Digicel

The Bigger, Better Network.

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December 22, 2009

ATTENTION Mr. David Archbold

Information, Communication & Technology Authority
P.O. Box 2502, 3rd Floor Alissta Towers
Grand Cayman KY1-1104
Cayman Islands

Dear Sirs,

<u>Re: Supplement to Digicel's request for Dispute Resolution</u>

Following its submission on December 11, please see attached further documentation as outlined therein.

Digicel would also emphasize that if the ICTA is to make a determination with retroactive effect it must consider that any such determination will <u>not</u> have an impact on any retail rates since any decreases will not be passed on to any retail subscribers. This is especially true and important when it comes to the fixed to mobile rates since in this aspect such determination from ICTA, if determining that the rates should be lower than what is applied today will not impact the retail prices actually paid rather only shift money between Digicel and C&W, i.e. a distribution of wealth to C&W since none of this additional payment by Digicel to C&W would benefit the end-users. This effect would be very contentious and should not be something that a regulator should engage in.

This is contrary to the situation as it concerns mobile to mobile calls since the termination rates are the same (with the exception of the exorbitant transit rate Digicel has to pay C&W due to their obstruction to facilitate direct mobile to mobile interconnection), and as such these costs/revenues will to a large extent net out each other. Or in other words due to the difference in FTR and MTR, any decrease in the MTR (without a corresponding monetary decrease in the FTR) will transfer wealth from Digicel to C&W with absolutely no consumer benefit.

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In this context the ICTA should note that C&W in other jurisdictions where there has been a decrease in the MTR, e.g. the OECS, C&W has not at all or only to a very limited extent (and much later than the decrease occurred), passed on the decreases to its fixed retail customers when making calls to other mobile networks.

Yours faithfully
Digicel (Cayman) Limited

Victor Corcoran
Chief Executive Officer

Cc. Mr. Anthony Ritch, C&W

Directors: Denis O'Brien (Chairman), Michael Alberga, Leslie Buckley, Conor O'Dea

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Submission to the Information and Communications Technology Authority

Concerning the request for determination submitted December 11, by Digicel (Cayman) Limited

December 22, 2009

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1 INTRODUCTION

Following its submission on December 11, Digicel hereby submit further documentation as outlined therein.

Digicel is of the view that it may be of great assistance to the Commission to receive a submission which seeks to demonstrate the importance of using a glide path where the regulator determines that the mobile termination rate (MTR) is to be reduced.

As the ICTA is aware the parties entered into an agreement in July 2004 (Exhibit B to our submission) dealing with inter alia the way the implementation of new fixed and mobile termination rates were to be implemented once the Authority made the determination on rates. This imputation agreement foresaw a 30 month glide path once an MTR is determined by ICTA using the process set by law. Both parties expressly accepted and agreed the said rationale. Digicel has been working with the legitimate assumption that this agreement is to be honoured by all parties and as such based its business practises on this assumption. It has had no reason to believe that no glide path should be applied.

This document addresses the regulatory and economic rationale that underpins the design and use of glide path price controls especially as they concern MTRs.

Digicel would also emphasize that if the ICTA is to make a determination with retroactive effect it must consider that any such determination will <u>not</u> have an impact on any retail rates since any decreases will not be passed on to any retail subscribers. This is especially true and important when it comes to the fixed to mobile rates since in this aspect such determination from ICTA, if determining that the rates should be lower than what is applied today will not impact the retail prices actually paid rather only shift money between Digicel and C&W, i.e. a distribution of wealth to C&W since none of this additional payment by Digicel to C&W would benefit the end-users. This effect would be very contentious and is not something that a regulator should engage in.

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2 THE RATIONALE FOR GLIDE PATHS

2.1 What issues does a mobile termination charge Glide Path seek to address?

From a regulatory policy perspective, the rationale for adopting a glide path for mobile termination charge (MTR) reductions was developed by Oftel (now Ofcom), the UK telecoms regulator, and also by the UK appeal body, the Competition Commission.

The intention behind a glide path for mobile termination charge (MTR) reductions is to achieve a price control mechanism intended to reduce wholesale termination charges that achieve the following objectives:

(i) The rate of decline does not unduly negatively impact mobile retail users; and

(ii) The rate of decline enables mobile network operators (MNOs) to avoid windfall losses as a result of:

a) not being afforded sufficient time within which to adjust existing contracts, or
b) being unable to recover subsidies (mainly handset subsidies) that have been historically provided to certain mobile users.

These two points are closely linked to the subject of two-sided markets or two-sided platforms which Digicel discusses further below.[1] A third point which has always been in the forefront of Ofcom's reasons for using a glide path is that economic welfare requires that price controls are designed to work as "incentive mechanisms" and a glide path is the realisation of a price control incentive mechanism. It is one form of price control mechanism and as such a glide path should also be designed to ensure that it acts as an "incentive mechanism"[2]. The intention of a glide path, as with any price control mechanism, is to get network operators to improve their efficiency and then to share some of those efficiency gains with customers. In appeals that have concerned in some way the glide path in the UK, the Competition Commission has accepted this incentive-mechanism argument as a cornerstone for the design of the UK glide path. We thus add a third to the two above,

(iii) To provide for efficiency-enhancing incentive properties that gliding path price caps are expressly designed to achieve.[3]

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[1] An overview of this literature which began in 2001 with a paper by Rochet and Tirole is provided by Roberto Rosen, (2005), "Two-Sided Markets: A Tentative Survey", *Review of Network Economics*: Vol 4, (2).

[2] This is a substantial topic in economics which is discussed in some detail in the seminal text by J-J. Laffont and J. Tirole (2001), *Competition in Telecommunications*, MIT Press.

[3] A price cap mechanism is the best known of regulatory incentive mechanisms. A price cap is a glide path that works by setting in place a schedule of price changes, calculated so as to enable the regulated firm to keep any profits it can earn by improving its efficiency by more than that implied by the schedule of reductions. This way, a price cap is designed to share efficiency improvements between consumers and investors. It requires the regulator to commit to a fair schedule and not to

Analysing glide paths and these three issues is a complex task for a regulatory economist, not least because much of what regulators now know of these matters has been learned from recent academic research which is ongoing and still evolving.

2.2 Addressing regulatory opportunism

Where investments involve long-lived "sunk costs"[4] such as characterises telecommunications, electricity, gas and water networks, regulators and government need to take care so that changes in law or regulation do not render those assets unprofitable, i.e. change the commercial or legal circumstances such that they are no longer viable investments over the long term.[5, 6] When decisions are made that have this effect, the authorities are often said to have behaved "opportunistically". Such decisions typically have the short-run effect of transferring investors' funds to end-users. This would happen, for example, if the X value in the "price inflation" minus X price cap were to be set at a level that the price-capped firm could not in practice meet without also being unable to earn a fair return on capital invested.

The long-run implications for end-users of opportunism by the authorities are always negative. Future investment drops to a lower level, typically in all sectors. Investors will also require a greater country-specific risk premium in order to invest; i.e. the cost of capital increases. Countries where investors perceive the highest risk of opportunistic behaviour by

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seek to take all the profits that can be available with efficacy improvements from the company. If this was to occur or the regulated firm thought that regulations might be exacted with this result, the firm would have no incentive to improve its efficiency. This would ultimately be to the detriment of consumers. An overview is provided by Stephen P. King, "Principles of price cap regulation", Mimeo, Department of Economics, The University of Melbourne, available at http://www.regulationbodyofknowledge.org/documents/150.pdf

Research has shown that a level of economic rent paid to the price capped firm is unavoidable and in the public interest. See Laffont, and J. Tirole (2001),*Op.cit*.

[4] Sunk costs are costs that have been incurred and which are largely irreversible and unrecoverable, although where they represent a business investment the investors would normally expect to earn a return on those costs.

[5] A stark example of this occurred recently when "*Benin's telecommunications regulator ruled that all four of the country's mobile operators must pay US$ 52 million in fees after it retroactively raised the price of a license by 500%*" (http://www.regulateonline.org/). Economists also refer to such situations as "the holdup problem", where the authorities' plan is to make investing not look too risky, but once investors are committed, to then use their powers to secure a large share of the entity's invested wealth. This strategy can also be used to provide short-run gains to consumers but in the longer term the level of investment is lower and the net result is always that citizens do very poorly by such strategies.

[6] This is fundamentally different from a situation where a firm finds itself in difficulties due to 'normal' commercial reasons, such as because it lacks the efficiency, marketing prowess or control over supply chains that its competitors have obtained.

the authorities are under-developed countries, partly because they are starved of investment for this very reason.

Introducing a glide path for MTR prices is a policy intended to address the opportunistic aspect of MTR regulation. The rationale for a regulator adopting a glide path for MTRs is in keeping with the understanding that it is in the long term public interest that decisions by the Authorities should not be opportunistic or impose windfall losses (or gains) on firms[7] and, more generally, should avoid causing abrupt adjustments in company profitability.[8]

2.3 The relationship with retail prices

A topic which is at the centre of the rationale for a glide path is that of "two-sided markets", sometimes also referred to as "two-sided platforms". It is now well understood that mobile networks are two-sided platforms. This now bourgeoning research topic began about 10 years ago, the first notable publication being in 2001.[9] We discuss this research in the context of the MTR below.

The two-sided nature of mobile termination complicates the regulation of MTRs and makes it likely that an abrupt regulated reduction in the MTR will impose windfall losses on mobile network operators (MNOs) and retail price rises on end-users. Both the theory and empirical evidence show that the MTR and retail prices are negatively correlated; i.e. if the MTR declines the retail price increases. Regulators have frequently referred to this as the "waterbed effect". The rationale for this effect rests on the two-sided nature of the mobile network platform.

Two-sided markets involve two or more distinct user groups each obtaining network benefits from the other side.[10],[11] With two-sided markets, demand, marginal cost and prices on one

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[7] The conflict between short and long-run consumer interests is outlined by Ofcom when considering the design of the UK glide path: *"Ofcom is concerned that a sharp and immediate reduction to cost (Option 3) may not be in the longer term interests of consumers (if such a reduction presents a material risk to further investment in mobile services)"*.

[8] The reasons for the Authorities to avoid imposing windfall losses are that it is in the public interest to do so. The result of such policies is to reduce investment incentives and through this impose a lower level of growth and ultimately living standards on citizens. The cost of a policy that has such an effect is extremely difficult to measure due to the interrelatedness of many of the other factors at play. For this reason there is very little empirical evidence of the effect and the scale of such effects on an economy, even though they are generally considered greater than, say, the cost to the economy of otherwise inefficient prices levels.

[9] Jean-Charles Rochet and Jean Tirole, (2001), "Platform Competition in Two-Sided Markets", http://www.dauphine.fr/cgemp/Publications/Articles/TirolePlatform.pdf.

A more recent survey paper is by Roberto Roson, (2005), "Two-Sides Markets: Tentative Survey". *Review of Network Economics*, Vol 4, Issue 2.

[10] Examples are numerous and include: content hosting firms and portals, who compete for content and for viewers; videogame platforms that are purchased by gamers but must also be attractive to

side, are dependent on demand, marginal cost and prices on another side of the market. Roson summarises the problem in a nutshell when he writes, *"... the distribution of prices faced by the two sides influences market participation and the overall volume of demand"*.[12] The platform hosting the different user groups thus faces a complex optimisation problem. If there are significantly stronger indirect network effects on one side than another, prices on one side may be at less than cost, zero or even negative, i.e. one side of the market may be paid to transact.[13] In two-sided markets, such pricing oddities are economically efficient. It is not in the public interest to regulate one side of a two-sided market as if it were a single sided market only.[14]

2.4 The UK Glide Paths

While economists have concluded that beneficial externalities mean these pricing practices are to a degree in the public interest,[15] starting with the UK (the most mature mobile sector in Europe) several regulators decided earlier this decade that such pricing imbalances had in practice gone too far. Nowhere has the issue of glide paths attracted more consideration by the Authorities than in the UK. In particular, Oftel considered that termination prices were higher than were efficient given:

(i) the dominance of each network for terminating calls to its customers,

(ii) the underlying cost of termination, and

(iii) the efficient degree of price tilting on either side of the platform (the "waterbed effect").

In an effort to rebalance prices while at the same time avoiding causing significant problems for MNOs and retail customers, in 2001 the UK regulator introduced a glide path for GSM

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game developers who design games and place them on the platform; and payment card systems which must attract both the sellers of goods and the buyers, i.e. cardholders.

[11] For an excellent presentation on these network effects (and more besides) see the 'Frontier Economics' presentation by Mark Williams, "Network externalities in telecommunications: Theory and application", 29 June 2005, available at, http://www.itu.int/ITU-D/finance/work-cost-tariffs/events/tariff-seminars/south-africa-

[12] Roson (2005) p.142, *op. cit.*

[13] The success of many night clubs depends on them being able to attract women, and in this regard there are obvious similarities with dating agencies which were one of the first entities to be recognized as two-sided platforms. To attract women, nightclubs often advertise that women will receive free drinks; and sometimes even giveaway prizes are offered.

[14] See for example David Evans, (2003), "The anti-trust economics of two-sided platform markets", *Yale Journal of Regulation*, Vol 20, pp 325-381.

[15] Callers into the mobile network are paying for a mobile externality benefit.

mobile operator termination charges.[16] It was intended to provide the MNOs with time to enable them to see through existing contracts and to adjust future prices so that they could meet the new termination charge without suffering significant difficulties.

Oftel's original 2001 glide path diagram is shown above in Figure 1. Note that a further glide path has been adopted in the UK from 2006 which was the subject of a recent decision from the Competition Commission.

In Figure 2, we show a graph of the results reported by London-based academics Genakos and Valletti for the United Kingdom during this period. Using sophisticated econometric methods the authors' results showed that retail price rose as MNOs' MTRs declined; in other words, retail prices rose as MNOs were earning fewer termination subsidies with which to subsidise retail services.[17]

Figure 1: The value of X: The UK's 2001 glide path for MTRs[18]

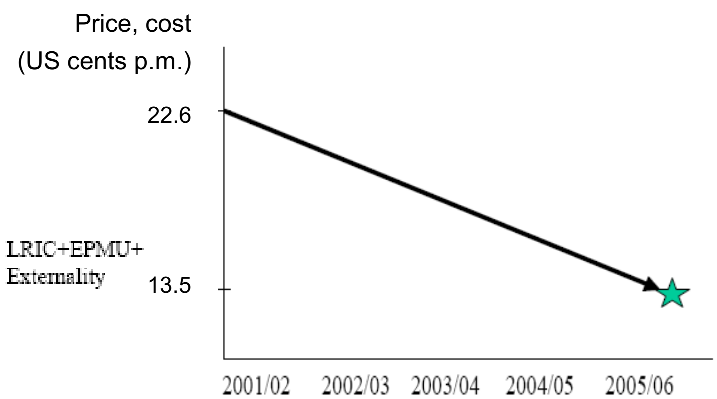
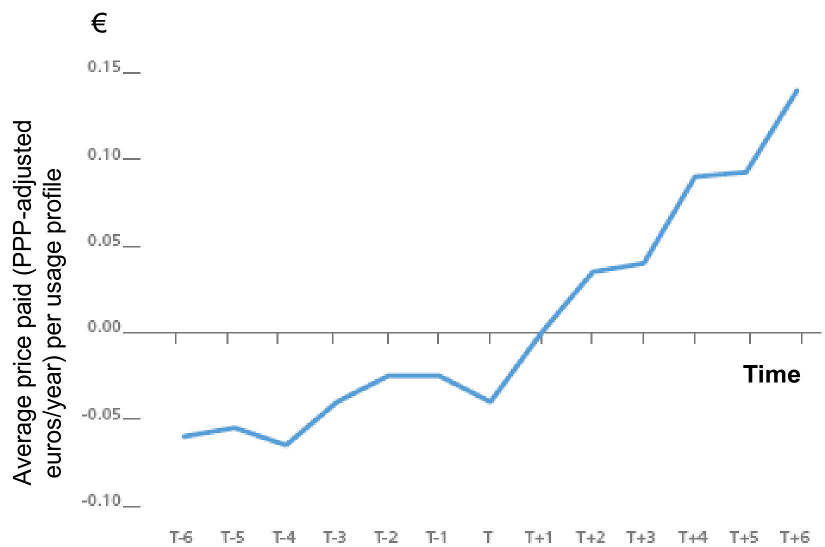


Figure 2: Average mobile phone usage price around the introduction of regulation of fixed-to-mobile termination charges in the UK

[16] "Review of the charge control on calls to mobiles: A Statement issued by the Director General of Telecommunications on competition in mobile voice call termination and consultation on proposals for a charge control". 26 September 2001

[17] Theory suggests that this negative correlation exists between the TRC and retail prices, even for a monopolist. See Jerry Hausman (2004), "Economic Analysis of Regulation of CCP"; submission to the New Zealand Commerce Commission.

[18] The 22.6 and 13.6 US$ cents figures involve converting from pence per minute and are in real (inflation adjusted) terms.



Quarters around the introduction of regulation (T), so T-1 means one quarter before the introduction of regulation
Source: Genakos and Valletti (2007).

The glide path provided for by the UK regulator enabled the MNOs to adjust their subsidised retail prices, including those for handsets, as well as the array of wholesale contract prices as their termination prices were regulated downwards. As noted above, the intention of the regulator was not to regulate as if it was dealing with a single-sided market, but to remove the pricing inefficiency. By using a glide path which obeyed incentive price-capping principles (discussed in footnote 3), the regulator could claim to have done this (i.e. reduced the MTR) without enforcing windfall losses on the MNOs.

2.5 Two-sided market price tilting and Universal Service

Price tilting in two-sided MNO market platforms has strongly pro Universal Service attributes. The pricing policies of MNOs enable huge network and call externality benefits to be captured by society. One of the main ways this is accomplished is through the sale of heavily subsidised mobile handsets matched from time to time with very low-priced call services. This has led to higher penetration rates and probably, to a degree, greater coverage also, than would be viable to provide if the MTR was regulated at a cost-based price for a single-sided rather than two-sided market. Such subsidies are only viable if the other side of the platform (i.e. the wholesale termination service) carries a greater share of the common and overhead costs.

A significantly lower MTR is likely to require Digicel to adjust its business plan going forward in an as yet unknown combination of the following scenarios:

(i) To serve a reduced number of subscribers,

(ii) To provide reduced coverage, and

(iii) To charge higher retail prices.[19]

These predictions are not noted in this submission in an effort to be contentious, but rather are the accepted ones that the academic theory predicts. However, it would only be by going through the process of reducing the MTR and unwinding present contracts and other arrangements where the reduced MTR requires this that Digicel would learn where the largest impacts would be felt.

One reason for this somewhat vague set of considerations is that there has been little empirical testing on the impact on these values of a declining MTR.[20] As a company, Digicel does not devise its commercial strategy on the basis of academic guidance. Virtually no businesses do this. Rather they make such decisions on the basis of their 'feeling' for the market.

2.6 Incentives and Glide Paths

A further reason for adopting a glide path, one that has repeatedly been presented by the UK regulator to the Competition Commission (CC) (the UK appeal body) and accepted by them, concerns the price-capping aspect of a glide path. Price caps are a class of "incentive mechanism" which are designed to provide superior outcomes than cruder methods of price control.[21] The idea is to incentivise the firm by rewarding efficiency improvements which will flow increasingly to end-users as the glide period progresses. This requires the regulator to enter into a commitment to follow a fair schedule of price changes.

A truncated glide path is a compromised price cap mechanism – a point made by Ofcom to the CC in the UK. Digicel believes the recommendations of price cap theory are clear on this point: the glide path needs to be decided in advance and should not be too abrupt or truncated at a later date as either would provide an inferior outcome in terms of the public interest than a proper non-truncated glide path period.

2.7 Recent investments and Glide Paths

For MNOs that are relatively recent entrants like Digicel in Cayman, the case for abrupt adjustments in their MTRs is even less justifiable. There are several reasons for this, the two main one being:

(i) such firms faced substantial 'second' mover disadvantages vis-à-vis the incumbent,[22] and

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[19] This of course would be the case if a one-sided market solution is imposed on what is in fact a two-sided market. MNOs would end up charging higher retail prices than would otherwise apply.

[20] Trying to put a scale on these effects in terms of monetary values has not been attempted for any developing country we are aware of.

[21] See footnote 3.

[22] New entrant MNOs have to win customers from other operators including importantly the incumbent which in the Caribbean typically offers both mobile and fixed network services.

(ii) the MTR for recent mobile network entrants will be relatively more important element in their business modelling, their retailing strategies, and ultimately their decision to invest, than it would be for a long established MNO. This is because:

a) later entrants find it necessary to be more aggressive in subsidising people onto the network (most richer people already subscribe to the incumbent MNO), and,

b) even where the incumbent also provided end-user subsidies, it has had a longer period in which to recover them.

A regulated and abrupt adjustment to the MTR under these circumstances would hit the bottom line of such companies including Digicel in Cayman; indeed, the closer the sudden MTR adjustment is to the MNO's entry date the more the regulation could be considered unwisely aggressive and not in the public interest. Where MTRs are to be regulated, choosing a fair glide path period of adjustment would be the proportionate way to obtain a reduction in MTRs.

The European Regulators Group (ERG), an organisation which draws on the expert skills of the best equipped regulators in the EU in order to assist regulators from Member States with more meagre regulatory resources, acknowledges the problems entailed in an abruptly lower regulated MTR by relatively recent MNO entrants. Indeed, in the period when such entrants are significantly smaller than their competitors and yet the regulator considers their MTR to be too high, the ERG states, "*Investments can usually be made – at least to some extent – in a step-by-step manner* [resulting in] *… significant economies of scale which are likely to remain un-exhausted in the early stages of market entry. This may justify higher termination rates at the outset, which may then be reduced along a glide path down to a level where scale economies can be considered to be exhausted".*[23]

Digicel believes that the literature is clear on the issue of glide paths – where MTRs are to be reduced from current levels by regulation, a non-truncated glide path dominates in terms of the public interest.

2.8 Can MNOs be expected to have adjusted contracts and prices in advance for a lower MTR?

Prior to the actual finalisation of the regulated MTR and associated glide path, it cannot be assumed that Digicel should have voluntary rebalanced prices and changed contract arrangements based on the understanding that a reduced MTR would be implemented in the near to medium term future in Cayman. This is because information would have been needed several years in advance *inter alia* about how existing subsidies entailed in contracts would be reduced or perhaps removed altogether.

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[23] ERG Common Position: Appropriate remedies in the new regulatory framework, ERG (03) 30rev1: p116.

Without knowing the MTR that would be imposed and, indeed, the glide path also, Digicel cannot known the degree to which two-sided market platform price-tilting was to be removed. Given such uncertainty no MNO including Digicel could be expected to have prepared in advance for a lower MTR. A truncated glide path or an argument that no glide path is needed if the MNOs knew well enough in advance that the MTR would be reduced, cannot be justified by this argument. In practice, Digicel Cayman has not sought to change its contracting practices due to the considerable uncertainty surrounding the level and timing of MTR reductions.

Indeed, where there are delays in implementation, such as occurred for example in the UK due to appeals, the regulator insisted that only when the target rates are known for several years in advance, would it be legitimate and in the public interest to truncate the glide path.[24] Digicel could not reasonably have been expected to start making price and contracting adjustments in a competitive market place before the regulated solution was known.

3 CONCLUSIONS

The Imputation agreement foresaw a 30 month glide path and Digicel has been working with the legitimate assumption that this agreement is to be honoured by all parties and as such based its business model on this assumption. It has had no reason to believe that no glide path should be applied

Economic theory shows us that MNO networks represent two-sided market platforms. As such it is incorrect and not in the public interest to regulate them as it they were single sided markets. Abrupt reductions in the MTR are thus likely to impose windfall losses on MNOs and possibly abrupt retail prices rises as other linked prices are not as easily changed.

Digicel also notes that many of the subsidised retail offerings for which revenues would be recovered from the other side of the market in future, were incurred some time ago. The most important of these are handset subsidies. A reduced MTR, particularly one that is significant and abrupt will tend to strand these investments and force MNOs to target retail customers for additional revenues to pay for these losses.

Digicel has sought to show that prior to the actual finalisation of the regulated MTR and associated glide path, it is not realistic to assume that we should have prepared for the reduction by changing our contracting arrangements and other service prices as necessary. Digicel had no way of knowing several years in advance what MTR regulation would occur and when it would occur. Indeed, Digicel cannot even know in advance whether ICTA will apply a one-sided or a two-sided market solution. Digicel considers that the strong linking of the two sides of the market platform and the fact that we cannot ignore what our competitors

[24] See http://www.ofcom.org.uk/consult/condocs/mobile_call_term/statement/statement and in particular the discussion around the quote, *"In the market review concluded in June 2004, reductions of over 30% were imposed to compensate for delay, but only after the MNOs had been aware of the approximate target levels for a period of years"*.

are doing, makes it impractical for us to substantially amend our behaviour in advance of an unknown change in the MTR. Digicel suggests that this position is also supported by the findings of the authorities in the UK. The economics is clear; where the MTR is to be regulated to a lower level a glide path should be adopted and this should not be truncated.