for large networks to set high on-net / off-net price differentials in order to reduce the value of subscribing to smaller networks and hence impede their ability to compete.

5.1.15. The barrier to growth created by off-net surcharges derives from two inter-related factors:

- First, when on-net calls are priced below off-net calls, subscribers to large networks experience lower average call charges since more of their calls are made on-net.

- Second, when large networks set high off-net surcharges, subscribers to smaller networks receive fewer calls, reducing the utility subscribers receive from joining a smaller network, and hence the ability of the smaller network to compete.

5.1.16. Strategic incentives for off-net surcharges and the strength of call externalities are critical to consideration of both the Retail Service Determination pricing methodology most likely to meet the purpose of the Act *and* whether a simple non-discrimination condition is justified.

5.1.17. An important implication of call externalities emphasised in a 2010 paper by Harbord and Pagnozzi surveying recent economic literature,[1] is the strategic incentive they create for mobile networks to set large on-net / off-net price differentials in order to reduce the value of rival networks, and hence impede their ability to compete.

5.1.18. The economic rationale for this form of network-based price discrimination has been the subject of a growing number of recent papers, which are reviewed by Harbord and Pagnozzi (2010) and include Jeon et al (2004),[2] Armstrong and Wright (2009b),[3] Berger (2004) (2005)[4] and Hoernig (2007)[5] who analyse the impact of call externalities and network effects on inter-network competition and equilibrium pricing in mobile markets.

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1 Harbord and Pagnozzi (2010), "Network-Based Price Discrimination and Bill-and-Keep vs. Cost-Based Regulation of Mobile Termination Rates", *Review of Network Economics*, Vol. 9 (1), March 2010 (**Harbord and Pagnozzi (2010)**) see http://www.market-analysis.co.uk/PDF/Topical/harbordpagnozzirnemarch2010.pdf.

2 Jeon, D. S., Laffont, J-J. and Tirole, J. (2004) "On the Receiver Pays Principle" *RAND Journal of Economics*, 35: 85-110 (**Jeon et al (2004)**).

3 Armstrong, M. and Wright, J. (2009b) "Mobile Call Termination in the UK: A Competitive Bottleneck?" in B. Lyons (ed), *Cases in European Competition Policy: The Economic Analysis*, Cambridge University Press: Cambridge, United Kingdom (**Armstrong and Wright (2009b)**)

4 Berger, U. (2004) "Access Charges in the Presence of Call Externalities", B.*E. Journal of Economic Analysis & Policy*, 3(1) (**Berger (2004)**) and Berger, U. (2005) "Bill-and-Keep vs. Cost-Based Access Pricing Revisited", *Economics Letters*, 86: 107-112 (**Berger (2005)**).

5 Hoernig, S. (2007) "On-Net and Off-Net Pricing on Asymmetric Telecommunications Networks", *Information Economics & Policy*, 19: 171-188 (**Hoernig (2007)**).

5.1.19. As Harbord and Pagnozzi (2010) note, a key insight of this literature is that incentives for mobile networks to set large on-net / off-net price differentials derive from:

"high mobile-to-mobile termination charges which exceed marginal termination costs; ***and***

a strategic motive to reduce the number of calls that subscribers on rival networks receive, reducing the attractiveness of rival networks and hence their ability to compete."[6]

5.1.20. In PNG, the difference between on-net and off-net prices cannot be justified by the prevailing mobile termination rate (whether this is set at cost or otherwise). Hence, one should conclude that other motives exist for the difference and it is clear that there is a strong (and increasing) strategic incentive to choke off calls to a smaller rival's customers.

5.2.8 Mobile networks' strategic pricing incentives created by call externalities, not only result in inefficient pricing structures, reducing allocative efficiency and overall economic welfare in mobile markets, but, as discussed in Armstrong and Wright (2009b), Hoernig (2007), Calzada and Valletti (2008),[7] Lopez and Rey (2009)[8] and Cabral (2009),[9] also create a barrier to entry and growth for smaller networks.[10]

5.2.9 This barrier to entry or growth derives from two inter-related phenomena:

- First, when on-net calls are priced below off-net calls, all other things being equal, subscribers to large networks experience lower average call charges since more of their calls are made on-net. Larger networks are seen to be more attractive and this places smaller networks at a competitive disadvantage.

- Second, when larger networks set high off-net prices, subscribers to smaller networks receive fewer calls, reducing the utility subscribers receive from joining a smaller network, and hence the ability of the smaller network to compete.[11]

5.2.10 As described by Armstrong and Wright (2009b, p95) for example:[12]

"High MTM [mobile to mobile] charges may deter entry or induce exit of a smaller mobile rival. By setting above-cost MTM termination charges, the incumbent networks can induce network effects which make entry less attractive for the newcomer. With high MTM charges, off-net calls will be more expensive, which particularly hurts a small network since the bulk of its subscribers' calls will be off-net.

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6 Harbord and Pagnozzi (2010), p5.

7 Calzada, J. and T. Valletti (2008) "Network Competition and Entry Deterrence", *Economic Journal*, 118: 1223-1244 (**Calzada and Valletti (2008)**).

8 Lopez, A. and P. Rey (2009) "Foreclosing Competition through Access Charges and Price Discrimination" *IDEI Working Paper*, Number 570 (**Lopez and Rey (2009)**).

9 Cabral, L. (2009) "Dynamic Price Competition with Network Effects" mimeo, New York University (**Cabral (2009)**)

10 Harbord and Pagnozzi (2010).

11 Harbord and Pagnozzi (2010), p5.

12 Armstrong, M. and J. Wright (2009b) p95.

An additional effect of high off-net call prices will be to reduce the number of calls received by a small network's subscribers, thereby further reducing its ability to compete when call externalities are important."

5.2.11 Reducing MTRs impacts the first disadvantage to smaller networks by reducing the cost of offering off-net prices and potentially allowing smaller networks' subscribers to call subscribers on other networks at competitive prices.

5.2.12 The extent to which lower MTRs reduce the second disadvantage to smaller networks depends upon market structure. Harbord and Pagnozzi (2010) note that Berger (2005)[13] and Hoernig (2007) show that;

"*in the presence of call externalities large networks charge higher off-net prices, and create larger on-net/off-net price differentials, than smaller networks*".[14]

As further noted by Harbord and Pagnozzi (2010, p6):

"*This further impedes the ability of smaller networks to compete by creating "access deficits" which can result in a permanent net outflow of termination payments to larger networks. Differential pricing of on-net calls means that even with a "balanced calling pattern", call traffic between large and small networks will not be in balance*."

5.2.13 Hence in markets such as PNG with a single dominant large network, even if MTRs were set equal to marginal cost, significant on-net/off-net price discrimination by the dominant operator will almost certainly still occur, impeding the ability of smaller networks to attract new subscribers.

5.2.14 Because off-net call charges affect the welfare of consumers *on the rival network,* they are subject to strategic manipulation. Hoernig (2007) finds that a larger network charges a higher off-net price, and has a higher on-net / off-net price differential, than a smaller network.

5.2.15 When receiver benefits or call externalities matter, smaller networks continue to face a significant competitive disadvantage due to the fact that larger networks' off-net prices choke off calls to smaller networks, reducing the utility received by their subscribers, and the small network's ability to compete.

5.2.16 As concluded by Harbord and Pagnozzi in their 2010 paper:[15]

"High off-net call charges are a distortion in the prices that the regulation of mobile termination charges was designed to repair in the first place (ie the subsidy of mobile subscription via high termination charges) and are particularly damaging to long-run entry and competition."

13 Berger, U. (2005).
14 Harbord and Pagnozzi (2010), p5.
15 Harbord and Pagnozzi (2010), p38.

5.2.17 So it follows that it is a quicker, simpler and more effective use of the regulatory tool box to address on-net / off-net retail price differentials with a Retail Service Determination than to deal with the wholesale MTR price.

More on Call Externalities:

5.2.8 The strategic incentive to charge off-net surcharges depends on the existence of receiver benefits derived by consumers from receiving calls.

5.2.9 Harbord and Pagnozzi (2010, section 3.1) state that the strategic incentive to inefficiently increase off-net prices remains even in the presence of call reciprocation, going on to say that:[16]

"Moreover, when market shares are asymmetric a "connectivity breakdown" can still occur, and a large network still has an incentive to create higher on-net/off-net price differentials than a smaller network. The reason is that, even when call externalities are fully internalized, a large network remains more capable of reducing the utility of a smaller network's subscribers, by reducing the number of calls received by each of those subscribers, than vice versa."

5.2.10 The ability of a subscriber to a dominant network that has imposed high off-net penalties to return a call to a customer on a rival network has been prevented through the imposition of high off-net call charges. Off-net surcharges have forced people to stay on the same network as the group of people they wish to communicate with most often (i.e. the club effect).

5.2.11 While it is difficult to assess the precise size or strength of receiver benefits, Harbord and Pagnozzi (2010, section 3.2) present indirect empirical evidence which suggests that call externalities play a significant role in many European mobile markets.

5.2.12 They presented three types of evidence which can demonstrate the strength of call externalities:

i. In the presence of call externalities, mobile firms should set on-net / off-net price differentials which exceed the difference between mobile termination rates and their marginal costs.
ii. We should observe large imbalances between on-net and off-net calling patterns on mobile networks.
iii. If call externalities matter we should observe interconnection traffic imbalances between large and small networks.

5.2.13 We will demonstrate that each of these three pieces of evidence is overwhelmingly satisfied in PNG where there are high differentials between on-net and off-net prices, large imbalances between on-net and off-net calling patterns (although further

16 Harbord and Pagnozzi (2010), p19.

evidence on this matter should be demanded by NICTA if it remains in any doubt) and large interconnection traffic imbalances between bemobile and Digicel.

6. Evidence of market failure in PNG:

6.1. We present evidence in this submission and the accompanying economist report that we believe overwhelmingly supports a Retail Services Determination by NICTA. There can no longer be any doubt that the on-net / off-net differentials imposed by Digicel are harming competition and are an abuse of market power.

6.2. The competition problems associated with Dominant Service Providers imposing large differentials between on-net and off-net call retail prices is widely recognised. Cynically it appears to be a well trodden strategy for Dominant Service Providers everywhere and where they are allowed to get away with the practice, consumers suffer as they lose the enjoyment of a real choice and competition between networks suffers because the network effect is extremely strong. The only way to break the artificial network effect is for regulatory authorities to take action – as they have done in many countries.

6.3. However, even if NICTA fails to be persuaded by the evidence and arguments provided in this submission in support of a Retail Service Determination, it would be inappropriate at this stage for it to conclude that a Retail Service Determination is not required. For that conclusion to be made, NICTA would need to gain a much greater understanding of the market and its dynamics generally but specifically it should seek detailed information covering the following metrics:

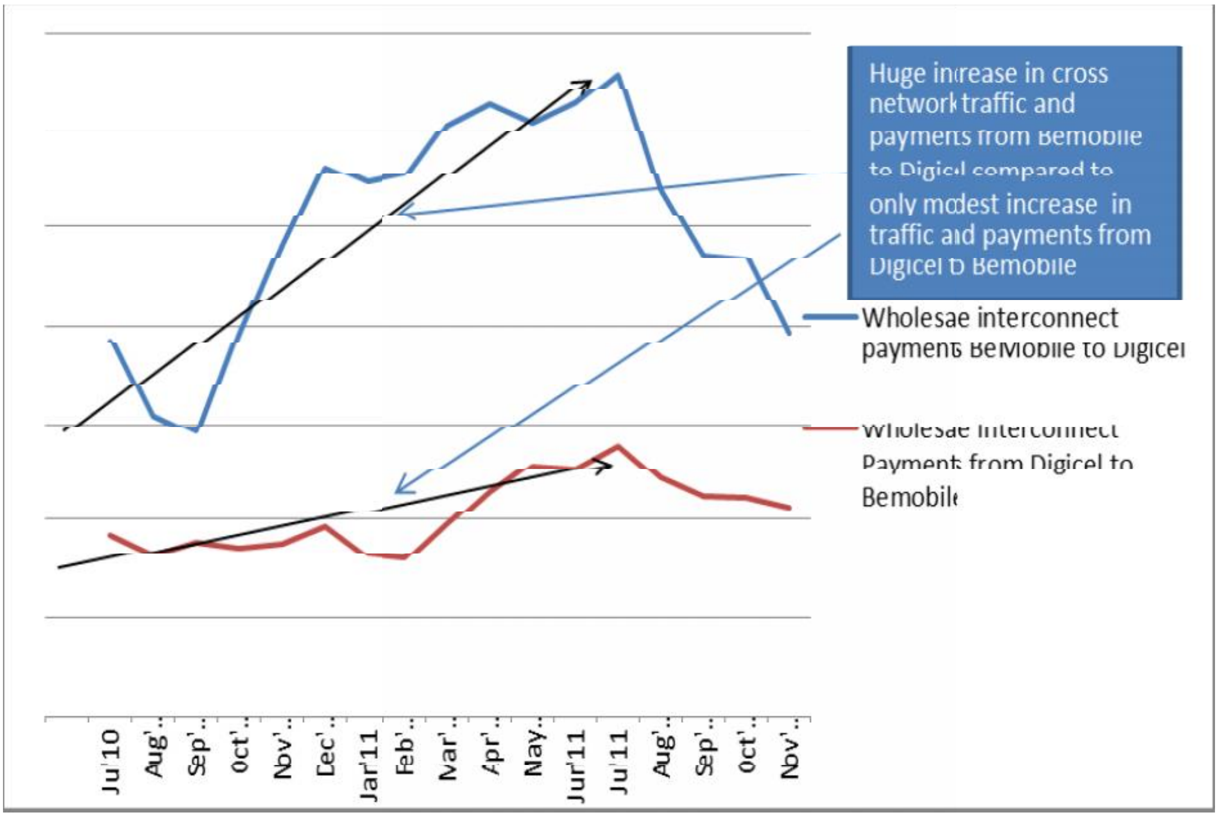
a. Market share by subscriber and how that has changed over time.
b. Market share by revenue, and how that has changed over time
c. Historical call patterns by month over time (2 years period):
d. Calls and minutes made by each operator's subscribers that remain on-net
e. Calls and minutes made that go off-net
f. Average duration of on-net calls
g. Average duration of off-net calls
h. Average retail price per minute of on-net calls
i. Average retail price per minute of off-net calls
j. SMS made that remain on-net
k. SMS made that go off-net
l. Average retail price of on-net SMS
m. Average retail price of off-net SMS
n. Volume and cost of interconnect payments between all operators
o. Customer acquisition rates at each mobile operator
p. Churn levels at each operator

q. Propensity for multiple subscriptions by individual users (How many customers have more than one provider)
r. Other switching barriers (e.g. number porting, SIM locking, roaming access, coverage, distribution, technology choice)
s. Qualitative research on consumer buying behaviour and how that is influenced by the networks chosen by the people a customer is likely to call
t. Qualitative research on the value that customers place on being called

6.4. We have so far discussed the economic theory and empirical evidence that suggests beyond reasonable doubt that on-net / off-net retail price differentials are damaging competition. We now turn to the real world evidence in PNG.

6.5. The following chart shows how interconnect (wholesale) payments have changed over time between bemobile and Digicel.

<u>Chart 1.</u> Interconnect payments Between bemobile and Digicel July 2010-Nov 2011



Source: Interconnect invoice exchange between bemobile and Digicel

6.6. What is clearly shown by the diverging arrows is that for the period July 2010 through to July 2011, Digicel's strategy of choking off calls to its rival networks worked well. The excessive prices it charged for cross network calls, coupled with very low (we discuss predatory pricing elsewhere) on-net prices, was very effective in stifling demand from Digicel customers to make calls and SMS to bemobile customers.

6.7. The result was that bemobile customers made significantly more calls and SMS to Digicel customers in order to stay in touch and the relative traffic volume differences increased markedly over the period.

6.8. In a well functioning market and in the absence of retail price differences one would not only expect traffic to be balanced, but the increase in traffic from bemobile to Digicel would be matched by the traffic from Digicel to bemobile.

6.9. Given that it is almost certain (subject to information gathering by NICTA) that significant market growth has occurred in that period one would reasonably expect that cross network call volumes would increase from both parties.

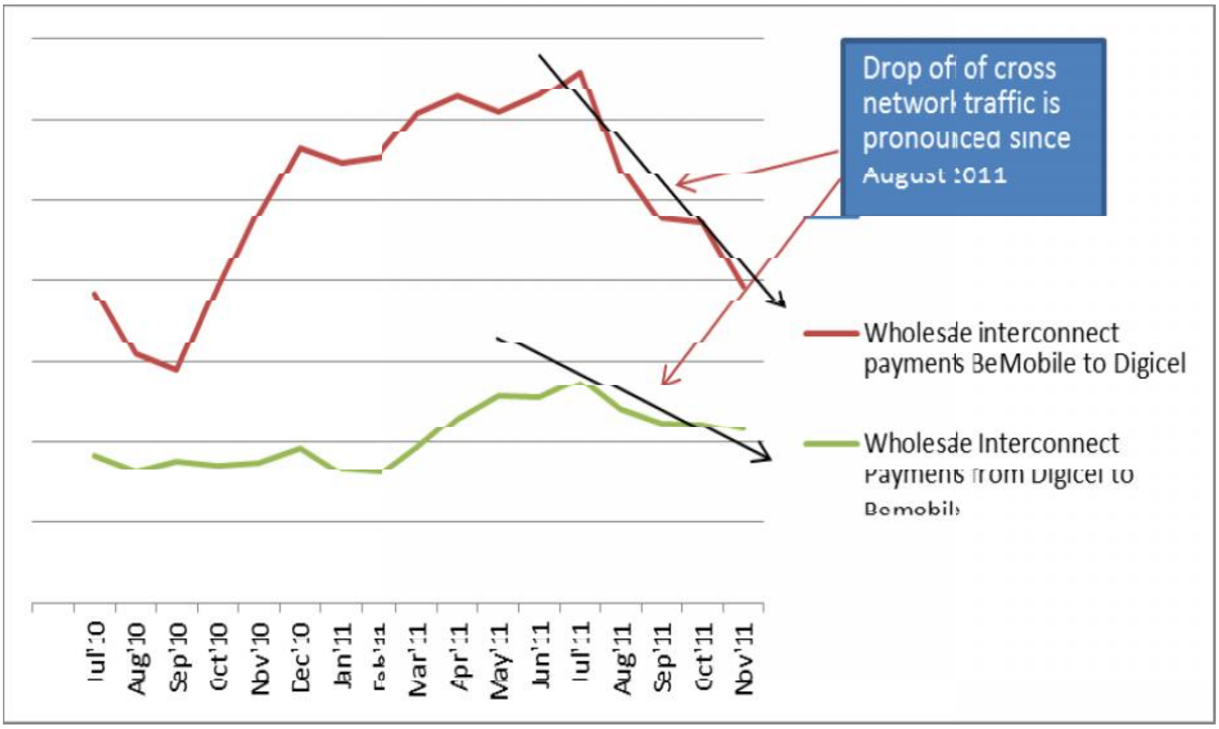
6.10. Instead, bemobile's customers made substantially more calls to Digicel and the rate of call growth far exceeded the increase in calls from Digicel to bemobile. bemobile's customers clearly received fewer calls than they would have expected from a normally functioning market where call volumes tend to be balanced. NICTA should therefore be extremely concerned that traffic between operators is so uneven.

6.11. The excessive off-net retail prices employed by Digicel appear to be imposing both a cost burden and a utility deficit onto bemobile's customers. This is exactly the effect the economic papers warn about.

6.12. Of even greater concern is the trend that has emerged over recent months in the period August through to November 2011.

6.13. Chart 2 highlights the rate of drop off in cross network traffic in the period August to November 2011.

Chart 2. Rate of decline in cross network traffic between bemobile and Digicel August – November 2011.



6.14. Since July 2011, the amount of cross network traffic has fallen dramatically and potentially catastrophically. This should be of utmost concern to NICTA. If current trends continue there will be virtually no cross network traffic within a matter of months and a connectivity breakdown will have come about.

Summary of findings from the traffic flow information:

6.15. While increasing levels of on-net traffic and increasing on-net / off-net price differentials are alarming, they are not surprising, particularly given the clear incentives for large networks to continue to use off-net surcharges to stifle competition irrespective of the level of MTRs.

6.16. The problem from a competition perspective is that when Digicel increases the retail price differential – either by reducing on-net call prices or by increasing off-net call prices, the effect is the same – they gain market share from bemobile, choke off bemobile customer's enjoyment of their service and increase the cost of calling for bemobile customers.

6.17. Gaining market share as a result of an increase in retail prices seems counter-intuitive but that is the effect in a networked industry where customers value receiving as well as making them. Furthermore, this appears to be playing out in practice as evidenced by:

- The traffic imbalances evidenced by the interconnect payment gap.
- The changes in interconnect payments over time leading to a catastrophic drop off in connectivity in recent months
- The large imbalances between on-net and off-net retail prices.

- We suspect (subject to NICTA information requests) that the proportion of on-net traffic is exceedingly high.

7. Real and present danger of foreclosure.

7.1. The current market structure combined with anti-competitive strategic Dominant Service Provider behaviour means that there is a real risk of connectivity breakdown in PNG. The situation demands urgent regulatory intervention in the form of a Retail Service Determination that bans all forms of retail price discrimination by the Dominant Service Provider Digicel.

7.2. A networked society should enable people to be free to call whoever they want, when they want. Digicel are pursuing a strategy that deliberately tries to prevent this from happening, abusing their dominant position solely for the benefit of Digicel. Consumers deserve better.

- consumers value both making *and* receiving calls and SMS; and

- large networks have a strategic motive to reduce the number of calls that subscribers on rival networks receive, reducing the attractiveness of rival networks and hence their ability to compete.

7.3. When an operator is as dominant as Digicel, any pro-competitive arguments about off-net differentials fall away. The strategy results in a substantial softening of competition between the main players and a material barrier to new entry and expansion.

7.4. bemobile's customers must be able to be called by Digicel's customers or competition will be snuffed out and consumer's enjoyment of bemobile service will be severely constrained through the strategic actions of Digicel. Digicel will be in a position to deter customers from switching to bemobile and therefore lessen competition for the long term benefit of end users.

7.5. Failure to act urgently is likely to see all incentives for investment by all operators fall away as Digicel's dominance is cemented in. Breaking the power of tariff mediated network effects can only be achieved through regulatory intervention as we show from international markets in sections 9 & 10 and without strong and urgent intervention PNG's embryonic competitive mobile industry could be set back many years and the risk of market foreclosure is extremely high.

7.6. In the absence of regulatory action on this issue, additional investment by the small operators will be difficult to justify. The market structure is characterised by a number of other significant barriers which combine to create a toxic cocktail of disincentives to invest. These include but are not limited to:

- The use of on-net / off-net retail price differentials as strategic tools to harm the enjoyment of services by competitor's customers
- High, and increasing proportion of calls and SMS remaining on-net, trapping customers and reducing likelihood of switching
- Current trends show a potentially catastrophic drop off in the number of calls that go between networks. The situation is bad now but getting markedly worse as time progresses.
- The lack of a Mobile Number Portability regime
- SIM locking of handsets by operators prevents simple switching between networks
- The presence of clearly recognisable and defined number ranges by competing providers (which provide retail price signals to consumers)
- A lack of tower co-location / national roaming legislation to facilitate access to existing towers and backhaul

7.7. As a result, the barriers to growth and expansion are considerable, switching opportunities between mobile operators are low, tariff mediated network effects are strong and even if a consumer decided that they wanted to switch away from the dominant operator, they would be unable to bring their number or phone with them which means incurring significant switching costs and inconvenience.

7.8. It is therefore critically important for NICTA to act in favour of the consumer and of competition and impose an outright ban on on-net / off-net retail price differentials by the Dominant Service Provider, failure to do so could force a small operator from the market without realistic prospect of subsequent new entry.

8. Regulatory Good Practice and Real World Pros and Cons of Imposing a Retail Services Determination.

8.1. In general, there are two types of potential errors when deciding about regulatory measures. Firstly, there is a risk of over-regulation when practices are regulated or prohibited even though their pro-competitive effect outweighs any potential anti-competitive effects. Secondly, there is a risk of under-regulation which occurs if practices are not regulated even though their pro-competitive effects are dominated by anti-competitive ones. The art of regulatory design consists in minimizing the (weighted sum of) welfare losses associated with these two errors.

8.2. The question whether over- or under-regulation is more harmful to society cannot be answered in general, but depends on the exact circumstances under consideration. Generally speaking though, it is of particular importance to avoid over- or under-regulation if the damage associated with a particular type of error is irreversible.

8.3. The damage resulting from competition not gaining grounds altogether and especially from market exit by any player in a concentrated market is much higher than the damage from potentially competition being softer for a limited period of time. While market exit would very likely result in softer competition for a long period of time (giving rise to cumulative long-run effects), the potential mistake of softer competition for a number of years can relatively easily be corrected, once the price discrimination ban is lifted. In contrast, if a small operator, has been successfully driven off the market it is unlikely that another new entrant would easily emerge. Hence, the risk is that effective competition would be lost for a long time – a mistake that could not easily be corrected afterwards.

8.4. The risk that a price discrimination ban induces major welfare losses appears to be low while the risk that retail price discrimination between on-net calls and off-net calls would limit growth and expansion of an efficient smaller operator and potentially even induce market exit, and thereby impose major welfare costs and a reduction of consumer choice is significant.

8.5. In addition, if imposing a price discrimination ban turned out to be a regulatory mistake, that mistake could easily be corrected by lifting the ban. In contrast, if not imposing a ban turned out to be the wrong regulatory decision that mistake cannot be easily corrected afterwards.

9. International Precedents for Retail Services Determinations Preventing the Effects of on-net / off-net retail price differentials.

9.1. The competitive distortions associated with on-net / off-net retail price differentials have been the subject of numerous regulatory processes around the world.

9.2. It was once widely thought that the differentials between on-net and off-net prices were driven primarily by operator's requirement to recover costs in the form of Mobile Termination Rates from subscribers.

9.3. The theory being that if MTRs were reduced, a profit maximising firm would then lower its cross-network tariffs in order to maximise revenues. As the body of evidence grows, it has become clear that a key for large differentials in markets with dominant operator(s), is the strategic incentive to make it as unattractive as possible to call a rival's customers, choke off the utility enjoyed by the rival's customers and force churn to the large network.

9.4. The understanding of strategic incentives among national regulatory authorities has improved markedly in recent years. For this reason, many regulators are dealing directly with the structure of cross-network retail tariffs rather than focussing on MTRs.

9.5. In this section we show that regulating MTRs has, in many countries been insufficient to alleviate the competitive distortions of on-net / off-net retail price discrimination practices of Dominant Service Providers.

9.6. Also of note is that price caps for off-net calling has also proved insufficient as it is the differential between on-net and off-net prices that matter. Progressive regulators are adopting direct retail provisions to ban Dominant Service Providers from practicing any anti-competitive differentials.

It is the market structure that counts:

9.7. Regulatory decisions need to be made according to the market conditions in any given country. The potential for anti-competitive conduct resulting from on-net/off-net retail price differences was recognised by the United Kingdom Regulator Ofcom in its review of wholesale call termination 2010 where it makes clear that in its view the structure of the market is key to assessing the barriers to entry faced by small networks and new entrants, and as a consequence determining the appropriate regulatory response:[17]

> *"… if all MCPs* [mobile operators] *were of similar size in terms of revenues or subscribers, they might have similar levels of market power in the retail mobile market, so distortions in the retail mobile markets would be limited. However, with the entry of new providers associated with the liberalisation of spectrum, there is potential for anti-competitive pricing by larger MCPs creating barriers to entry or expansion for smaller MCPs thereby harming competition."*

9.8. Ofcom specifically considers on-net / off-net price differentials in the UK but concludes they are not a feature of the UK market. Considering competition between mobile operators, Ofcom notes:[18]

> *"Differences in price for on- and off-net call charges may have had a material impact in the past when those differences were greater. However, currently only a few retail tariffs in the UK have different on- and off-net call charges and, therefore, the impact of this issue is now less likely to be significant."*

9.9. The UK market structure is important to Ofcom concluding that on-net / off-net price differences no longer have a material impact on competition. The UK had, at the time when the report was written, four near equally sized networks plus a smaller 5th network and a fragmented numbering policy (meaning it is difficult to know which network a customer is on based on the number dialled) and a mature mobile number porting regime. As a result of the market structure, differential pricing is not a material feature of the retail offerings and so consumers do not need to be concerned about the network their friends and family are on, or the cost imposed on those friends and family when a subscriber decides which network to join.

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17 Ofcom 2010, para 5.41.

18 Ofcom 2010, paras A12.89 – A12.90 of Annex.

9.10. This contrasts strongly with consumers in PNG, which is characterised by one large dominant operator, extremely high on-net / off-net price differentials and a catastrophic drop off in traffic between that dominant operator and other networks.

9.11. Ofcom further recognise the importance of being able to call and be called by anyone on any network (or end-to-end connectivity as it is described by Ofcom):[19]

"An additional concern would arise in the event that there was not end-to-end connectivity among operators since blocking particular number ranges would mean that, even if call termination to those number ranges was available on a transit basis [via BT] exclusion from the retail market might still be a concern. Consumers would be affected by the strategic refusal by MCPs to allow their own customers to reach the customers of the smaller MCP making that smaller MCPs services less attractive."

9.12. While Ofcom discusses the importance of end-to-end connectivity in the context of a strategic refusal by a large mobile network to allow its customers to call customers on the small network, the harm identified by Ofcom can equally be caused by tariff based refusal – ie. setting off-net call prices so high that calls to smaller networks are virtually eliminated as is the case in PNG today. This strategic pricing behaviour has the same competition effect as a refusal to interconnect, which would clearly not be accepted by any regulatory authority.

9.13. Ofcom reaches the same conclusion as Harbord and Pagnozzi (2010). The degree to which reducing MTRs reduces the barriers to entry faced by a small or new entrant network depends upon the market structure overall, and specifically:

- The differential in size (and as a consequence retail market power) between networks:

  The PNG market would clearly raise concerns here as it is characterised by one very large mobile network and two much smaller players and retail market power is being exercised through Digicel's high on-net / off-net retail differentials.

- The prevalence of discriminatory pricing:

  The on-net / off-net price differentials in PNG are far greater than those seen in competitive markets and we have already shown why there are strong strategic incentives for that discriminatory pricing to continue.

- Connectivity between networks:

  Again, as was shown in section 6, we appear to be in the process of a retail price induced catastrophic breakdown of connectivity between networks.

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19 Ofcom 2010, para 138.

9.14. The above factors clearly distinguish the UK market from PNG in structural terms. It also shows that the incentive on UK operators to impose different on-net and off-net prices is low. Having considered the structural makeup of the UK market Ofcom generally seeks to address retail competition distortions by wholesale intervention alone.

9.15. However, when the specific structure of the PNG market and strategic conduct of the large dominant network is taken into account it is clear that the lighter approach of imposing MTR reductions would not resolve the retail competitive distortions here which by contrast can be simply addressed and dealt with as part of this current investigation.

Other factors to consider in reviewing international precedents

9.16. We will show below that an increasing number of regulators around the world are realising that a non-discrimination rule provides the best solution to ensure competition is maximised for the benefit of their end users.

9.17. There are a number of common traits in the markets where regulatory authorities have imposed remedies to address the use or abuse of on-net / off-net retail price differentials.

9.18. Generally, regulatory authorities found three factors were relevant when considering whether a retail price non-discrimination clause was appropriate although each one may have carried more weight in one country than in another:

1. Pronounced and increasing proportion of on-net traffic;
2. Significant differences in size between the largest and smallest MNOs; and
3. Significant differentials between on-net and off-net retail prices.

9.19. In each of the countries listed, where information can be publicly accessed, a high and increasing proportion of calls terminated on-net.

9.20. Even in countries which had three or four operators, on-net traffic accounted for over 70% of traffic originated on Dominant mobile networks. In extreme cases, such as Kenya and Namibia the club effect resulted in very little inter-network traffic, with over 95% of traffic originated on the Dominant mobile networks terminating on-net.

9.21. Similarly, the size of the MNOs active in the market was a key issue when considering the competitive effects of *on-net/off-net* price differentiation. Regulatory authorities in several countries found that it is the relative size differences between large and small MNOs that matter and often resulted in the former using price differentials strategically to make the latter less attractive to subscribers.

9.22. However, regulator's concerns were raised even in countries where Dominant Service Providers enjoyed less than 50% market shares. It is the abuse of Dominance and the structure of the market that matters.

9.23. Typically, smaller players had a small percentage of the market up to 20%, whereas large MNOs had market shares based on subscribers close to 50% or higher in the countries reviewed.

9.24. Significant and increasing differentials between on-net and off-net retail prices were also noted as a factor supporting Retail Services Determinations or similar remedies targeting *on-net/off-net* price differentials.

10. Some Specific Country Examples

10.1. New Zealand

10.1.1. The Commerce Commission in New Zealand has completed two separate yet similar investigations into on-net / off-net retail price differentiations.

10.1.2. The first, back in 2006 (*The "Homezone" case*) was brought to the Commission by global mobile phone giant Vodafone when it planned to enter the fixed line market in New Zealand.

10.1.3. At the time, local calls made by any Telecom (the Dominant PTT) fixed line customers were included in the monthly fee. Vodafone successfully argued that retail prices imposed by the dominant operator should be no higher for calling a Vodafone subscriber (off-net) than another Telecom subscriber (on-net);

"*If Telecom can require callers to Vodafone local numbers to pay higher rates than callers to other local numbers, there could be a significant disincentive to take up Vodafone's local service. Hobbling Vodafone's local service before it begins is unlikely to promote competition for the long-term benefits of end-users.*"[20]

Vodafone noted the importance of receiving calls:[21]

[20] Vodafone 2006 Letter, para 43.

[21] Vodafone, Section 20: Application for Determination for Designated Access Service, 13 January 2006 (**Vodafone Application**), para 2.

"Vodafone local numbers need to be able to be called by Telecom local customers."

and highlighted the risk of failing to implement a retail non-discrimination condition:[22]

> *"Vodafone's local service will be more competitive in the local services market where subscribers on Telecom's fixed PSTN are able to call Vodafone's local customers and pay no more than if they were calling any other local number on any other third party network"*

And;[23]

> *"… Vodafone is asking the Commission to allow us to contest the local call market. We will be limited in our ability to do that if Telecom is able to discriminate against calls to our numbers.*
>
> *Vodafone submits that an obligation preventing Telecom from price discriminating against calls to Vodafone local customers, as compared with local customers of other third party service providers, is similarly necessary to avoid Telecom being in a position to deter customers from switching to Vodafone's local service by charging (or threatening to charge) customers a higher price for calls to Vodafone local numbers."*

10.1.4. The Commerce Commission banned any on-net / off-net discrimination in its final determination[24] as it would be:

> *"… detrimental to competition… and would thus deny end users some of the benefits from increased competition…"*

10.1.5. The second intervention by the Commerce Commission was primarily focussed on mobile termination rates (the MTAS investigation) and was finally resolved in May earlier this year.

10.1.6. The primary competition problem identified was the strong network effects caused by the very high retail price differentials between on-net and off-net calls. The high MTRs prevented the new entrant from being able to reproduce incumbent offerings in the market.

10.1.7. As the debate developed it increasingly shifted to the on-net / off-net retail practices employed by incumbents and all sides of the debate put forward arguments that dealing with MTRs would not remove the strategic incentives for large operators to employ on-net / off-net differentials and so could not in isolation address the perceived market failure.

10.1.8. Telecom for example in its 28 July 2009 submission on the draft MTAS report stated that MTRs bear no relationship to retail prices and marketing strategy is the only driver:[25]

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22 Vodafone, *Commission decision to investigate local service application,* 4 April 2006 (**Vodafone 2006 Letter**), para 40.

23 Vodafone Application, paras 153 – 156.

24 http://www.comcom.govt.nz/vodafone/

*"On-net pricing is prevalent in markets with BAK for mobile termination and exists in 27 of the 30 OECD mobile markets. **It is reflective of the marketing strategies adopted by the various operators and bears no relationship to MTM MTRs**."* [emphasis added]

10.1.9. Similarly Vodafone submitted to the Minister on the matter in July 2010 that:[26]

*"Vodafone agrees with Telecom and the New Zealand Business Roundtable (NZBR) that **regulation will not solve the perceived competition problem it aims to address**"* [emphasis added]

and that:[27]

*"The Commission also does not seem to have noted that lower termination rates under **regulation will… [m]ake no significant change to on-net/off-net price differentials**."* [emphasis added]

10.1.10. Over 80% of voice calls and 90% of SMS remained on-net in a market where the two incumbent networks enjoyed similar market shares and a third was just entering the market.

10.1.11. Both incumbents Telecom and Vodafone sought to avoid regulation of either MTRs or retail price differences but the Commission was clear that the two were related. The Commission's preference was to impose wholesale remedies wherever possible but recognised that it was a two sided market.

10.1.12. The Commission slashed voice MTRs to just a third of their previous amount with further cuts over time and cut SMS rates to less than 1% of their pre-regulation amount. The Commission stopped short of immediately introducing retail interventions to increase the amount of cross-network traffic, but made clear that it expected to see a marked increase in cross network retail offerings and traffic volumes. It reserved its position on direct retail intervention and is monitoring traffic volumes every month to ensure operators behave appropriately.

10.1.13. While on-net / off-net pricing may be used as a legitimate competitive pricing strategy in competitive multi-player markets, the PNG market is not competitive being characterised by a single, dominant, virtually closed network which has developed and grown as a consequence of discriminatory pricing. In these circumstances a non-discrimination condition would remove (rather than introduce), harmful retail distortions.

10.2. Qatar

10.2.1. Qatar represents a useful example for PNG as it is a recently liberalised market with a very strong dominant player and a small new entrant (similar in structure to PNG). Competition is in its infancy and the long term development of the industry for the

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25 Telecom, *Schedule 3 Investigation into Regulation of Mobile Termination Access Services – Submission on Draft Report*, 28 July 2009, para 75.

26 Vodafone, 6 July 2010, p2.

27 Vodafone, 6 July 2010, p2.

benefit of the consumer was an important factor in the decision to ban differential pricing by the Dominant Service Provider.

10.2.2. Also this year, on 15th May 2011, an order was issued by the Supreme Council for Information and Communications Technology (ictQATAR) setting forth the rules and instructions for on-net / off-net price differentiation for Dominant Service Providers in Qatar[28] (ICTRA 2011/05/15).

10.2.3. The order states that no on-net/off-net price differentiation can be applied by a DSP in Qatar, meaning that a DSP must charge the same price to customers regardless of the number or carrier they call or use a service (SMS, MMS, video call, etc.) from.

10.2.4. ictQATAR determined that in Qatar's developing telecommunications market such a practice had the potential to harm the growth of a smaller network and reduce competition.

10.2.5. In its justification for imposing the ban on discrimination by Dominant Service Providers, ictQATAR made the following statements;

Firstly on Dominance:

> *"on 24th June 2008 QTel was designated a Dominant Service Provider (DSP)"*

Going on to discuss the market share of QTel and the second operator Vodafone:

> *"QTel has a market share in excess of 80% in terms of mobile revenue and around 75% of total mobile subscribers. QTel also has the majority of "high value" customers […] Vodafone is currently mainly active in the blue collar (labour/service industry) segment"*

Then the effects of price discrimination on welfare:

> *"High off-net call charges can affect consumer welfare, so they are subject to strategic manipulation. The call externality creates strong incentives for each firm to increase its off-net price in order to reduce the number of calls made to a rival network, thereby reducing the attractiveness of the rival network to subscribers. Call externalities create a strategic motive for on-net / off-net price discrimination which can lead to socially inefficient tariff structures, and can create a barrier to entry for small networks which are unable to profitably replicate the incumbents' pricing strategies"*

Then is summing up the economic literature:

> *"The [economic] literature shows that large operators have an incentive to set higher on-net / off-net differentials than smaller ones. By charging higher off-net prices the larger operator restricts off-net traffic and puts its (smaller) competitor in an*

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[28] http://www.ictqatar.qa/en/news-events/news/ictqatar-issues-order-setting-rules-networkoff-network-price-differentiation-0

unfavourable position, by typically increasing their access deficit. Also studies on the welfare effect of on-net/ off-net price discrimination indicates clearly that especially when market expansion possibilities are limited as in Qatar [i.e. in a small country], price discrimination has a detrimental effect on total welfare when network operators compete in non-linear tariffs".

Finally, summarising the anti-competitive nature of the practice by Dominant Service Providers and its reasons for implementing a ban:

"On-net/off-net price differentials may positively influence a particular network consumers' welfare but at the same time this price differentiation may well encourage the DSP [Dominant Service Provider] towards anti-competitive behaviour and as a result it may restrict competition on the market. Taking above into consideration ictQATAR does not support on-net/off-net price differentiation at this point in time as the price discrimination policy is potentially harmful for the competition an there is no strong evidence for a positive economic welfare effect of that approach in the nearest future".

10.3. Namibia

10.3.1. In March 2011, the Namibian Communications Commission introduced a price cap on off-net retail prices[29]. It would seem that it felt no compulsion to prevent on-net calling at prices below MTRs because it had already reduced MTRs to the cost of an efficient operator and so would not expect prices to fall below cost unless there was a price squeeze situation.

10.3.2. The proportion of traffic that remained on-net for the dominant mobile operator was in excess of 90%.

10.3.3. In justifying its decision the NCC said the following:

"Large operators may use on-net to off-net ratios to limit competition and keep traffic on their network through so called "Club Effects". These arise because rational consumers prefer the network with a largest pool of subscribers in order to benefit from the possibility to call and be called at a lower calling rate (on-net rate) by the largest possible number of subscribers. "Club Effects" have an adverse impact on competition and consumer welfare, they prevent large operators from having to compete on price and/or service quality."

[29] http://www.researchictafrica.net/countries/namibia/NCC%20Retail%20Price%20Regulation.pdf

"In a competitive market operators compete on price and / or service quality. In a market with restricted market access and ineffective or insufficient regulation large operators may avoid having to compete on price or service quality by setting high termination rates and high off-net prices. From a regulatory perspective it is therefore important that termination rates are set close to the cost of an efficient operator and that off-net calling prices do not discriminate against smaller networks so that network size cannot shield large operators from competition".

10.4. Jamaica

10.4.1. From the Jamaican example we can see that Digicel's strategic conduct is not confined to PNG, nor are the effects of their conduct only raising concerns in PNG.

10.4.2. In August this year the issue of Digicel Jamaica's on-net / off-net retail price discrimination came into sharp focus as the then Prime Minister made a statement to Parliament regarding the proposed takeover of Claro by Digicel on the island.

STATEMENT BY THE PRIME MINISTER:

DIGICEL'S ACQUISITION OF CLARO

"Members of this Honourable House would be aware that telecommunications providers, Digicel and Claro, have entered into an agreement under which Digicel would acquire 100% of Claro's shares and, hence, assignment of Claro's licences. This agreement, as required by section 17(3) of the Telecommunications Act, is subject to ministerial approval and a joint application to this end dated March 17th 2011 was submitted to me. The proposed acquisition is part of a tri-country deal with reciprocal arrangements for a similar transfer of ownership from Digicel to Claro of Digicel's assets in Honduras and El Salvador.

A number of issues arose in consideration of the application. These include:

the impact that this acquisition would have on the level of competition within the mobile telecommunications market and, in this regard, concern about the ***wide disparity in termination rates among the carriers;"[emphasis*** *added]*

10.4.3. It is clear from the description that the 'disparity in termination rates' referred to here is actually a description of the retail prices for cross-network calls. It is also the primary concern of the Prime Minister of how this relates to competition.

The Prime Minister goes on to say:

"the opportunity was taken to enter into discussions with Digicel toward a voluntary agreement on a number of issues, most notably, more uniform interconnection rates between it and other mobile telecommunications providers"

And:

"The voluntary cross-network rate reduction of $3.00 from the peak rate (from $17.70 to $14.70) and $2.00 from off-peak rate (from $15.80 to 13.80) offered by Digicel in relation to interconnection retail charges with the other major provider, LIME, was unimpressive".

10.4.4. As a result of the proposed takeover process the Prime Minister called for urgent new powers to be granted to the regulator in order to ensure competition would be protected for the benefit of Jamaican users.

"This [take-over] issue has brought into sharp focus the need to strengthen the legal and regulatory framework for the telecommunications industry to bring it in line with contemporary best practices and ensure that the interest of the consumer is held paramount".

10.4.5. The principle concern of the Prime Minister was the issue of on-net / off-net retail price discrimination practices by Digicel. As of the time of writing this submission we are unaware of the specific changes being proposed but encourage NICT to contact the Jamaican regulatory authorities to understand their concerns in more detail.

10.5. **Kenya**:

10.5.1. Kenya is another interesting case where both off-net price caps and reductions in MTRs failed to alleviate the competition concerns and so a ban on on-net / off-net discrimination was implemented.

10.5.2. In August 2010, the Communications Commission of Kenya (CCK) adopted a price rule requiring dominant providers in the retail mobile market to "implement a price cap for off-net call prices to the level of their on-net prices."

10.5.3. The decision was based on the finding that the retail voice market was "not effectively competitive" and that the large MNO was "using the on-net to off-net pricing spread and product differentiation of voice services to sustain a 'club effect' in the market with adverse cascading impacts on competition and consumer welfare."[30]

10.5.4. The CCK had previously regulated MTRs based on an LRAIC cost modelling exercise and set a retail price cap on off-net calls in a proceeding concluded in 2007. However, on-net traffic continued to increase in Kenya, reaching 96% of all mobile

[30] *See CCK, Determination on interconnections rates for fixed and mobile telecommunications networks, infrastructure sharing and co-location; and broadband interconnection services in Kenya, Interconnection Determination No. 2 of 2010, 16 August 2010, ¶ 7.1(b), ("2010 Determination"),*

originated mobile calls by July 2010; and between 2006-2009 the retail price differential between on-net and off-net calls more than doubled. The non-discrimination rule also applies to dominant operators in the fixed line market[31].

10.5.5. It is worth noting that a price cap applied to off-net calls alone did not work and the regulator had to revisit the issue shortly afterwards to impose an outright ban on any discrimination between on-net and off-net calls.

10.5.6. Well renowned telecommunications consultancy firm Analysys Mason was commissioned to advise CCK in its deliberations on the matter. In its advice it stated:

"…as long as an operator with a large market share differentiates its prices between off-net and on-net calls, the part of the club effect about receiving calls from a large pool of subscribers at cheaper rates cannot be addressed..."

10.5.7. Analysys Mason recommended imposing a non-discrimination rule on the basis that:[32]

"[I]t addresses the part of the club effect that wholesale regulation cannot address;

[I]t should stimulate competition and give an opportunity to operators with a smaller market share to grow, thus creating a more even playing field, and

[I]t leaves to dominant mobile operators the commercial reactivity to adjust to market conditions."

10.5.8. Analysys Mason also says the following on its website[33]:

"When market shares are highly unbalanced, a subscriber selecting an operator will not only take into consideration the different tariff plans available on the market and what they will pay, but may also take into account the fact that people calling them could pay less.

If the leading operator applies high on-net discounts, then a 'club effect' (or bandwagon) can develop: the new subscriber only has to select the leading operator in order to call and be called at cheaper rates.

Such an effect can be a strong constraint on the development of competition. In such a situation, it may be appropriate for a regulator to limit on-net discounts, at least on a temporary basis, in order to enable smaller operators to gain enough market share for competition to replace direct regulatory retail intervention.

In effect, this is a regulatory control on the structure of prices, but it does not slow down development of new offers or involve the regulator in setting retail prices directly.

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31 http://www.cck.go.ke/regulations/downloads/interconnection_determination_no2_2010.pdf.

32 See reference point 11.

33 http://www.analysysmason.com/About-Us/News/Newsletter/Regulating-on-net-discounts-in-emerging-countries-to-limit-the-club-effect/

In Kenya, following a study undertaken by Analysys Mason, the CCK published its interconnection determination NO.2 of 2010 restricting the operator(s) designated as dominant from offering on-net discounts"

10.6. Singapore

10.6.1. In Singapore, the Info-communications Development Authority (IDA) prohibited MNOs from engaging in *on-net/off-net* price differentiation up until January of 2005, when the regulator lifted the restriction after finding the market was "mature and competitive."[34]

10.6.2. After reviewing SingTel Mobile's and StarHub Mobile's on-net and off-net differential pricing arrangements in October 2001, IDA decided to maintain the "policy of not allowing such differential pricing arrangements, except as short-term promotions."[35]

10.6.3. The IDA argued that "differentiated pricing favours operators with significantly larger subscriber bases, as it could discourage consumers from switching operators and hinder the development of effective competition in the mobile market, especially in the initial days of competition development."[36]

10.6.4. The restriction on price discrimination was deemed necessary to foster competition although call termination on mobile networks in Singapore has historically been subject to a bill and keep (BAK) system with no termination charges assessed between operators (i.e., MTRs are set at zero).

10.6.5. If a regulator considers it necessary to impose retail non-discrimination restrictions on operators that function in a zero MTR environment, it is clear that the strategic incentives for large operators to introduce differential pricing are independent of the level of Mobile Termination Rates.

10.7. Columbia:

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[34] *IDA, Singapore's Mobile Market Gets New Impetus for Growth, Press Release (Jan. 2005), at: http://www.ida.gov.sg/News%20and%20Events/20050712123200.aspx?getPagetype=20.*

[35] *IDA's Decision on Differentiated Mobile Pricing, Press Release (Oct. 2001), at: http://www.ida.gov.sg/News%20and%20Events/20061115094612.aspx?getPagetype=20.*

[36] *IDA, Singapore's Mobile Market Gets New Impetus for Growth, supra note 26, at footnote 2.*

10.7.1. In February 2009, the Communications Regulatory Commission (CRC, previously CRT) regulated the *on-net/off-net* price differential that can be charged by the dominant MNO in the retail origination market in Colombia[37]. Pursuant to this determination, the price of off-net minutes for all tariff plans offered by the dominant MNO (excluding promotions) must be equal to or lower than the average price of on-net minutes in those plans plus the MTR.

10.7.2. Worth noting that the CRC had previously regulated MTRs in December 2007 based on a forward looking, LRIC+ cost modeling exercise. However, in its 2009 review of the retail mobile origination market, the regulator found that MTR regulation had proved insufficient to remedy distortions deriving from *on-net/off-net* price differentiation observed in the market.

10.7.3. The CRC determined that retail price differentials were increasing, especially those of the largest MNO. Also, the percentage of on-net traffic was growing, with on-net calls increasing from 36 percent to 65 percent of total mobile traffic between 2004 and 2006. By January 2009, on-net traffic represented close to 85% of all calls originating on mobile networks in Colombia.

10.7.4. The price rule adopted was thus directed at two objectives:

1) in the long term, reducing network externalities resulting from the dominant network provider's *on-net/off-net* price differentiation strategy; and;

2) in the short term, curbing the high percentage of on-net calls in the market.

10.7.5. Once again, the incentives of operators to introduce the differentials in the first place appear to be independent of MTRs.

10.8. Turkey

10.8.1. In September 2007, the Information and Communications Technologies Authority (ICTA, previously TA) of Turkey imposed[38]:

1) a price cap on off-net calls; and

2) an "internal" non-discrimination obligation.

[37] *See CRC Resolution 2066 of 2009, at: http://www.crcom.gov.co/images/stories/crtdocuments/ Normatividad/ResolucionesCRT/00002066.pdf. This resolution was affirmed on reconsideration by CRC Resolution 2171 of 2009, at: http://www.crcom.gov.co/images/stories/crtdocuments/Normatividad/ResolucionesCRT/00002171.pdf. The rule entered into effect in December 2009.*

[38] Turkcell, U.S. SEC Form 20-F, pp. 59-60 (Apr. 27, 2010),

http://google.brand.edgar-online.com/EFX_dll/EDGARpro.dll?FetchFilingHtmlSection1?SectionID=7205918-909-1044944&SessionID=dpfNHqxOZWuIy77

Both obligations initially applied only to the dominant MNO.

10.8.2. The price cap set a price ceiling for off-net calls, while the “internal” non-discrimination obligation set a price floor for on-net calls. ICTA had initially regulated MTRs in 2003 and again in 2004. However, in 2007 it found large MNOs continued charging significant price differentials for on-net and off-net calls. This resulted in close to 90% of all calls originating on mobile networks in Turkey terminating on-net in 2007, up from 81% in 2004, and prompted additional regulatory action from the ICTA.

10.8.3. Despite an overhaul of the telecommunications law in 2008[39], ICTA found it necessary to maintain these obligations in a March 2009 decision. Currently, the off-net price cap rule applies to all MNOs in Turkey while the “internal” non-discrimination obligation only applies to Turkcell –the dominant MNO[40].

10.9. Slovenia

10.9.1. In February 2006, the Slovenian regulatory authority, the Post and Electronic Communications Agency (APEK), adopted:

1) MTR regulation based on a Fully Allocated Cost (FAC) methodology; and

2) “internal” non-discrimination obligation specifically targeting on-net price discounting in the market.

10.9.2. Under the non-discrimination obligation, which was first applied to Mobitel and Si.mobil in 2006[41], and then to the two new entrants in 2009, APEK linked the MNO’s termination rates to their retail on-net prices, requiring that MTRs not be lower than the average retail price of their on-net calls[42].

[39] Electronic Communications Law (Law No. 5809), adopted November 5, 2008.

[40] Turkcell, U.S. SEC Form 20-F (2010), p. 59.

[41] European Commission (EC), Case SI/2005/0276: wholesale markets for voice calls termination on individual mobile networks in Slovenia (Dec. 1, 2005). (“2005 EC Comments on Termination Market Review”), at: http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/slovenia/registered_notifications/si20050276/final_enpdf_9/_EN_1.0_&a=d.

[42] EC, Case SI/2009/0946: Voice call termination on individual mobile networks in Slovenia (Aug. 13, 2009). (“2009 EC Comments on Termination Market Review”), at: http://circa.europa.eu/Public/irc/infso/ecctf/library?l=/slovenia/registered_notifications/si20090946/si-2009-0946_enpdf/_EN_1.0_&a=d.

10.9.3. However, significant delays in regulating the large MNOs' pricing practices were identified by investors as causing the exit of the third entrant shortly after APEK implemented *ex ante* wholesale regulation in 2006.

10.9.4. Since the introduction of these regulatory measures, the proportion of on-net traffic has progressively decreased, although the market remains concentrated. For example, in April 2007 on-net calls accounted for 72.9% of all mobile calls, while in September 2010 that percentage had dropped to 61.9%.

10.10. Portugal:

10.10.1. The issue of discriminatory pricing arose in a merger context in Portugal in 2006 with the largest mobile operator offering voluntary undertakings not to engage in differential pricing to the customers of a new entrant or MVNO in support of its application to acquire the third largest mobile operator.

10.10.2. Undertakings were offered following concerns raised by the regulator that the merged entity could have an impact on a new entrant's ability to compete, noting existing competitive distortions associated with on-net / off-net price discrimination that were prevalent in the Portuguese market.

10.10.3. The position of Vodafone, the second largest operator with a market share of 36%, in respect of the harm caused by discriminatory pricing is noteworthy. Vodafone submitted that tactical on-net pricing campaigns by the merged entity would have the effect that:[43]

"… consumer's ability to switch operators would be severely hampered."

10.10.4. Vodafone supported the elimination of on-net / off-net pricing and the extension of the non-discrimination undertaking to include calls to its own customers.

10.10.5. Vodafone Portugal enjoyed 36% market share and highlighted strategic pricing incentives and competitive harm form a merged entity less than twice its size at 65%.

10.10.6. As early as 2005, ANACOM had identified potential competitive distortions associated with the on-net / off-net differential pricing practice, but refrained from adopting any *ex ante* remedy targeting the differential. Instead, ANACOM conducted three wholesale mobile termination market reviews (concluded in 2005, 2008 and 2010) and focused on aligning MTRs with the European regional average based on a benchmarking exercise. However, this approach proved inadequate, with ANACOM finding that competitive concerns stemming from *on-net/off-net* differentials persisted and had likely worsened[44].

[43] TMG Report, p32.

[44] ANACOM, Decisão - Mercados grossistas de terminação de chamadas vocais em redes móveis individuais. Definição dos mercados do produto e mercados geográficos, avaliações de PMS e imposição, manutenção, alteração ou supressão de obrigações regulamentares, Maio

10.10.7. Portugal attempted to use the merger review authority to curb *on-net/off-net* price differentiation via voluntary commitments presented by parties to a particular transaction. Specifically, the Portuguese Competition Authority (AdC), considered the matter in significant detail in the proposed merger between Sonaecom, controller of the third largest MNO in Portugal, and Portugal Telecom, controller of the largest MNO in Portugal.

10.10.8. However, the transaction did not materialize and the voluntary commitment presented by the acquiring party to abstain from differentiating between *on-net/offnet* prices was not implemented. Nevertheless, the positions of the AdC and other interested parties, particularly the second-largest MNO, Vodafone Portugal, highlight the concerns over *onnet/off-net* differentiation in the Portuguese market[45].

10.11. Bolivia:

10.11.1. On 14th April 2010 a modification to the Bolivian Telecommunications Act was made that banned on—net / off net retail price discrimination by mobile phone companies. In its decision the regulator specifically referenced international precedents and the fact that it would promote competition for the benefit of end users in Bolivia[46]. An extract of translation from its letter to the ATT says;

"Hereby, in relation to comments on implementation of tariff on-net and off-net expressed at the meeting between the regulator and the three mobile phone operators country, held on March 29 2010 in offices Control Authority and Social Control of Telecommunications and Transport (ATT), we have the pleasure of getting to the ATT the following facts that confirm that the prohibition of discrimination on-net/off-net rates is a rule that defends the correct and fair competition that ultimately benefits users in the country.

First, it is worth noting the actions that the ATT has been undertaken in order to establish fair market conditions, competition-generating, non-discrimination and better services to users, all aimed at costs that reflect the efficient provision of each service, criteria directly become the supreme decrees 29 674 (Article 4 of Regulation Tariff Regulatory Regime of the Public Telecommunications Services) and 28 994 (Section 2).

In this regard, international experience in Latin America and Europe, show the negative effect that has been producing the implementation of tariff differentiation on-net / off-net in the mobile telephony market in various countries and the struggle they have with the regulators of these countries for the elimination of this criterion".

2010, pp. 23-26, ("ANACOM – 2010 Review"), at:
http://www.anacom.pt/streaming/Decisao_AnaliseMercado7.pdf?contentId=1026267&field=ATTACHED_FILE

[45] AdC, Decisão – Processo AC- I – 08/2006 – Sonaecom/PT, at:
http://www.concorrencia.pt/bdoc/ProcessoFicha.aspx?idProcesso=10393

[46] Bolivia 193_DS 28994 Tarifas Solidarias 01Ene07

10.12. Thailand

10.12.1. In July 2010, Thailand's National Telecommunications Commission ordered all mobile—phone operators not to charge different rates for calls within (on-net) and outside (off-net) their own networks[47]

10.13. Paraguay

10.13.1. On 28th September 2010, CONATEL, the Paraguay regulator enacted decree 5134 which banned any operator from charging a differential retail price for on-net and off-net traffic.

10.13.2. In reaching its final decision CONATEL commissioned a market study and sought advice from OVUM, a leading global telecommunications consultancy.

10.13.3. Paraguay had a 4 player market but despite this the market was highly concentrated (and becoming more so according to the OVUM report). Tigo, the dominant operator, saw its market share soar from 50% in 2006 to 70% in 2009. This was put down to the strong network effect it could exert on the market through some stark differentials between on-net and off-net retail prices.

10.13.4. Similar to PNG, the tariff mediated network effect was exacerbated by the fact that each network had distinct and recognisable prefix codes which provided price signals to consumers. This combined with a lack of mobile number portability meant the differentiation strategy was extremely effective in driving out competition.

10.13.5. OVUM found that over 42% of consumers based their choice of mobile provider on which network their friends and family were on. Some quotes from the market research carried out show the strength of the network effect in the words of Paraguay consumers:

- "I have Tigo because everybody else has it. It is very expensive to call from other networks".
- "It is very expensive to talk from a Tigo to another operator, they don't call you they wait for you to call".
- "If you leave Tigo, for some reason nobody calls you, you are left isolated of your group".

10.13.6. Ovum found that with the existing tariff structure, "in the medium term there is a risk that no other operator can profitably operate in Paraguay against the market

[47] http://www.nationmultimedia.com/home/2010/07/17/business/Mobile-operators-ordered-to-charge-single-rate-30133998.html

leader" and concluded that the "Paraguayan mobile market needs regulatory intervention"

10.13.7. The decree prevented any on-net / off-net retail price discrimination in an attempt to promote merit based competition.

10.14. United States Government Statements

10.14.1. In its annual review of telecommunications trade agreements: **2011 Section 1377 Review** On Compliance with Telecommunications Trade Agreements, Authored by Ambassador Ronald Kirk Office of the United States Trade Representative, it was noted that on-net / off-net retail price differentials have a material impact on competition and the US has raised concerns with governments where this has been found to be the case[48]:

"Concerns Regarding On-Net/Off-Net Mobile Termination Rates

"As commenters have noted in past years, and one commenter again noted in this review, certain mobile operators are increasingly using a strategy of pricing the retail rates for calls their customers make to competing mobile networks ("off-net calls") significantly higher than what they charge for calls to users of their own networks ("on-net" calls). Although operators may have legitimate cost advantages in pricing on-net calls (for example, they do not have to pay another operator mobile termination rates), charging significantly higher for off-net calls as a way to discourage such calling and hinder the ability of customers of other networks to receive calls can distort the market and hinder competition.

"As the U.S. government noted in a recent submission[1], "High mobile termination rates in combination with deep on-net/off-net price differentiation (i.e., charging higher retail prices for off-net calls than for on-net calls) leads to increased network effects (i.e., club effects) which may reduce competition in the long-term." Last year a commenter raised this issue with respect to New Zealand and that country's regulatory authority took steps to address the issue. This year, a commenter notes similar issues in both Mexico and Chile. In Chile, the issue is being investigated by the Competition Commission. It is unclear whether Mexican authorities will be able to address this issue, as operators have so far mounted legal challenges to all attempts to regulate pricing of mobile services".

[48] http://www.ustr.gov/trade-topics/services-investment/telecom-e-commerce/section-1377-review

11. Concluding Remarks:

11.1. In this submission and accompanying economics report we have shown how the competitive mobile market situation in PNG is in poor shape.

11.2. The strategic disposition of Digicel has been to increase the deployment of on-net / off-net differentials in the form of high off-net surcharges and potentially predatory pricing of on-net calls. The combination has been extremely effective and represents a toxic cocktail designed to close the market to competition.

11.3. The larger the network, the greater the appeal for consumers to join that network. This in turn further increases the incentives to apply on-net / off-net differential prices and so the cycle goes on. It is also the reason why, without appropriate intervention, network foreclosure becomes a significant risk.

11.4. The situation is well understood by leading economists who point out that the strategic incentives for high on-net/off-net differentials by large and dominant operators are clear and that although in some circumstances they can have pro-competitive effects (in markets where retail market power is divided symmetrically between participants) the anti-competitive effects in markets where there is clear dominance can be dramatic, competition is stifled and innovation, investment and choice fall away.

11.5. We show how the situation in PNG is already bad but getting rapidly worse and we are on the verge of a near total lack of connectivity between operators. This is not a good outcome in a nation that needs to get connected in order to stimulate growth.

11.6. We show that PNG and NICTA in particular is not alone in this kind of deliberation and many regulators around the world have realised that the only way to break the network effect and kick-start competition based on merit (and not who has the largest customer base) is to impose a ban on any retail price discrimination.

11.7. We have also shown the potential downside of not acting strongly and urgently as there is a real danger of foreclosure in the market and little prospect that any substitute or new entrant could be successful in breaking the network effect and competing effectively and efficiently.

11.8. The art of good regulatory practice is to strike a balance between contrasting risks but always with the long term benefits of end users and competition at its core. In this case a ban would be a low risk option that could be lifted if it was found to be unnecessary in the future, the high risk option of not acting could tip PNG to monopoly, low levels of investment and high prices for many years to come.

11.9. It is our submission that NICTA has an obligation under the Act and a duty to citizens to impose a Retail Services Determination that bans any price discrimination between on-net and off-net calls by Digicel.

12. ANSWERS TO THE SPECIFIC QUESTIONS:

Section 3.1. The Relevant Market:

Specific questions for stakeholders
(1) Do you agree with the analysis and the conclusion about the definition of the relevant market for this inquiry?
(2) If you disagree with the market definition relevant to this inquiry, what market(s) would you consider to be the relevant market(s)?
Please provide argument and if appropriate evidence to support your views.

Answers:

(1) No.
(2) It needs to be wider in scope to reflect competition for the entire domestic calling of the mobile subscriber, not just their calls and SMS to a single operator(s). A market definition that better reflects this is:

> “The national retail market for the supply of domestic on-net and off-net mobile voice and SMS services.”

Please refer to the accompanying report by independent economist Emma Lanigan for a full explanation of why the market definition needs to change. In summary however, firms do not supply calls to some domestic networks but not others and the commercial reality of the market is that firms compete for the supply of mobile originated calls and SMS.

That is, the relevant arena of competition is not the supply of mobile services that terminate on an individual network (eg, bemobile) but rather the joint supply of mobile voice and SMS service to any domestic network.

This is because firms compete for mobile subscribers’ entire domestic calling rather than individual call or SMS types. As highlighted in our independent economist’s report the very nature of the issue being considered – that Digicel’s pricing of off-net calling is a strategy intended to retain its mobile subscriber base and prevent switching to competing networks – is consistent with the hypothesis that firms are not competing for a certain individual call type.

Section 3.2

On Dominance & Market Power:

Specific questions for stakeholders

(3) Do you agree with the criteria for dominance and the way they have been applied (as far as the evidence allows) by NICTA?

(4) Are there different conclusions on any of the criteria for dominance that you would draw and, if so, what are they?

(5) Are there other criteria for dominance that should be considered, and, if so, what are they and how should they be applied in this case?

Please provide argument and if appropriate evidence to support your views.

Answers:

bemobile agrees with NICTA’s preliminary finding that Digicel is dominant. The findings in economist Emma Lanigan’s report support this. Specific comments on the SMP criteria include the following:

- NICTA has interpreted the “ease of market entry” very narrowly. The overall ease of market entry would depend on a range of issues, including many of the other market power factors, such as economies of scale, access to infrastructure that is not easily duplicated and network effects. As NICTA points out first mover advantage can be a commercial barrier to entry. This effect will be particularly strong in the presence of network effects. An additional requirement for entry is access to mobile spectrum.
- NICTA expresses the view that network effects are relevant. Both bemobile and economist Emma Lanigan support this view and, as discussed at length in our submission, consider network effects to form a strategic barrier to entry which increase Digicel’s dominance.
- NICTA suggests that economies of scale could be relevant. bemobile considers economies of scale to be highly relevant. As explained in the economist’s report the high fixed cost nature of mobile networks, together with the fact that Digicel has traffic volumes that are many times higher than rivals will mean that it will have unit costs that are significantly lower than competitors.
- NICTA expresses the view in the Discussion paper that the overall size of Digicel is probably not relevant to the current proceedings. It seems likely, however, that Digicel’s size and wide presence through the Pacific Islands and beyond would give it a number of advantages including strong purchasing power in procurement of network equipment allowing it to achieve lower costs.
- The practice of SIM-locking which effectively means that in order to switch network a customer needs to purchase a new phone, is an important switching barrier.

Please refer to independent Economist Emma Lanigan’s report attached to this submission for a more detailed discussion of the dominance criteria including the interpretation of those criteria, cases where our economist draws different conclusions than NICTA and suggestions on what other criteria should be considered.

Section 3.3:

Possible anti-competitive behaviour and evidentiary requirements.

Specific questions for stakeholders

(6) Do you agree with NICTA’s preliminary treatment of the arguments based on the relativities of national mobile and international call charges? If not, please explain how, in your view, the relativities can be used to show that Digicel is abusing a position of dominance in a market?

Please provide argument and if appropriate evidence to support your views.

Answers:

The relativities of the price of calls to bemobile and the price of international calls is not the primary concern. The fact that international calls (generally charged at a significant premium to national calls in most markets) are perhaps charged at a reasonable fee serves to reinforce the main point that the original complaint sought to make which is that calls to bemobile are charged at an excessive rate for strategic rather than profit reasons (even when compared to high priced international calls) in order to choke off calls to bemobile customers and lessen their enjoyment of the service.

The evidence and arguments showing both the strategic incentives of Digicel to charge excessive off-net rates and the anti-competitive results are discussed at length throughout our submission and accompanying economist report.

Section 3.3.1.

Is there any indication of anti-competitive cross subsidy by Digicel?

Specific questions for stakeholders

(7) Do you agree with NICTA's preliminary analysis on whether Digicel is cross-subsidising in a manner that could be or is an abuse of dominance? If not, please provide your own view and analysis, including what NICTA should do about it.

Please provide argument and if appropriate evidence to support your views.

Answers:

bemobile considers that the key consideration in regard to whether a retail determination is required is the detrimental impacts of Digicel's high off-net pricing. Whether a cross-subsidy is occurring would require analysis of Digicel's costs. Without understanding Digicel's cost structure it is difficult to answer this question.

Section 3.3.2.

Predatory pricing by Digicel.

Specific questions for stakeholders

(8) Do you agree with NICTA's preliminary view and analysis that there is no evidence that Digicel is predatory pricing? If not, please provide your own view and analysis, including what NICTA should do about it.

Please provide argument and if appropriate evidence to support your views.

Answers:

No.

A vertical price squeeze is a form of predatory pricing and can occur through a combination of high MTRs and low on-net pricing by the largest network.

Section 3.3.3

Is there any indication of excessive pricing by Digicel?

Specific questions for stakeholders
(9) Do you agree with NICTA's preliminary view and analysis on whether Digicel is engaging in excessive pricing? If so, what should be done about it by NICTA? If not, please provide your own view and analysis. Please provide argument and if appropriate evidence to support your views.

Answers:

Yes.

Excessive pricing can either be interpreted in SMP terms where an operator is generating excess profits for a particular service, or, as is the case here that excessive pricing is being used as a strategic tool to bring about some other effect in the market. It is this latter reason that prevails in this case and has been the focus of much of our submission and accompanying economist report.

For the reasons set out throughout this submission and the accompanying economist report we believe that not only is there a clear motive for the excessive pricing we see but the evidence is overwhelming that excessive pricing is being employed to anti-competitive effect by Digicel.

It is also noteworthy that Digicel appear to be attempting to play regulatory games with NICTA. This is unsurprising and we find dominant operators often use a tactic of introducing plans during the course regulatory investigation aimed at giving a false impression to a regulator about their intended conduct. We note from its website that Digicel has introduced a business plan where the voice bundles not only include Digi-Digi but "NOW" Digi to bemobile/Telikom. However because prepaid customers account for a very large proportion of the market, and Digicel continues to set very high price differentials for prepaid customers, its discriminatory pricing conduct remains extremely concerning.

Moving to the question of what NICTA should do about it, we refer NICTA to section 3 and section 11 and our answer to Question 12 where we suggest imposing a ban on any on-net / off-net retail price discrimination for national calls and SMS by the dominant operator Digicel.

Section 3.3.4

Is there an indication of anti-competitive discrimination by Digicel?

Specific questions for stakeholders

(10) In your view, is there any indication of anti-competitive price discrimination by Digicel?

Please provide argument and if appropriate evidence to support your views.

Answers:

Yes.

In the discussion document NICTA states that "The overall benefit/disbenefit to Digicel of its price discrimination between on-net and off-net calls is not clear".

Our submission has gone to considerable lengths to show the strong motives behind the price discrimination strategy. There is clear benefit to Digicel in imposing the differentials. Digicel is well aware of these benefits and has been shown to pursue similar strategies in other territories where it trades. They are designed specifically to induce strong network effects at the expense of its own customers (who don't make efficient numbers of off net calls due to price), their rival's customers (who suffer an access deficit in calls received) and competition which suffers because the network effect is so strong.

If NICTA was in doubt about the reasons for the practice before then it should no longer be and we refer NICTA to the entire contents of this submission and the accompanying economists report and the overwhelming mass of empirical and theoretical evidence from the economic literature and the findings of more than a dozen foreign jurisdictions that have imposed retail sanctions to prevent the behaviour in the interests of their citizens.

Section 4:

Consideration of retail service determinations generally.

Specific questions for stakeholders

(11) How should NICTA assess whether or not retail customers will be exposed to 'a material risk of higher prices and/or reduced service' in the absence of a retail service determination for the purposes of section 158(b)(ii)(B) of the Act?

(12) What are your views on the six principles proposed by NICTA to guide its intervention in pricing in retail markets?

Please provide argument and if appropriate evidence to support your views.

Answers:

(11). Yes, we have described the real risks of foreclosure and loss of competition that will result if NICTA does not use its powers and impose a Retail Service Determination to prevent any on-net / off-net discrimination. We have also shown international examples of good practice and how well recognised the competition issue is when dominant operators are allowed to behave in this way. Any pro-competitive arguments put forward by Digicel are far out-weighed by the anti-competitive effects of their actions and for this reason the low risk and appropriate action for the long term benefits of PNG is for NICTA to use its powers to prevent any on-net / off-net discrimination by Digicel.

(12) NICTA is right to be cautious about introducing inappropriate regulation but as we have described in section 8, good regulatory practice is about balancing the risks of action or inaction. In this case the risks of inaction are considerable and could set PNG back many years at a time when competition is only just starting. Hobbling competition before it is allowed to take hold is unlikely to be in the best interests of PNG citizens.

In section 10 we discuss in detail the actions that regulatory authorities the world over are taking to address the anti-competitive nature of tariff mediated network effects. Analysys Mason, when advising the Kenyan regulator, recommended imposing a non-discrimination rule on the basis that:

> *"[I]t addresses the part of the club effect that wholesale regulation cannot address;*
>
> *[I]t should stimulate competition and give an opportunity to operators with a smaller market share to grow, thus creating a more even playing field, and*
>
> *[I]t leaves to dominant mobile operators the commercial reactivity to adjust to market conditions."*

And when describing tariff mediated network effects:

> *"Such an effect can be a strong constraint on the development of competition. In such a situation, it may be appropriate for a regulator to limit on-net discounts, at least on a temporary basis, in order to enable smaller operators to gain enough market share for competition to replace direct regulatory retail intervention."*

And on the issue of whether this is retail price regulation, they say it is not, it is merely the structure of prices that is subject to intervention and that should not prevent competition or slow down the development of new offers:

> *"In effect, this is a regulatory control on the structure of prices, but it does not slow down development of new offers or involve the regulator in setting retail prices directly."*

We do not advocate NICTA setting prices, or imposing caps – that would not adequately address the problem and potentially stifle competition. We advocate the simple, non-intrusive remedy of a ban on on-net / off-net retail price discrimination. Such a condition would sit well with all 6 of NICTAs principles and allow for competition based on merit and not on the basis of who can impose the greatest utility deficit on a rival's customers.

Annex A

Terms of reference:

Specific questions for stakeholders

(13) Do you agree or not with the terms of reference for this inquiry? If not, what changes or additions would you make?

Please provide argument and if appropriate evidence to support your views.

Answers:

Yes.