

Digicel

The Bigger, Better Network.

Response of Digicel

**To the ECTEL
Consultation Document**

“Assessment of the Access Deficit Scheme”

July 20, 2009

Table of Contents

1	INTRODUCTION	3
2	PRINCIPLES AND DEFINITIONAL MATTERS	4
2.1	AN ACCESS DEFICIT	4
2.2	ACCESS DEFICIT AND COMPETITION.....	6
2.3	AN ACCESS DEFICIT CONTRIBUTION (OR CHARGE) (ADC) SCHEME.....	8
2.4	INTERNATIONAL "BEST" PRACTICE?	9
3	REBALANCING: THE UNIVERSALLY ADVOCATED REMEDY.....	14
4	COSTS AND ADC ESTIMATION	16
5	SUMMING UP.....	19
6	ECTEL'S QUESTIONS FOR RESPONDENTS	20
ANNEX:	DIGICEL'S 6 MAY 2008 SUBMISSION WHICH ESTIMATES THAT NO ACCESS DEFICIT EXISTS IN DOMINICA	29

1 INTRODUCTION

Digicel wishes to thank the NTRCs and ECTEL for the opportunity to participate in this key public process. As both the NTRCs and ECTEL will be aware, Digicel has an extremely keen interest in this subject and, accordingly, Digicel warmly welcomes this consultation process.

At the outset, Digicel would respectfully note that it is of concern to Digicel that ECTEL is only now seeking delving in depth into the question of whether LIME has an access deficit (AD) and what value that might be – several years after Digicel and other firms have been paying the access deficit charges (ADCs) demanded by C&W/LIME. Furthermore, Digicel would respectfully note that it is generally accepted worldwide that these are enormously complex economic issues and Digicel is not fully confident that ECTEL is well enough resourced to make its way through this “mine field” without the support of leading regulatory economic advice.¹ In this regard, Digicel believes the present consultation is laudable in its scope but is ultimately misdirected.

We wish to state from the outset that there is no best international practice when it comes to access deficit charges or contributions (ADCs). All such practice is ill-advised and contrary to the Public Interest. This is not a contentious view but is supported by leading academics, the World Bank, the ITU, the OECD, the European Commission and the World's leading regulatory agencies.

Digicel requests that ADC payments are immediately halted by ECTEL until such time as:

1. It is established whether or not C&W/LIME has an AD in its Eastern Caribbean jurisdictions and, if so, an estimate of the proper economic value is obtained,
2. A policy for dealing with it is developed which is fair, non-discriminatory and not anti-competitive.

In section 2 we discuss the concept of an AD, an ADC scheme, as well as related economic and competition principles. In section 3 we present information that shows tariff rebalancing to be

¹ The problem of buying economic consultancy services to provide that advice is that the consultants potentially become interested parties since, for one thing, future work can flow from their advice.

the unambiguous policy recommended by the world's leading institutions and experts wherever it is established that a significant AD exists. In section 4 we discuss matters of cost and ADCs relating to ECTEL's consultation document. We sum up in section 5. Section 6 contains ECTEL's questions and Digicel's response to many of them. The annex contains a copy of Digicel's 8 May 2008 response sent to ECTEL in which we provide cost information and an analysis which suggests that C&W/LIME does not have an AD in Dominica. Digicel suggests that the same methods applied to other Eastern Caribbean States are likely to show a similar outcome.

2 PRINCIPLES AND DEFINITIONAL MATTERS

2.1 An access deficit

Digicel urges ECTEL to adopt the usual concept of an AD: one which is supported by international support agencies such as the World Bank, ITU and *EuropeAid*, as well as the OECD and the European Union. The following quote is from the World Bank and ITU sponsored "ICT Regulatory Tool" written by the respected international economic consultants, NERA:

*"The term access deficit is defined as the loss made by a telephone company on providing access lines if this is regarded as a stand-alone business."*²

The qualification, "*if this is regarded as a stand-alone business*", is important. Under statutory monopoly, there is typically no case for looking at access as a stand-alone business. However, with liberalisation, it can become necessary to do so when cross-subsidies are implied by regulated line rental prices.

The OECD states similarly,

"When fixed costs, so called non-traffic sensitive costs, are not fully recovered through fixed line rental charges and connection charges, an access deficit results".³

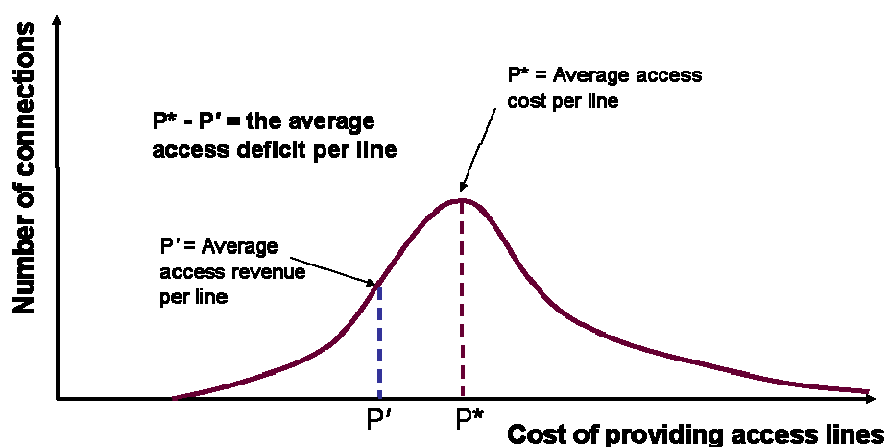
This concept of an AD is shown graphically in figure 1.

² InfoDev/ITU (2007), "ICT Regulatory Toolkit", Module 4, p.56:

<http://www.ictregulationtoolkit.org/en/Index.html>

³ OECD "INTERCONNECTION AND LOCAL COMPETITION" DSTI/ICCP/TISP(2000)3/FINAL p.20

Figure 1: A graphic presentation of access costs and an access deficit.



The NERA/OECD/European definition is aimed at access which is regulated at a price below cost. If other services were also regulated at less than cost, then it would make some sense to include these also in the concept of an AD, or, more correctly, a "services deficit". However, regulating these services at less than cost has grave implications for future investment, the development of competition, and the pricing of other services needed to subsidise access and local calls. Unless access and local call prices are only slightly below cost, the scale of subsidies would be debilitating for the sector, substantially reducing future investment and seriously undermining the development of fair competition. Moreover, the regulatory effort needed to manage such a scheme would be beyond those available to most regulators.

If other services are not priced below cost, then adding their economic or super profit to the AD only where this results in a reduction of the AD constitutes a partial substitute for price controls such as price capping.⁴ Such an approach would reduce the AD, but is it legitimate to do this? Digicel believes not, since:

- (i) It would impose a double hit on LIME: excess profits removed by the "inflation - X" price cap would also be used to reduce the AD
- (ii) It would constitute a complete nullification of the incentive aspect of the price cap mechanism with all the subsequent inefficiencies that follow from such rigid controls

⁴ This is notwithstanding the enormous difficulty of determining the profit of a service in a multi service business characterised by a large degree of common costs.

- (iii) It would provide an even stronger incentive for the regulated firm to push costs that it cannot get into access, into the other services for which profits are used to off-set any AD.⁵
- (iv) It would encourage predatory pricing strategies by C&W/LIME.

Together these points suggest fundamental problems such that a "local service deficit" or "regulated services deficit" definition of "access deficit" could not be adopted at this time without it breaching quite fundamental regulatory principles.

In its consultation ECTEL appears to favour such an expanded concept of an AD:

"ECTEL's August 2008 consultation paper indicated that an access deficit should include the revenues and costs of the following services:

- *Revenue from line installation and rental, and cost of access lines (where revenue from line installation and rental is based on maximum revenue that can be secured under price caps).*
- *Revenue and costs of other regulated domestic services, when the revenue minus the cost is positive and does not produce a deficit."*⁶

While Digicel acknowledges that ECTEL's approach reduces any AD, we believe this would amount to a contrived reduction. At present ECTEL's approach to defining any AD appears to suffer from fundamental problems that are irreconcilable with economic efficiency and with fair competition. We discuss the competition aspects of an AD further below.

2.2 Access deficit and competition

In practice, when a monopoly prices access at less than cost, it cross-subsidises this through the super (or economic) profits it earns from selling other services. The AD is paid for by other services. Now with liberalisation some entrants will invest as little as possible and target the high priced services which are generating revenues to pay these cross-subsidies. Where it has been permitted, this strategy has been shown to reap great rewards for a fairly short period. This is because these new entrants do not have to match the access and service prices of the incumbent, but simply compete against the inflated service prices.

⁶ ECTEL, CONSULTATION PAPER NO. 2, "ASSESSMENT OF ACCESS DEFICIT SCHEME" June 2009, p.10

Other licensees that provide their own access have roughly the same tier of costs as does a fixed line incumbent. Some may provide access more cheaply than the incumbent; others may have a business plan or use a technology that enables them to obtain higher average customer service revenues. But where entrants provide their own access, an ADC should not be payable by them. Indeed, if an ADC scheme operates, all access providers should in principle receive ADC payments for calls that are originated on their network assuming these are added to interconnection charges. This would largely prevent cream skimming in the short to medium term and help preserve incentives for new entrants to invest in networks and adopt new technologies. It is quite invalid to ask firms that provide their own access to pay an ADC levy on top of the incumbent's terminating interconnection fee. Firms that should not pay ADCs in the event that an ADC scheme is operated include FLOW, Digicel, and Karib Cable.

Now, if the profits of other services (e.g. regulated services) provided by the incumbent are used to off-set the AD such as would provide a "regulated service deficit", LIME's estimated economic profit on regulated services which compete with services provided by new entrants would be effectively capped by the "regulated services deficit" concept. LIME could not earn an economic profit on these services since, by doing so, that profit would be subtracted from its AD and the payment from contributors would decline accordingly.

Some if not all of these regulated services are actually or potentially subject to a significant degree of competitive pressure. Call services, for example, are provided by fibre-coaxial cable companies and by mobile network operators (MNOs), and there is substantial substitution on the margin between fixed and mobile networks for call services. Fibre-coaxial triple-play providers are presently exerting competitive pressure on LIME's call (and access) services. Internet access and call services in other Caribbean jurisdictions are being provided by FLOW and WiMAX providers, and soon also by very similar technologies that are shortly coming on the market. This should also occur in the Eastern Caribbean, although Digicel believes an ADC scheme which is not restricted to call origination will have a detrimental effect in the Eastern Caribbean on such investment.

Investors are attracted, *inter alia*, by price signals. Indeed, price signals are what orchestrate investment in market-based economies. Without proper price signals market economies falter. Price signals are at the core of market based economies and the efficiency with which they allocate investment resources and generate wealth. Where prices are aggressively regulated lower after entry such regulatory action upsets this process; it undermines the original basis for investment and signals opportunism by the authorities to investors. Such price regulation also works as a form of profit control on new investments which is not a recipe for attracting new investment.

With ECTEL's suggestion that regulated services in addition to access should be included in the AD, LIME has a powerful incentive not to price any "regulated service" above cost in order not to generate any economic profit. By doing this it would maximise the ADC payments it gets from

contributors. Profit capping like this is known to largely foreclose on competitive entry across a wide range of markets, and where entry and investment has already occurred it would have the appearance and the same effect of opportunistic regulation.

Accordingly, Digicel urges ECTEL to isolate itself from a "local service deficit" and "regulated services deficit" concept.

2.3 An access deficit contribution (or charge) (ADC) scheme

In virtually all jurisdictions, local fixed access is not ring-fenced or structurally separate from call and data services. This is also the case in the ECTEL jurisdictions. If the authorities regulate any aspect of an incumbent's network access business at less than cost, as happened historically in many countries, the incumbent recovered those subsidy costs from other parts of its business so that it did not make a loss.

With liberalisation, these price imbalances become difficult to sustain. If permitted, some competitors would solely target their entry to capitalise on those high price services that are used to earn the cross-subsidy revenues to pay to access. This has been referred to as "cream skimming". These are primarily indirect access providers – especially those relying on carrier selection or pre-selection.

Other entrants provide a whole tier of services: access and usage services. They compete with the incumbent's below cost access prices with their own access service, and, to the extent that they are no more cost effective in providing it than is the incumbent, they too must earn similar super profits on usage services in order to make a fair profit overall. Of course, some or possibly all new entrants will use newer access technologies or have a business model that captures more value from end-users than does the incumbent. However, their efficiency should not be penalised by requiring them to subsidise a less efficient access competitor. This would amount to protectionism. Regulation must always take care not to protect an inefficient incumbent.

It should be recognised that an AD does not represent a loss for the incumbent as the provision of access enables it to earn revenues other than line rental; i.e. an AD does not represent a direct call on the incumbent's profits. The services that provide the revenues to cross-subsidise access are priced significantly above cost in order to provide those revenues giving rise to a "price signalling" problem. Entrants that target these high prices without also having to compete with the incumbent's below cost access prices are said to be "cream-skimming". The ADC scheme was developed to nullify the incentive to cream-skim while simultaneously allowing the incumbent to recover the economic value⁷ of any access deficit through a combination of:

⁷ Digicel stresses that economic values are what are relevant here not accounting measures as ECTEL appears to believe.

- (i) internal cross-subsidies, and
- (ii) ADC payments by firms that do not provide their own access, i.e. those that do not originate and terminate communications on local telephone numbers.⁸

This is one of the main reasons ADC schemes are so very complex to design and operate; they have to do two quite different tasks simultaneously, and ultimately must fail to do them adequately in practice.

If a firm is providing its own access, be it traditional wire line access, triple play fibre coaxial, or wireless access (with cell handover or not), by virtue of pricing at less than cost the incumbent and the authorities who regulate the incumbent's prices are making investment by competitors in access *per se* unattractive. Investors in access networks must make up for this in the same way as the incumbent has done for many years – by selling sufficiently profitable usage services to make up any shortfall in access revenues.

In actual fact, we see that the economies of scale regarding traditional fixed wire technologies are such as to make entry by one of them, where a fixed incumbent already exists, unattractive except in high revenue central business districts. But other newer access technologies either provide lower cost access (e.g. fixed wireless) or come with a business model that provides value enhancement (e.g. mobility) or additional services (e.g. cable TV).⁹

Under the usual definition of an AD (supported by the OECD, World Banks, ITU and European Union), those who would contribute to an AD in the case that an ADC scheme was established would be those who do not provide their own access.

Now, does the inclusion of other things than access in the definition of an AD suggest that the contributory base for ADCs should be changed? Digicel does not believe so. In fact networks that provide their own access are hit doubly hard compared to where only access appears in the AD, since we have to compete both against subsidised access prices and also against LIME's price/profit controlled services.

2.4 International "best" practice?

ECTEL specifically requests that any claims of international best practice or best practice from other jurisdictions are properly referenced.

⁸ An indirect access provider would be required to pay the same subsidy per timed unit as the incumbent would have earned to pay its cross-subsidy requirements had it provided the service instead of the indirect access provider.

⁹ With mobile network technology, the access network is part of the traffic sensitive core network. Perhaps the closest equivalent is handsets, which MNOs typically price at substantially less than cost.

The concept of ADCs in telecoms was always a seriously flawed one and remains so. The InfoDev/ITU "ICT Regulatory Toolkit" which was drafted by respected international economic consultants NERA,¹⁰ says of them,

*"ADCs are now generally regarded as a poor idea because of the wrong incentives that they create. They are being phased out in most countries where they were previously adopted."*¹¹

It is not possible to speak of "best practice" and ADCs in the same breath.

The first place that the access deficit contribution scheme concept for non separated local and long-distance regimes (a regime which exists in almost the entire world) was introduced was in the United Kingdom. It was introduced at the start of the 1990s by the very influential American economics Professor William Baumol. British Telecom (BT) acquired Professor Baumol's services to lobby the regulator Oftel in regard to the indirect access arrangements BT was required to grant Mercury Communications – now Cable and Wireless. Professor Baumol advocated that a rule based on his "Efficient Component Pricing Rule" (the Baumol Willig rule), should be used to price access to BT's customers by Mercury. A deal was struck, rather hastily we should add, between BT and Oftel, which, it soon became clear to Oftel and to certain regulatory expert observers, was significantly flawed. In practice the scheme was largely not acted upon as virtually all competitors were granted ADC waivers by Oftel.¹² In 1997 the UK struck the ADC scheme from its books and also abandoned retail price regulation of access.

France Telecom picked the scheme up at about this time and lobbied their own regulator (successfully) and the European Commission (unsuccessfully) in favour of the rule.¹³ The EU had planned for full liberalisation of telecoms to occur on 1 January 1998. For a brief period EU law permitted ADC schemes under certain criteria but only with formal notification and only for a two year period. The European Commission wrote about ADC schemes in 1998 stating that,

"Access deficit contribution schemes always provide inefficient investment signals, and raise overall industry costs. They are also administratively cumbersome, and lack transparency. As mentioned in the "Guidelines on costing and pricing of universal service" published by the Commission in November 1996 (2) it is expected that access deficit type schemes will only be applied on a temporary basis, up to the year 2000, by

¹⁰ <http://www.nera.com/>

¹¹ InfoDev/ITU (2007), *Supra* note 1, Module 4, p.57.

¹² In 1994, for example, full ADC waivers were also granted to ACC, WorldCom, COLT, MPS, Energis, Telewest, Videotron and Nynex.

¹³ We believe the French regulator was substantially captured by France Telecom over this period.

which time a sufficient level of re-balancing should have been completed in all Member States."¹⁴

Box 1: The access deficit contribution model

The original model designed by Professors Baumol and Willig was applied to the US railways in regard to track access. Like all models, it is a simplification of the real world. The assumptions of the ADC model are only even approximately true when there is no access competition possible and no competing access technologies. In the present ICT world, the simplifying assumptions assume away important things about reality concerning technological change, access competition and efficiency. Among other things, some of the recognised problems with applying the ADC concept to telecoms that were established, following fairly vigorous debate in the academic journals at the time, are as follows:¹⁵

- Access competition was not envisaged in the design of the ADC economic model; rather, an original ADC scheme in telecoms was intended to allow for the introduction of carrier selection and carrier pre-selection competition without large scale inefficient entry and by-pass of the incumbent where it had an AD
- Technological competition which enabled functional replication of the incumbent's access network was not envisaged and cannot sensibly be included since it would involve predictions about the future
- All calls attributed to other licensees were assumed to substitute for calls that would have been provided on the incumbent's network had the new licensee not existed. This is demonstrably incorrect in the case of telecoms competitors
- It was not foreseen that mobile networks would in fact become the universal service providers, thus removing the central premise for an access deficit.

Digicel believes there is general agreement among the academic economists that ADC schemes have no practical place in a liberalised telecommunications sector.

France did not provide notification and according to the established criteria and thus, when it introduced an ADC scheme, the European Commission took France to court over it and

¹⁴ Commission Recommendation, 8.1.1998. See also COM(96) 608 final.

¹⁵ See the following: Armstrong, M (2002) "The theory of access pricing and interconnection" in M. Cave, S. Majumdar, I, Vogelsang (eds) *Handbook of Telecommunication Economics*, Elsevier, 295-384. Baumol, William J., and J. Gregory Sidak, (1994a), "The Pricing of Inputs Sold to Competitors," *Yale Journal on Regulation*, vol. 11, no. 1, pp. 171-202. Tye, William B., (1994), "Response: Inputs Sold to Competitors", *Yale Journal on Regulation*, vol 12. No. 1. Economides, Nicholas and Lawrence J. White, (1995), "Access and Interconnection Access Pricing: How Efficient is the 'Efficient Component Pricing Rule'?", *The Antitrust Bulletin*, vol. XL, no. 3, pp. 557-579. Armstrong, Mark, S. Cowan, and John Vickers, (1994), *Regulatory Reform -- Economic Analysis and British Experience*. Cambridge: MIT Press. Armstrong, Mark and Chris Doyle, (1994), "Interconnection and the Effects of Entry," mimeo.

France's universal service cost estimates, and won in all cases.¹⁶ Since 2000, ADC schemes have been illegal in the EU.

In 1997 Mercury Communications was amalgamated into Cable & Wireless Communications (C&W). Mercury as a brand ceased to exist. C&W, which as Mercury had benefited from obtaining ADC waivers from OfTel, pushed the ADC scheme concept throughout its jurisdictions where it was the incumbent. Where the ADC concept was implemented, it appears in all cases to have been a simple scheme which lacked economic logic and involved little to no independent analysis of whether an access deficit (AD) actually existed and the scale of the AD. This is supported by C&W itself when it rather surprisingly admitted that in the ECTEL region,

"The previous ADCs were negotiated numbers which were not subject to much scrutiny. Some of the rates were negotiated with reference to those in other markets, rather than based on the actual cost in the local market".

There are relatively few other jurisdictions than those in which C&W is the incumbent which have ADCs. According to the OECD, in Australia, Canada, the United States and Mexico there exists some sort of ADC included in interconnection charges paid to incumbents. We gather India had an ADC scheme but does not have any longer.

The ADC scheme in Australia is apparently primarily concerned with funding access provision to high cost rural areas – i.e. it is part of the Government's universal service policy. The Australian regulator (the ACCC) was and remains opposed to ADCs, but price caps that were politically set prevented adequate rebalancing.¹⁷

This is reiterated by the virtually independent and highly respected Australian Productivity Commission;

*"Social regulations imposed on Telstra lead to line rental charges that are insufficient to cover the full costs of line provision — the 'access deficit'. This is funded through local call charges and a margin on the access fees paid by access seekers connecting to Telstra's local loop, with adverse impacts on efficiency. It also discourages facilities competition. The ACCC has recommended the removal of the social regulations that lead to the access deficit and the Commission agrees."*¹⁸

¹⁶ See European Court of Justice (ECJ) in *Commission v. France*, Case C-146/00.

¹⁷ See Australian Competition and Consumer Commission's submission to the Productivity Commission's Position Paper on International Telecommunications Regulation, 2001.

¹⁸ Productivity Commission, "Telecommunications Competition Regulation": Inquiry Report. Report Number 16, 20 September 2001, p. 363

We gather that in the United States where an access deficit remains, the access deficit contribution may only be included in the call origination rates.

Box 2: From "INTERCONNECTION AND LOCAL COMPETITION" OECD

"When fixed costs, so called non-traffic sensitive costs, are not fully recovered through fixed line rental charges and connection charges, an access deficit results. In particular, this can happen when a monthly line rental charge is subject to special price regulation in the context of universal service provision. At the same time, the regulation of local call charges can prevent an incumbent from rebalancing its usage charges. It is essential for the regulator to allow full rebalancing of the incumbent's prices in order to ensure effective competition in the local market. If the incumbent's tariff structure is not fully rebalanced to reflect true relative costs, the local market will remain less attractive to new entrants than the long distance and international markets.¹⁹

To ensure efficient entry it is essential to have a fully rebalanced tariff structure, which reflects the cost structure of an efficient operator's telecommunications services both in the retail and wholesale markets. Thus, fixed costs arising from the provision of subscriber lines need to be fully recovered by fixed line rental charges and connection charges, and variable costs caused by the conveyance of calls should be recovered by per usage charges. In addition, common and joint costs need to be allocated to fixed line rental charges and per usage charges.

If there is economic loss due to the lack of rebalancing or other universal service provision in services such as emergency services and public phone services, this should be compensated through a competitively neutral funding mechanism, which does not distort competition or does not penalise specific user groups. If a competitively neutral funding mechanism is in place, there is no reason to recover deficits incurred by the incumbent to provide access services through interconnection charges. In an ideal situation, the provision of universal service obligations, including access deficits, need to be financed by the government budget (e.g. as in Chile) since it is the government that has imposed universal service obligations in order to achieve social policy goals. At minimum, it is necessary to have a competitively neutral funding mechanism, which does not impose any unfair economic burden on any specific operator or class of operators. While Member countries are moving forward to exclude contributions on access deficit or USO provision, in the interconnection charging system, in a number of countries such as Australia, Canada, the United States and Mexico, interconnection charges still include a contribution to the incumbent's access deficit.

In sum, interconnection policies should be separated from universal service regulation in order to ensure cost-oriented interconnection charges. The compensation of universal service provision through interconnection charges would make it impossible to achieve cost-oriented interconnection charges. Since there are different policy objectives in interconnection regulation and universal service provision, they need to be attained by different policy measures. In particular, the separation enables the regulator to achieve policy goals without weakening other policy objectives.²⁰"

Where they exist, ADCs are essentially concerned with interest group politics over-riding good regulatory practice. ADC schemes are substantially detrimental to the wider Public Interest, a point we believe is not disputed among economic experts. This is assuming that the ADC

¹⁹ OECD "INTERCONNECTION AND LOCAL COMPETITION" DSTI/ICCP/TISP(2000)3/FINAL, p.20

²⁰ *Supra* note 23, p.20-21

scheme is designed by those who appreciate the economic effects caused by the large array of ADC design options. In practice, however, it appears that no jurisdiction that adopted an ADC scheme has designed it adequately. As WIK noted in its report to the European Commission, ADC schemes "*are conceptually complicated, and information intensive to design and operate*". In practice, therefore, ADC schemes are corrosive, none more so it would seem than the C&W/LIME schemes operated in the Eastern Caribbean where there appears to have been little effort to minimise this corrosiveness through the application of economic analysis.

3 REBALANCING: THE UNIVERSALLY ADVOCATED REMEDY

Assuming an AD is confirmed by rigorous estimation, the only solution supported by economic experts, the World Bank, the ITU and *EuropeAid*, is to:

- Rebalance prices so they are not substantially less than cost
- Work with the incumbent to provide one or more packages for low demand subscribers. Self select schemes (e.g. a low user scheme) are far superior in this regard as they do not impose high administrative costs, are not subject to moral hazard problems and poverty traps, and are unlikely to impose net costs on the network operator.

Rebalancing is the strongly recommended policy of the World Bank and the ITU.

"Tariff rebalancing is a necessity for all governments and operators."²¹ "Tariff rebalancing is a fundamental aspect of a competitive market".²²

"A critical step towards competition in international services is to rebalance the incumbent's retail tariffs so that they roughly reflect industry cost structures. This is necessary for reasons of economic efficiency as well as for the financial viability of incumbents and new entrants".²³

²¹ ITU-D, Study Group 1, Second Study Period (1998-2002), Final Report, p.5: <http://www.itu.int/pub/D-STG-SG01.12-2002/en>

²² *Ibid*, p.27.

²³ "Competition in International Voice Communications", Policy Division Global ICT Department Global (a joint World Bank/IFC department), January 2004, Report No. 2 76 71, p.36

"Whatever the benefits from subsidizing access prices, economists agree that rebalancing tariffs can produce significant economic gains. Table 1 sets out estimates of economic gains from tariff rebalancing from four separate studies".²⁴

Digicel does not believe that C&W has an AD in most and perhaps all Eastern Caribbean States. However, if it were established by rigorous economic analysis that an AD existed in an Eastern Caribbean State, rate rebalancing would be essential. The option of liberalisation and at the same time requiring LIME to price services at less than cost is not sustainable; it is not an option any country should consider.

Table 1: Estimates of Welfare Gains from Tariff Rebalancing ²⁵

Study	Country / Service Type / Year	Estimated Welfare Gains expressed in US \$
Crandall and Waverman ²⁶	United States / All / 1994	\$6.42 Billion
Munoz ²⁷	Spain / Local & National / 1996	2621.84 Million 1993 Pesetas
Lewis Perl ²⁸	United States / All / 1988	\$4,278 Million (1984 Dollars)
Griffin and Mayor ²⁹	United States / Local / 1987	\$685- \$800 Million

There is no best international practice when it comes to ADCs. All such practice is contrary to the Public Interest. This is not a contentious view, but rather is a view supported by leading academics, the World Bank, the ITU, the OECD, the European Commission and the World's leading regulatory agencies.

²⁴ "ICT Regulatory Toolkit"; an online document funded and supported by the World Bank and the ITU: Module 2, Section 5.6 Tariff Rebalancing. <http://www.ictregulationtoolkit.org/en/>

²⁵ *Ibid* p.105.

²⁶ Crandall, Robert and Leonard Waverman, *Talk is Cheap: The Promise of Regulatory Reform in North American Telecommunications*, pp. 90-91.

²⁷ Munoz' study computed the welfare gains from a 20 percent increase in local rates accompanied by a profit-neutralizing fall of 7 percent in national rates. See Teresa Garin Munoz, "Demand for National Telephone Traffic in Spain from 1985-1989: An Econometric Study using Provincial Panel Data", *Information Economics and Policy* 8 (1996) 51-73.

²⁸ Lewis J. Perl, "Economic Consequences of Competition in Telecommunications," paper presented at the International Telecommunications Society Seventh Bi-Annual Conference, Cambridge, Massachusetts, July 1988, p. 10.

²⁹ Griffin, James M. and Thomas H. Mayor, "The Welfare Gains from Efficient Pricing of Telecommunications Services", *Journal of Law and Economics*, October 1987, pp. 465-87.

4 COSTS AND ADC ESTIMATION

Digicel remains of the opinion that there has been no rigorous independent investigation in the ECTEL region or, indeed, in any of C&W's / LIME's jurisdictions, of the scale of the AD or even whether an AD actually exists.

- LIME has presented its AD calculations to ECTEL but their veracity has not been independently or adequately established
- LIME's accounting records appear to have been presented to ECTEL at some stage in support of LIME's AD claim. LIME's processed accounting data will not provide a legitimate or remotely accurate estimate of whether LIME has an AD or its scale. An analysis which assessed economic and not accounting costs would be necessary. To do otherwise is to virtually guarantee that an inefficient incumbent is being cross-subsidised by new entrants with newer technologies.
- C&W/LIME did construct a cost model for Cayman and offered it to ECTEL to estimate costs in the Eastern Caribbean. That model purports to estimate access costs and indeed appears to have been modified by a US consultant to estimate a local service deficit.

However, the model does not derive access network values in a bottom-up way, as the volumes of services are not modelled from primitives such as population, penetration, and market share. It is our view, and we believe our view can be verified by independent experts that construct bottom-up access network models,³⁰ that such a model does not estimate true access costs, and indeed any estimates generated may not even come close to what the true economic costs of access are. Digicel is convinced such is the case here.

What is more, there are clearly incentive conflicts in relying on figures provided via a highly complex and opaque cost model constructed by C&W/LIME – the regulated firm – and where there is such a high level of redaction preventing outside assessment. There are also clearly issues of natural justice and a lack of due process where competitors are being asked to pay money to LIME based on measures derived from this model and where there has been, partly as a

³⁰ The FCC in Washington DC and WIK near Bonn in Germany are the two we are aware of that have constructed such models.

consequence of the high level of redaction, no adequate public consultation process completed, which Digicel believes is the case in the ECTEL region.

It seems that up until the present time the scale of any AD was largely determined by C&W/LIME. To quote C&W again,

"The previous ADCs were negotiated numbers which were not subject to much scrutiny. Some of the rates were negotiated with reference to those in other markets, rather than based on the actual cost in the local market".

Digicel has previously outlined what we believe is a *prima facie* case that ADC payments to date have been illegitimate and that compensation to Digicel and perhaps to others is the proper remedy. No adequate measurement has occurred to establish that an AD exists, and the ADC scheme itself has been thoroughly incorrectly designed, having been patched together by C&W/LIME with unknown input by the authorities. The result, as Digicel has stated in previous submissions, is an arbitrary and illegitimate scheme that taxes new entrants – even those that provide their own access – to pay the incumbent.³¹

In the present consultation, ECTEL has begun to address the question of what LIME's AD costs actually are. However, ECTEL's consultation has largely been limited to:

- Identifying certain conflicts or inconsistencies in various sorts of AD cost information submitted by C&W/LIME
- Providing guiding statements about the validity of costing principles

Digicel is encouraged by ECTEL's preparedness to tackle these most complex of issues. However, ECTEL has only touched their surface. ECTEL's statements about costing principles are very brief and do not adequately address the economic costing principles, and thus do not offer an economic framework that can be the subject of public debate. Digicel believes what is needed is a discussion about how C&W/LIME's AD (if indeed it has one) should be estimated, what economic principles should be used, and who should make the cost estimations. These

³¹ In our 6 May 08 submission we wrote as follows: *"Digicel considers that the present scheme contradicts the principles that can be gleaned from the Act, and indeed is inconsistent with specific words found in the Act, such as "ensuring the efficient, economic and harmonised development of the telecommunication and broadcasting services (...) of Dominica". Indeed, the way the ADC scheme has operated is contradictory to the principles of fair competition".*

are issues that require public consultation, and it is imperative that there is a commitment by ECTEL not to move forward on these matters without proper public consultation.³²

Much of ECTEL's present consultation addresses the data that C&W/LIME has submitted about its own costs. The idea that payments to C&W/LIME could be decided according to processed cost data submitted by C&W/LIME is fully tantamount to letting C&W/LIME write itself cheques drawn on the accounts of its competitors.

Important questions and answers about cost and ADC estimation are as follows:

- Is it possible to design another cost model that can provide a reasonable approximate estimate of any AD that LIME has? – **YES** – but only if we assume a certain access technology, e.g. a landline. Given that any new entrant into a Greenfield Eastern Caribbean environment would invest in few if any landlines, but rather would employ a new wireless access technology, assessing landline costs will not lead to a LRIC cost estimate based on up to date technology.
- Could proper access cost estimates be used to design a regulatory policy that allows an access deficit (AD) to be maintained by the incumbent and enables the deficit to be funded and avoids cream skimming while not substantially distort investment incentives, and disadvantage access competitors that do not qualify for an ADC³³ – **NO**
- Is it possible to design and operate an ADC scheme which is fair and competitively neutral? – **NO**

³² Although it is not concerned with the AD issue per se, the UK regulator has recently investigated BT Openreach's access costs in detail. Digicel suggests that there is much to learn from Ofcom's approach. See Ofcom (2004), "Valuing copper access: A consultation on principles", Consultation document, December.

Analysys (2005), "Cost of the BT UK local loop network", "Report for Ofcom".

Ofcom (2005), "Valuing copper access", Final statement: Date of publication: 18 August.

Ofcom (2008), "Valuing copper access Part 2" – Proposals, Consultation document Issued: 16 March.

Ofcom (2008), "A New Pricing Framework for Openreach: Developing new charge controls for wholesale line rental, unbundled local loops and related services". Consultation Publication date: 30 May.

Ofcom also hired leading German cost modelers *Wissenschaftliches Institut fuer Kommunikationsdienste* (WIK) to use genuine bottom up methods to cost access.

³³ As discussed above, we gather Australia has something it calls an ADC scheme but in practice it seems to be a levy placed on termination and origination which is used to fund access provision to high cost rural areas

- Is it possible to design an ADC scheme that does not involve lower Public Welfare compared to tariff rebalancing? – **NO**
- Digicel does not believe that there is anywhere that can be described international best practice for ADC schemes. ADCs are an anathema to a liberalised market place and fair competition. All and any ADC schemes represent poor regulatory practice. It is impossible to design an ADC scheme that would not distort competition and place “lead in the boots” of new entrants.

5 SUMMING UP

International agencies like the World Bank, the ITU, the European Commission, the OECD, leading regulators and academics all agree that access deficits (AD) and access deficit contributions (ADC) represent poor regulation, impose costly distortions on the economy, and undermine the development of fair competition. They all agree that the solution is tariff rebalancing and special packages for marginal subscribers.

Crucially, it appears that ECTEL has not yet established whether an access deficit (AD) actually exists in any Eastern Caribbean state and if so what the level of the AD is. Digicel is therefore curious as to how it is that ECTEL has required that ADCs are paid to C&W/LIME – even by those providing their own access!

An economic approach is required to address the issue of whether or not C&W/LIME has an access deficit and if so its scale. If a policy is to be arrived at for dealing with AD issues, it would need to be based around regulatory and competition economic analysis – otherwise economic policy is being decided without understanding the economic consequences.

Digicel is concerned that from the content of the consultation it appears that ECTEL has not yet brought these skills to bear on the AD issue. The approach implied in choosing the questions posed in this consultation and which involve asking C&W to prepare financial statements, asking respondents for information about competitive prices and what the proper AD service components should be, is not one that can lead to a satisfactory outcome.

The principles used for cost estimation need to be developed so that they reflect economic rather than accounting costs and do not discriminate between competitors, technologies or market structures. Economic and accounting values can be hugely different and it is the economic values that are relevant. The policy issues are also economic. Properly experienced and fair minded economic experts can and often do agree about such matters. In this consultation ECTEL has only begun to touch on the relevant economic issues.

Digicel previously set out in some detail an analysis of access costs which strongly suggests there is no AD in Dominica and probably not in other Eastern Caribbean countries either. Moreover, Digicel has explained why the scheme that has operated to date is arbitrary and discriminatory. In this present consultation ECTEL has only begun to address these issues.

Digicel believes that ADC payments must be suspended until:

1. It is established whether or not C&W/LIME has an AD in its Eastern Caribbean jurisdictions and if so an estimate of the proper economic value is obtained,³⁴
2. A policy for dealing with it is developed which is fair, non-discriminatory and not anti-competitive.

In regard to the latter, the unified advice from all international agencies, academics and leading national regulators is that, if an access deficit is found to exist, the policy for dealing with it should be tariff rebalancing.

Digicel recommends that, in order to make its way through the complex economic issues relating to access deficit (AD) and access deficit contributions (ADCs), ECTEL should consider acquiring the services of an economist who is a highly experienced expert in these matters. We believe this person would likely be either an academic with a great deal of practical regulatory experience or would be a highly experienced economist from a leading consultancy which specialises in telecoms regulation. We suggest the person should have substantial European experience as the regulations and licenses in the ECTEL region imply a similar situation as occurred in the EU.

6 ECTEL'S QUESTIONS FOR RESPONDENTS

Question 4.1 – Have any respondents changed their positions, or do they now agree with ECTEL's proposed AD definition and guidelines (when considering the additional information provided by ECTEL)?

Digicel does not agree with ECTEL's regulated service definition of an access deficit.

Question 5.1 - Do the respondents believe that any unregulated services should be included in the AD calculation, and why?

³⁴ This can be done very approximately by following a similar approach to that Digicel used in its 6 May 2008 response in regard to Dominica.

Digicel does not agree with the "unregulated services" concept of an access deficit.

Question 5.2 - Do the respondents believe the following services should or should not be included in the calculation of an access deficit, such as other fixed/local services including valued added services, voicemail, ADSL, national payphone, operator assistance, domestic and international directory query, emergency services, fixed-to-fixed, fixed-to-mobile/LIME, fixed to-mobile/Other Mobile Carriers, ISDN, regulated portion of any bundled services, and any other services? Explain why or why not?

Digicel has discussed above why the inclusion of these services in the definition of an access deficit is not legitimate. It would appear to result in double hit price control of C&W/LIME and involve individual profit control of service with all the efficiency and administrative burdens this would entail.

Question 5.3 - Can respondents provide any specific examples of recent access deficit calculations in other jurisdictions, and explain how regulated and unregulated services were treated, and provide a list of services included in the calculation of the access deficit?

There is no such thing as "good international practice" when it comes to access deficit contribution schemes. ADC schemes are rare internationally, are being phased out, and Digicel considers that it is wrong to follow any regulatory approach simply because another jurisdiction has done it. Rather, an economic analysis of the public welfare case is required. Digicel believes that if this were done in any jurisdiction it would be clear that ADC were and remain against the public interest.

Question 6.1 – Explain whether it would be reasonable to use revenues as an allocator for common/overhead costs in the AD calculation.

Question 6.2 - Explain whether "incremental" costs should or should not exceed historical embedded costs for an AD calculation.

The principles used for cost estimation need to be developed so that they reflect economic rather than accounting costs, and do not discriminate between competitors, technologies or market structures. Properly experienced and fair minded economic experts can and often do agree about these issues.

There are circumstances where long-run incremental can exceed historic costs but whether they do in any particular case would require analysis by economic experts.

Question 6.3 – Should the regulated portion of services that are included in bundled services be reflected in the AD calculation, if so how should they be reflected in the AD calculation?

No.

Question 6.4 – Regarding LIME’s current AD calculations, under Constraint 3 for each ECTEL member state, LIME is asked to explain and provide supporting documentation and calculations for the six-month competitor/other party volumes for MTF, Directory Inquiry, International Termination, Emergency Service, Transit, and other relevant services. LIME should also provide the source for these six-month volumes and provide updated actual volumes. Other parties/competitors should provide these related revenues and volumes for their respective companies for each of the ECTEL member states for the most recent 2 year period.

The above services are not legitimate components of an AD.

Question 6.5 - Explain if discounts, promotions, or price concessions should be netted against revenues (or treated as expenses) in LIME’s current AD calculation.

No – otherwise LIME would be able to provide a promotion or discounts and claim part of the resulting increase in the AD from competitor contributors.

Question 6.6 – Explain if LIME has used the EAM model to determine an access deficit for any Caribbean jurisdiction in the past 5 years, provide the name of the Caribbean jurisdiction, and explain if an access deficit is being recovered in that jurisdiction based on the EAM model (or explain if the access deficit recovery was rejected in that jurisdiction). Parties should address any AD calculations in other jurisdictions and how the issues impact the determination of an AD for the ECTEL member states.

Using LIME’s processed accounting information and a model designed by LIME to determine what competitors would pay to LIME is in conflict with good regulatory and legal practice.

Question 6.7 – Explain if LIME has used incremental costs (and a similar LRIC model inputs) to determine an access deficit for any Caribbean jurisdiction in the past 5 years, provide the name of the Caribbean jurisdiction, and explain if an access deficit is being recovered in that jurisdiction based on incremental costs (or explain if the access deficit recovery was rejected in that jurisdiction). Parties should address any AD’s based on incremental costs in other Caribbean jurisdictions.

LIME should not be estimating the costs that ECTEL then requires other parties to pay.

There is a serious question whether it should be forward-looking LRIC costs that are used. If so, then a copper network would not be the basis upon which access costs were estimated.

Question 6.8 – LIME’s current AD calculation applies a certain mark up percentage to both “Access” service and “Other Regulated Services” as an apparent surrogate for costs related to marketing, advertising, billing, collection, and other customer service operations. Should competitors or other providers reimburse LIME for its advertising/marketing costs (that are used to market against other competitors/providers), especially if an ADC is implemented that would recover part of these costs from competitors/other providers.

In principle, advertising and marketing costs relating to access should probably not be included although billing, collection and other retailing costs should be, since the price controls that prevent rebalancing are retail price controls.

Question 6.9 – Explain if LIME's current AD calculation should be updated to reflect more recent interconnection rates.

LIME should not be estimating figures which its competitors must pay to it. This implies that LIME is regulating the sector rather than the NTRCs with the assistance of ECTEL.

Question 6.10 – LIME's AD calculation appears to use "regulatory" costs (instead of statutory/audited financials) as the underlying basis (or starting point) for incremental costs. Explain why regulatory costs are appropriate to use for calculating an AD.

If it is the economic costs that are at issue, which Digicel believes is the case, the statutory/audited financials will not provide the proper information.

Question 6.11 – It would appear that LIME's current AD calculation uses "economic" depreciation rates in the calculation of costs. Explain why "economic" depreciation is appropriate to use in an AD calculation, versus "regulatory" depreciation or depreciation from the audited financial statements.

LIME appears to have picked and chosen which methods it will use to suit its own purposes. Economic depreciation is difficult to model and can only be an approximation. Digicel notes that it did not use economic depreciation in its LRIC cost model. It is the proper approach when using forward-looking LRIC, but in other cases is likely to substantially inflate the annual depreciation value.

Question 6.12 – If LIME's current AD calculation includes "inflation" and "productivity" factors applied to certain costs, explain why these same factors are appropriate in today's economy, or explain if these factors should be updated. Explain why such factors should be used in an AD calculation.

Question 6.13– If LIME's current AD calculation includes the same WACC that was used in the LRIC model, explain why this WACC is reasonable in today's economic environment.

This appears to be another example of LIME being too closely involved in doing the regulatory work to determine how much money it will be paid by its competitors.

Question 7.1 – Respondents are welcome to address any issues raised in this section.

Question 7.2 – Respondents should address the scenario addressed at Section 7.1. First, assume LIME is given the opportunity to reduce the AD via increased upward pricing flexibility for residential/business access line services in a new price cap plan. Second, assume that an ADC is implemented to recover the AD in part from competitors. Third, assume that LIME does not use its new increased pricing flexibility to increase prices for residential/business access line service because of alleged competition for these services (or due to other reasons).

- a) In this case, explain if the ADC that is paid by competitors/other providers acts as a subsidy from competitors to LIME that allows LIME to maintain lower prices for access line service and thus helps keep LIME from losing these access line customers to mobile or cable competitors.

b) Explain if this scenario which identifies an AD and implements an ADC provides any significant or determinable benefits over a scenario that does not identify or implement any ADC. Explain and quantify benefits to LIME, competitors/other providers, and to consumers under this scenario.

Question 7.3 – Provide documentation to show that LIME is financially harmed in a significant manner by the absence of an AD recovery method or in the absence of flexibility to increase prices for residential/business access lines services to recover the AD, and provide financial statement results and examples of public statements asserting this harm. If such information is provided, show the actual earned ROR on capital plant investment, as well as profit levels, for regulated services, unregulated services and all combined services over the price cap period.

Accounting measures of profit are not normally the relevant ones when it comes to economic regulation. Rather, it is the economic concept of profit which is important. This is a very challenging topic even for the best resourced authorities. Digicel suggests that it is not necessary to get involved in this at this time.³⁵

Respectfully, Digicel does not believe that ECTEL's questions here can lead to a useful answer. The problems of an AD are dynamic and of a type that mean that accounting data and financial statements are simply not especially useful.

Question 7.4 – LIME should provide the positive financial and operational impact that an AD recovery mechanism would have on LIME, including impacts on cash flow, profits, and ROR on capital plant investment to the extent this can be determined. LIME should assume a scenario that all of its claimed AD is allowed to be recovered in a manner that LIME most prefers.

Digicel has noted elsewhere that the essential problem with an AD (assuming one exists) is that it gives rise to what economists refer to as a "price signaling" problem. Of itself, it does not represent an economic cost, since C&W/LIME will be funding any deficit from economic profits earned on the sale of other services. Because of the nature of the problem, Digicel does not believe it would be possible or even useful to try to predict the impact on cash flow, profits and economic profitability. It would require predictions about the future.

Digicel reiterates that an ADC scheme ought not to be concerned with LIME recovering the claimed AD "in a manner that LIME most prefers". ECTEL's task is not to accommodate LIME's preferences.

An AD is essentially an economic issue. It is not one accounting analysis can usefully guide. ECTEL's questions suggest that ECTEL might not have the regulatory economic expertise to take this issue forward. We reiterate, it is not an accounting issue. Among other things, using

³⁵ See the 214 page report consultants and their academic advisers; OXERA, (2003), "Assessing profitability in competition policy analysis", Economic Discussion Paper 6: A report prepared for the *Office of Fair Trading*.

accounting data in the design of an ADC scheme, even one in which excludes access competitors from paying, will enable an inefficient incumbent using outdated investments to be propped up by ADC contributors.

Question 7.5 – Other competitors/providers should explain if they believe LIME's AD calculation is valid and if recovery of this amount from competitors/providers in part, and recovery in part from increases in residential/business access line prices, will act to promote competition and eliminate barriers to entry. Competitors/other providers should indicate if they believe that current residential/business access line prices are substantially below cost and market, and if the approval of an AD recovery mechanism will make it easier for competitors/other providers to compete with LIME for access services and remove a barrier to entry.

See Digicel's 8 May 2008 submission appended to this submission. Digicel's analysis suggests that C&W/LIME does not have an AD in Dominica and we suspect it does not have an AD in any other ECTEL region.

Question 7.6 – Other competitors/providers should explain how they would be financially harmed by continued assessments of existing AD charges in interconnection rates.

Digicel is rather perturbed by this question. Why should competitors that provide their own access network pay money to their rival? Can fair competition occur where such payment are imposed? The answers are: "they should not be" and No.

Question 7.7 – Explain why it is consistent and reasonable for LIME to voluntarily price certain services below incremental costs when it is to the benefit of LIME (which creates an increased AD), yet LIME proposes to recover such "voluntary" access deficits, along with any other access deficits, in the form of an ADC from competitors and from potential increase prices for residential/business access line service if this additional flexibility is granted. Please reconcile the inconsistency between creating increased access deficits, yet seeking recovery or relief of such access deficits from competitors and/or consumers.

If LIME voluntarily prices lower than it is required to, any AD calculation would need to price those services at the upper level permitted.

Question 7.8 - Assume under a new price cap plan that LIME is given flexibility to increase prices for residential//business rental access lines by \$5 million and that LIME implements these price increases. Address the following:

- a) Explain if LIME would immediately offset the \$5 million increase in prices of regulated services with equivalent price reductions of \$5 million for International service (and other alleged competitive services), explain why or why not.
- b) If residential/business rental access line service is subsidized by International services (and other services), and if prices for International services are maintained at artificially high (or at elevated prices which do not allow LIME to compete), explain why LIME would not immediately reduce prices for International services given these assumptions.
- c) If LIME already earns a high ROR on plant investment for International services and all services combined, and LIME elects to keep the \$5 million in price increases to further increase

its profits (without any offsetting price reductions to International service or other services), explain how this benefits LIME, consumers, and the competitive arena. Also, explain how this action justifies LIME's claims that International service subsidizes local rates and does not allow LIME to establish competitive market prices for International service (or other alleged competitive services).

d) If LIME retains the \$5 million without any offsetting reductions in prices for other services, explain how this benefits LIME from a competitive and financial standpoint and explain why this should not be viewed as a windfall to LIME.

Question 7.9 – Competitors/other providers should provide the amount of all access deficit charge amounts (not including any other interconnection charges) that they paid to LIME for the three most recent 12 month calendar years for the period January 1st to December 31st (2006, 2007 and 2008). Also, if possible, show a calculation or estimate of this amount by showing volumes multiplied by the access deficit charge, and show the access deficit charge/price for each of the related service volumes.

Question 8.1 – Respondents are welcome to address any issues raised in this section.

Question 8.2 – Respondents should address any alternatives for the removal or elimination of existing ADC charges, including a potential phase-out or phase-down of the ADC (glidepath approach) and an immediate elimination of the ADC (flash-cut approach).

Where an ADC is illegitimate, no glide path can be justified.

Question 8.3 – Respondents should identify any existing laws or precedent that would prevent ECTEL or the NTRCs from immediately cancelling any ADCs in existing contracts between LIME and other providers.

Question 8.4 – LIME should provide a list of competitive or other services for which its prices exceed those of its competitors in the ECTEL member states and in the Caribbean region, or for which LIME does not believe its current prices are competitive (although they may not be above the prices of its competitors) with its competitors in the ECTEL member states and in the Caribbean region. In each case:

a) provide the name of the service and provide LIME's price in the respective jurisdiction;

b) provide the name of the competitor and the competitor's price in the respective jurisdiction. This information should be provided for International service, Mobile service, Internet, Leased Circuits, and any other applicable services.

Question 8.5 – Regarding the previous question and competition in the ECTEL member states, provide LIME's quantification of the dollar reduction in revenues that would be necessary for LIME's prices to be competitive with its competitors for all applicable services. In addition, provide LIME's current prices, the competitor's current prices, and LIME's proposed prices that would be necessary to compete with the competitor.

Question 8.6 – LIME should explain how much it would increase residential and business rental and connection prices for the next five years if given such flexibility to increase these prices, LIME should provide the prices that it would propose for each of the five projected years.

Digicel suggests that the way to establish what an approximate 'rebalanced' price should be is to use adjusted international benchmarking as outlined in detail in our 8 May 2008 submission in regard to Dominica and appended to this submission.

Question 8.7 – Competitors/other providers should provide the amount of all access deficit charge amounts (not including any other interconnection charges) that they paid to LIME for the three most recent 12 month calendar years for the period January 1st to December 31st (2006, 2007 and 2008) Also, if possible, show a calculation or estimate of this amount by showing volumes multiplied by the access deficit charge, and show the access deficit charge/price for each of the related service volumes.

Question 8.8 – Parties should provide specific examples in the Caribbean where high local/fixed prices exceed the surrounding Caribbean market price for these same services due to rate rebalancing related to the elimination of an access deficit. Respondents should also show that prices for International, Mobile, Internet, Leased Circuits, or other services have been correspondingly reduced to rates at or below the market level to reflect the rebalancing. Conversely, parties are invited to identify unusually low local/fixed rates in certain Caribbean markets where access deficits have not been eliminated, and to also show that prices for International, Mobile, Internet, Leased Circuits, or other services are also unusually high in order to maintain higher profit levels in the absence of rate rebalancing for access deficits.

Question 8.9 – Respondents should address how the implementation of any further ADC should be monitored by ECTEL on an on-going basis.

Rebalancing is the only way forward if ECTEL believes there is an AD.

The alternative has generally proven difficult in the extreme, resulting in costly appeals and less than satisfactory outcomes. We believe a forward-looking LRIC approach is the theoretically correct approach, with Ramsey allocations for common and joint costs. We urge ECTEL to study the documents cited in footnote 32. Proper cost estimates will almost certainly require that ECTEL hire the appropriate international economic consultants. However, Digicel does not believe that this expense can be justified in the case of small Eastern Caribbean economies; an approximate estimate obtained by benchmarking with truly cost-based rates is enough.

Question 8.10 – Respondents should generally address their preference for a Universal Service Fund or the existing method of paying for ADCs, and generally identify the benefits or problems with both approaches.

A universal service cost is a very different concept to an AD. A net universal service cost (NUSC) arises when a network licensee has invested in customers that it would not have invested in but for a mandatory obligation to do so. NUSCs arise due to unprofitable customers. Where there is an AD, profitable customers will sometime pay less than cost for their access.

An avoidable costs and benefit approach is required to estimate a NUSC figure such that all revenue is counted that would be lost if the customer were disconnected (including lost incoming calls).

It would need to be demonstrated that substantial loss-making investments were made due to regulatory coercion, something we think only happens under state ownership. Privatisations will have resulted in buyers revaluing those assets in line with the revenue they could earn from them, such that no NUSC would be carried over into the 'private' regime.

A NUSC represents a direct call on the designated universal service licensee's profits. It is a more expansive concept than is an AD which is a price signalling issue. A greater AD is expected to result in a larger NUSC because of the reduced avoided revenue attributable to each customer.

A NUSC is enormously difficult to estimate. It would require disproportionate annual expense in international economic consultants and Digicel does not believe that is needed or relevant and cannot be justified for the ECTEL countries.

.....

**ANNEX: DIGICEL'S 6 MAY 2008 SUBMISSION WHICH ESTIMATES
THAT NO ACCESS DEFICIT EXISTS IN DOMINICA**

Digicel

The Bigger, Better Network.

Part II of the

Response of Wireless Ventures (Dominica) Limited, trading as
Digicel Dominica

to the invitation by

NTRC

to comment on the Access Deficit Contribution Scheme in
Dominica

Redacted Version

May 7, 2008

Table of Contents

1	INTRODUCTION	3
2	THE SCALE OF C&W ACCESS DEFICIT	3
2.1	ADJUSTING FOR DOMINICA COST DIFFERENCES	5
2.1.1	<i>Differences in labour costs</i>	5
2.1.2	<i>Differences in access networks</i>	6
2.1.3	<i>Adjusting for access network differences, and differences in labour costs</i>	8
2.2	SENSITIVITY ANALYSIS	9
2.3	CURRENCY DEPRECIATION	10
2.4	ASSUMPTIONS OF DIGICEL'S MODEL	10
2.5	CONCLUSIONS REGARDING THE SCALE OF C&W'S ACCESS DEFICIT	11
3	DISCRIMINATORY FLAWS IN THE ADC SCHEME	12
4	OVERALL CONCLUSIONS	14

List of Figures

Figure 1:	Access costs as a function of subscriber clustering	4
Figure 2:	Fixed lines in Service in Dominica	7
Figure 3:	The distribution of access line costs – high penetration & mid penetration countries with the same number of households	8
Figure 4:	Monthly access deficit per line	9
Figure 5:	Present value of the access shortfall in Dominica	10
Figure 6:	Foreign exchange rates since 2002 (Euro c.f. USD; USD c.f. Eastern Caribbean Dollar {XCD})	10

List of Tables

Table 1:	IMF Country Data	6
Table 2:	Assumptions behind Digicel's modelling of C&W's net access costs	11

1 INTRODUCTION

Wireless ventures (Dominica) Limited (hereinafter Digicel) forecast, at page 5 of Part I of its comments of April 18, 2008, that it would file Part II, a supporting document in which provides a more detailed analysis of the flaws in the present ADC scheme in Dominica.

Part I noted that C&W was giving access away free to some business customers and heavily discounting services to others; with the likely subsidies for this being provided by C&W's competitors including Digicel. Our document noted that Mobile operators are the main providers of universal service / access in Dominica – not C&W, and that mobile network operators should not therefore pay access subsidies.

Digicel's Part I document thus refutes C&W's claim that, *"The object of this approach is to ensure universal access with all its associated benefits of maximising the positive externalities and ensuring the provision of a public good"*. This refutation is supported by the econometric evidence which is cited in Digicel's response. It is also noted that in a competitive environment (i.e. no separation of local and long distance sectors as in the USA) an ADC scheme is inevitably distortionary, no matter how well designed, and that ADC schemes are primarily an academic construct that do not translated into a defensible policy in practice.

In this Part II document, Digicel reports on: (1) an analysis of likely access costs and the scale of C&W's access deficit (AD) in Dominica. Digicel's analysis suggests that there is no AD in Dominica and that therefore ADC funds paid to date should be returned to the contributors; and (2) even if C&W did have an AD, we explain serious flaws in the present ADC system which in themselves warrant *ex post facto* adjusting payments from C&W.

2 THE SCALE OF C&W ACCESS DEFICIT

C&W's standard residential and business line rentals are presently EC\$24.00 and EC\$48.00 per month respectively, and in each case the connection charge is EC\$150.00. Information we have from bottom-up access network cost models suggests that the \$48 is higher than the average monthly cost of providing access in high income countries while the \$24 is less than cost.

An analysis of whether an AD exists requires costs and revenue of business and residential customers to be considered.¹ One way of doing this is to weight the different line rental charged to residential and business subscribers according to the relative numbers of each. By doing this, we obtain a weight line rental of EC\$11.17 per month or EC\$134.04 per year. This line rental

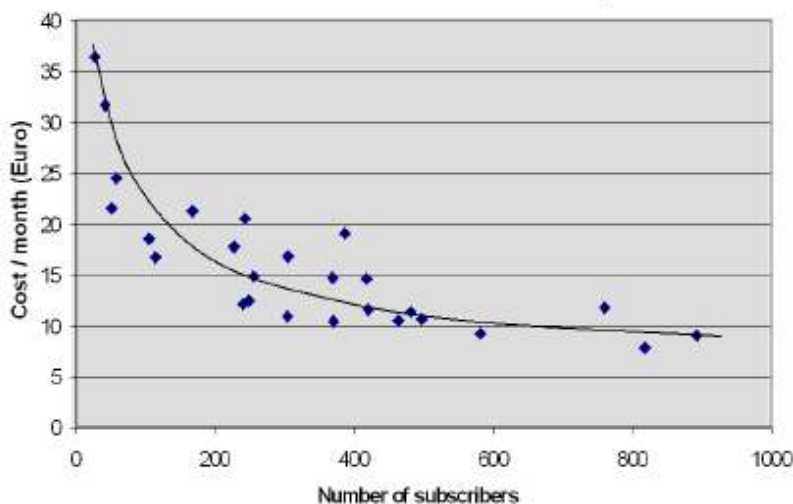
¹ An exception would arise if the economies of scale available in servicing the central business district (CBD) are sufficient to enable competition to occur in access provision – something we tend to see in areas where there are many organisations with very large annual telecommunications expenditures, e.g. the London, Paris and Frankfurt CBDs and on Manhattan Island) which is not the case for Dominica.

along with the EC\$150 and the other source of access related revenues, EC\$40.25 reconnection fee (which would be charged more than once in the life of the access assets), has been used in a model that estimates the AD.

Let us now discuss the likely range of the present value (PV) of the average C&W access line in Dominica. Information about access costs can be found in countries where an in-depth analysis of these costs has occurred. We draw of this information below.²

In general, a good indicator of the average cost per subscriber line for the local fixed wire access network is line length. Longer line lengths suggest that the value of common cost allocated to subscribers from the distribution network will be higher as line length grows. In the absence of this information, two factors that cause line lengths are the number and density of termination points (or access lines). The two are clearly highly correlated, with density being the most important factor explaining average line length in an area. However, if the density of two areas is the same, and one has 50 houses where the other has 2000, the average line costs can vary by a significant amount.³ Figure 1 below shows the distribution of costs for a sample of 27 areas in Germany. The figures were obtained using a bottom-up cost model developed for Germany shows the average access line cost faced by Deutsche Telekom to be a little under 800 Euro or adding in periodic maintenance costs, about 14 Euro per month.

Figure 1: Access costs as a function of subscriber clustering



Source: WIK

² Access costs concern the costs between the subscriber line card and the customer premises. They are primarily non-traffic sensitive costs.

³ While geological and topological factors will also play a part in explaining cost difference between one area and another, for countries as a whole these factors tend to average out, such that they tend to have a fairly minimal effect on average line cost differences from one country to another.

Similar methods of cost estimation in the late 1990s provided a range of costs in the USA for incumbent fixed line operators from a little less than \$8 to over \$30 per month. These figures were largely reflective of average loop lengths in the states studied, with states like Wyoming, and Alaska having the highest costs, and Massachusetts and Rhode Island, the lowest.

2.1 Adjusting for Dominica cost differences

Input costs for operators in the UK, Germany or the USA will obviously be different from those in Dominica. In order to benchmark with costs in Dominica there are 2 areas of adjustment that are crucial. These are to account for:

1. Differences in labour costs, and
2. Differences between access networks.

2.1.1 Differences in labour costs

On average wage rates are lower in lower GDP per capita countries than in higher GDP per capita countries. Per capita incomes in the EU and USA are several times that of Dominica, and wage rates will be similarly different (see Table 1). In high income countries, wage payments typically comprise 20 to 25 percent of an operator's annual expenses. However, in regard to access network Capex costs, this figure will be substantially higher as land work makes up approximately 70% of the cost of building the access network and the labour component of this is approximately 45%. Adding other access network related labour to this, results in a figure of approximately 35% of the cost of the access network being labour costs; i.e., capitalised labour makes up 35% of access network Capex. Given that the ratio of telecommunications wages in Dominica to high income countries is conservatively estimated at 1 to 6, if the telecoms labour in Dominica were as productive as in high income countries, this would result in a dramatically lower average cost per access line in Dominica.⁴ Under this assumption access network costs would be estimated (benchmarked) as follows:

$$Access_{DOM} = 65\% * Access_{HI} - 35\% Access_{HI} * (wagecost_{DOM} / wagecosts_{HI})$$

Where:

$Access_{DOM}$	= cost of C&W Dominica's access network
$Access_{HI}$	= cost of high income country's access network
$wagecost_{DOM}$	= average cost of labour to build the access network in Dominica
$wagecosts_{HI}$	= average cost of labour to build the access network in high income countries from which access network cost data exists.

⁴ Digicel's educated guess is that the average annual wage in Dominica is roughly US\$10,000 compared to \$80,000 in high income countries. However, we have chosen a ratio of 1 to 6 so that our estimates should be considered very conservative.

If the average Capex per line of access network in most high income countries is US\$900 (which we believe is approximately correct) this would mean that the Capex cost in Dominica for the same thing would be US\$638.

In practice, labour productivity for the installation of C&W's access network in Dominica will be somewhat lower in Dominica than in high income countries, although much higher than Labour productivity in Dominica generally. To factor this into our model, we increase the wage ratio with high income countries from 1 to 6 to 1 to 4. Assuming all else remains the same, this provides an average per customer Capex cost of US\$664.

Taking account of differences in labour costs and assuming the average access line is comparable (an issue we address in the next section), any Capex value of less than US\$603 implies no access deficit using the reasonable assumptions in setting the parameters of our spreadsheet model, which are outlined in section 2.4).

Table 1: IMF Country Data ⁵

Shaded cells indicate IMF staff estimates			
Country	Subject Descriptor	Units	2007
Denmark	Gross domestic product per capita, current prices	U.S. dollars	57,260.95
Germany	Gross domestic product per capita, current prices	U.S. dollars	40,415.41
Ireland	Gross domestic product per capita, current prices	U.S. dollars	59,924.42
Netherlands	Gross domestic product per capita, current prices	U.S. dollars	46,260.69
United States	Gross domestic product per capita, current prices	U.S. dollars	45,845.48
Dominica	Gross domestic product per capita, current prices	U.S. dollars	4,332.56

Source: IMF

2.1.2 Differences in access networks

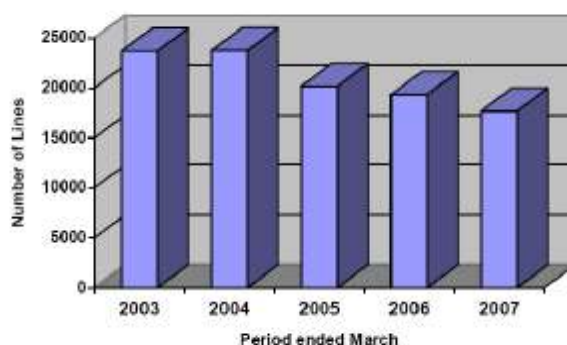
In the absence of highly detailed data about the access network, the average length of customer loops provides an indicator of average access costs per customer. The reason is that higher average loop lengths suggest that the costs entailed in the distribution network will be distributed over a fewer number of customers. Higher average loop lengths imply higher dedicated costs per customer, with, on average, a higher value for common costs having to be allocated to each subscriber. However, Capex costs do not increase in proportion to the copper pair length for MDF-areas. One reason is due to increasing economies scale in large MDF-areas. Urban populated areas share a lot of ducts with other network services and it is usual for there to be higher capacity utilisation on ducts in such areas.

⁵ PPP adjusted data are not appropriate here and these figures are not PPP adjusted. See <http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/weoselqr.aspx>

With 24.5 mainlines per 100 population,⁶ C&W Dominica has a relatively low fixed line penetration rate comparison to high income countries. Countries that have over 95% of households with a fixed line connection typically have mainlines per hundred of approximately 60 or more.⁷ There is not a strict linear relationship between these two measures; the main reason being differences in the average number of people per household. However, abstracting from the international data on mainlines suggests that roughly 50% of households in Dominica subscribe to C&W's fixed network. This figure has been decreasing in recent years, as is shown in Figure 2 below.

In all less than high fixed-penetration countries, fixed network access lines are usually only found in urban areas.⁸ Indeed, most developing countries provide few if any fixed line access in rural areas. Essentially, the reason is that incumbent fixed line operators are unwilling and/or unable to invest in loss-making customers; hence their focus is on low cost business and urban residential subscribers.^{9, 10} The situation is shown diagrammatically in Figure 3.

Figure 2: Fixed lines in Service in Dominica



Source: ECTEL (2007), Annual Telecommunication Sector Review: Period ended March

⁶ Main Lines are those connected directly between the local switching equipment and end customers. A main line is normally identified by a unique number which is the one that is billed.

⁷ Data from 1999 shows the following: Denmark 92% household penetration, 68.5 mainlines per 100; France 94%, 58 mainlines per 100; Germany 93%; 59 mainlines per 100; Ireland 84%; 47.77 mainlines per 100; Luxembourg 98%; 72.44; Netherlands 94%; 60.67.

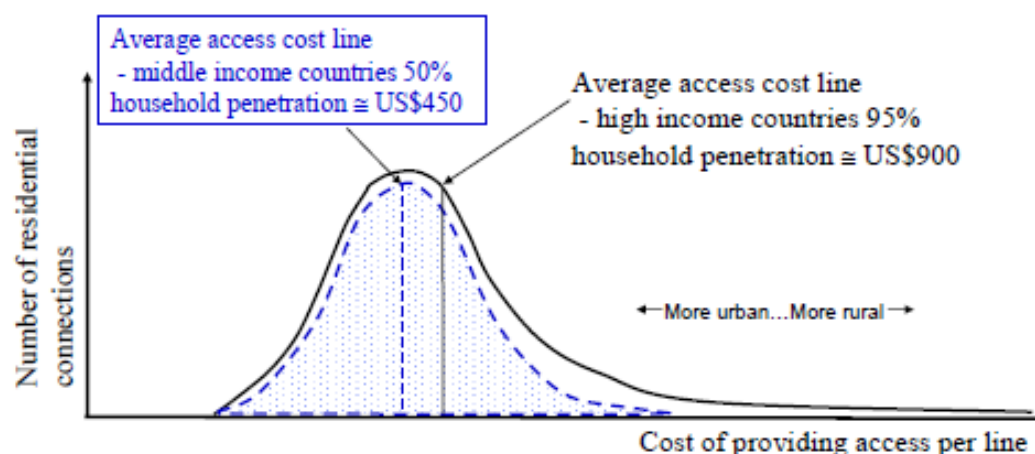
⁸ In Germany, for example, average loop length obtained from a sample of 7,200 MDF areas was 2400 meters.

⁹ The evidence shows that the lack of availability of fixed line service is principally due to the supply-side constraints than due to a lack of demand. See Ros, A. (1999), "Does ownership or competition matter? The effects of telecommunications reform on network expansion and efficiency". *Journal of Regulatory Economics*, 15: 65-92.

Ros, A., and A. Banerjee, (2000), "Telecommunications privatisation and tariff rebalancing: evidence from Latin America". *Telecommunications Policy*, 24, 233-252.

¹⁰ Rural areas typically have lower average income than urban areas, and, while a lack of access in rural areas is primarily a supply-side problem, incomes constraints will also play a part.

Figure 3: The distribution of access line costs – high penetration & mid penetration countries with the same number of households



Source: Digicel

In order to compare the average cost of access in Dominica with high income countries of Europe or the USA, we need to make an allowance for the fact that C&W in Dominica is not providing service in high cost rural areas. If we were to take out the high cost rural subscribers when estimating average access costs in high income countries, we would see the average cost of access drop dramatically. The costs could easily fall to half what they are when rural customers are included – something we can infer from the several-fold cost differences found between more rural compared to more urban states in the USA. For these reasons, Digicel contends that average access costs in Dominica will be substantially lower than they are in high income countries where rural service is available for anyone demanding it at the same rates as urban dwellers pay, and over 90% of rural households subscribe to a fixed network provider. Average access network annualised Capex and Opex per line for states of the USA range from US\$8 to well over US\$30 (an average of close to \$16.50 or US\$950 of Capex per line in today's terms), and in Europe about 14 Euro per line. Digicel believes that if all else remained the same, then, at the very least, monthly access costs in Dominica would be 35% lower, or less, than the average access line costs of a majority of high income countries. This suggests an average line rental per month of under US\$11 – less than it is currently in Dominica.

2.1.3 Adjusting for access network differences, and differences in labour costs

Following the adjustment necessary to reflect lower average loop lengths in Dominica, we end up with a Capex figure of approximately US\$615. A further adjustment is necessary to reflect the substantially lower wage costs in Dominica. For these we use the equation:

$$Access_{DOM} = 65\% * Access_{HI} - 35\% Access_{HI} * (wagecost_{DOM} / wagecost_{HI})$$

Where $Access_{HI}$ = US\$615 and the wage ratio is 1 to 4.

This provides a Capex value of **US\$454**, or a month line rental which covers Capex and Opex costs of US\$7.93.

2.2 Sensitivity analysis

The US\$454 figure rises to US\$471.5 with a wage ratio of 1/3 rather than 1/4. If the equivalent high income country average access cost per line were \$650 rather than US\$615 and wages were only 30% of access costs and not the 35% we believe it to be, then, with a labour cost ratio of 1/4, the figure rises \$504; and with a labour cost ratio of 1/3, the figure would be \$520.¹¹

In Figure 4 and Figure 5 we show the outcome of our sensitivity analysis where different assumptions were employed. The discount rate \ cost of capital rate was varied between 15%, 17.5 and 20%, leading to line values ranging from US\$300 to US\$900.

Figure 4: Monthly access deficit per line

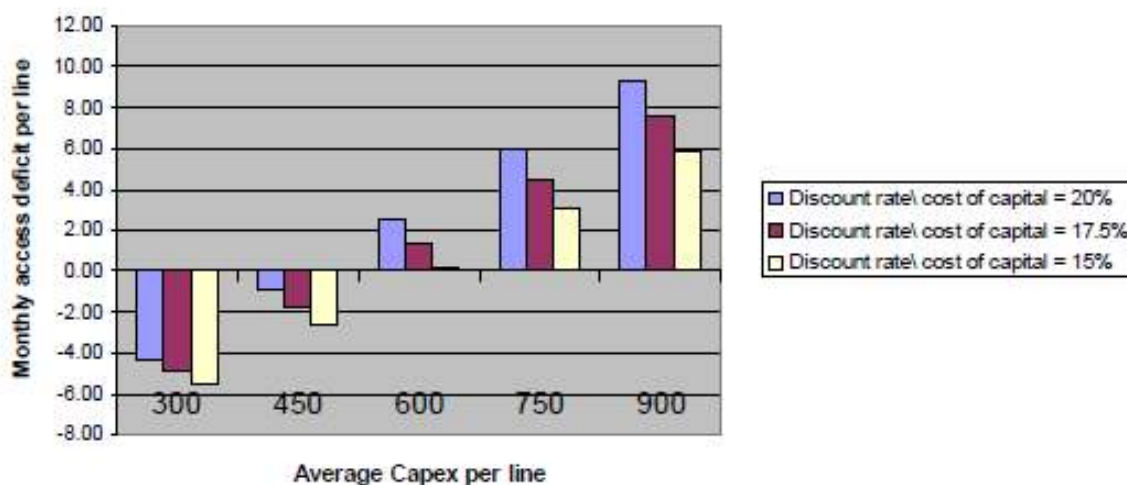
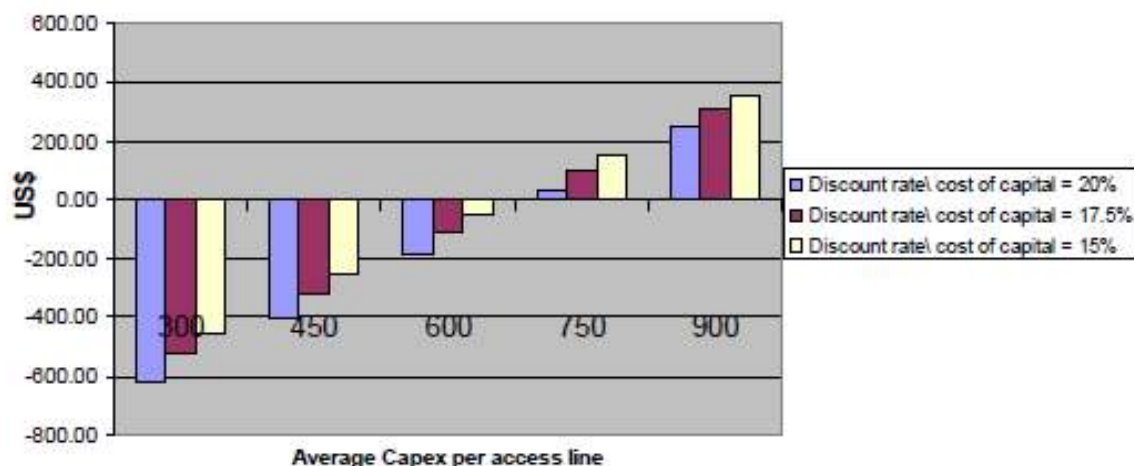


Figure 5 employs an alternative model which discounts the value of line rental payments over the life of the assets but does not discount Opex costs.¹² It suggests there is no access deficit until the average access line Capex rises above US\$600.

¹¹ This figure rises to \$471.5 with a wage ratio of 1/3. If the equivalent high income country average access cost per line was \$650 and wages were only 30% of access costs, then, with a labour cost ratio of 1 to 4, the figure would be \$504, and with a labour cost ratio of 1/3, the figure would be \$520.

¹² The approach of this model is to assume that all Capex occurs at the beginning; compared with the model used to derive the other estimates, which assumed an annualised Capex level as a proportion of fixed access costs per line – an amount determined from the body of data contained in the ARMIS data base.

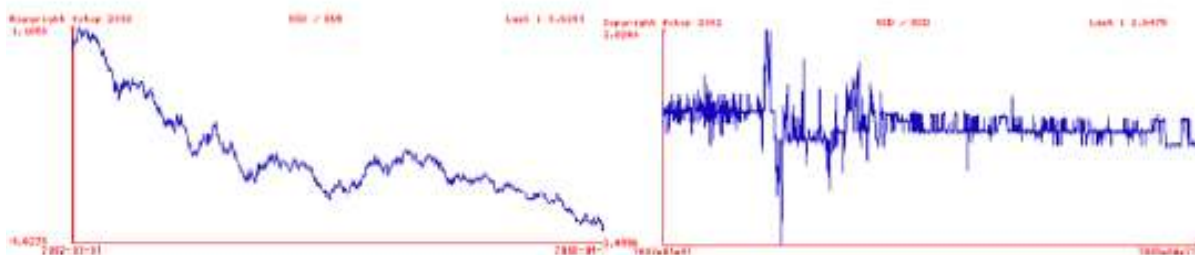
Figure 5: Present value of the access shortfall in Dominica



2.3 Currency depreciation

The situation is potentially clouded somewhat by the devaluation that has occurred in recent years of the US Dollar. Had we been trying to use US data in a Euro area this would amount to more of a problem. We would have needed to estimate the long-term US\$/Euro exchange rate, and, indeed, by listing the initial Capex value for access per line at US\$900 compared with 800 Euro, we have implicitly assumed the long-term rate to be US\$1=8/9 Euro. However, since the Eastern Caribbean Dollar is pegged to the US\$, Digicel contends that the exchange rate issue largely disappears. This period of US\$ depreciation vis-à-vis the Euro can be seen in the left hand side of Figure 6 below. The right hand side shows the Eastern Caribbean Dollar/ US\$ exchange rate over this time.

Figure 6: Foreign exchange rates since 2002 (Euro c.f. USD; USD c.f. Eastern Caribbean Dollar {XCD})



The assumptions used in deriving our results are set out below. The weighted average economic life of access assets of 22 years is from the WIK LRIC access network cost model. The Capex factor is derived from the discount rate and the figures estimated by bottom-up LRIC

models. The Opex figure is taken from an analysis of the "Automated Reporting Management Information System" (ARMIS) database from the USA. The other figures (Annual CAPEX/line; Annual OPEX/line; Rental p.a.; AD per line per annum; AD per line per month, and AD in total) are obtained from the other figures. We also assumed that 20% of access lines in Dominica are business lines and that all business lines pay the business monthly line rental.

Given that the ratio of labour costs/labour productivity is substantially lower in Dominica, and because of the substantially lower average loop lengths and thus costs in Dominica, Digicel believes its estimated average loop value of US\$ 454 is a fairly estimated adjusted benchmark value for Dominica.

Table 2: Assumptions behind Digicel's modelling of C&W's net access costs

Average AD per line calculation	
Av. line value USD	X
installation fee	X
Remaining to be covered by rental	X
Weighted Av. economic life of access line	X
Discount rate	X
$q = 1/(1+i)$	X
Capex factor	X
Opex factor	X
	X
Annual CAPEX/line	X
Annual OPEX/line	X
Annual total cost	X
Rental p.a.	X
AD per line per annum	X
AD per line per month	X
AD in total	X

2.5 Conclusions regarding the scale of C&W's access deficit

Digicel's analysis suggests that it is most unlikely that C&W has an access deficit in Dominica. This being so C&W has obtained ADC payments through the inappropriate application of a regulatory mechanism. Digicel requests that C&W refund all ADC payments to the relevant contributors, including compounded interest at a rate which reflects the cost of debt to start-ups in the telecoms sector of Dominica.

3 DISCRIMINATORY FLAWS IN THE ADC SCHEME

As outlined above, in Digicel's view C&W does not have an AD in Dominica. However, what follows is based on the assumption that a modest AD does exist.¹³ Notwithstanding Digicel's view that mobile operators should not pay any ADC to C&W even should an AD exist (for reasons outlined in the first part of this response dated 18 April), Digicel believes that a majority of the ADC revenues it has paid to date are illegitimate. This is because C&W's claimed AD has been paid only by 'other' market participants – not at all by C&W. Digicel, for one, has raised the subsidy revenue through having certain interconnection prices marked up above those that C&W has to pay for virtually identical termination services. This simply shifts the subsidy burden from C&W to the ADC contributors – primarily Orange and Digicel. In other words, Digicel costs have been forced up by the ADC scheme in order to pay a subsidy to C&W while C&W is exempted from making any contributions. Among other things, it has resulted in a pricing distortion which favours C&W. Where there is liberalisation, if existing firms are to maintain a price at less than cost, they, along with new entrants, must contribute to the subsidy if the subsidy is not to breach basic non-discrimination \ competitive neutrality requirements. The ADC scheme in Dominica has failed to do this.¹⁴

In general, the same analysis also applies to the recovery of net universal service (US) costs. In most countries that have a formal US funding scheme, the incumbent is responsible for meeting the obligations. In the EU, for example, where there are 4 countries that maintain a formal US subsidy scheme, EU law requires that the measured net cost must be divided up among all market participants according to an estimate of each contributor's market presence.¹⁵ A similar system also exists in Australia and New Zealand. Exempting the incumbent from making contributions is not permitted either under the liberalising regulatory framework or according to the requirements of competition law. In liberalised sectors, subsidy schemes need to distribute

¹³ Access deficits are sometime maintained by fixed line operators that are free to rebalance their tariffs. In the UK, for example, it is commonly considered that BT still has an AD and even though the UK ADC scheme was abandoned in 1996 and all restraints on rebalancing by BT were removed, BT has chosen not to rebalance its prices. The primary reason for this is thought to concern the access competition that BT faces from cable TV providers who are also providing telephony and internet services as well as from mobile network operators.

¹⁴ Even if C&W were to say that it contributes, as the ADC payments made by rivals do not cover its AD (a point we believe the evidence contradicts), the rules specify that for new entrants the ADC liability is incurred on interconnection and transit; should C&W need to generate any internal cross-subsidy it is free to do this in any way it pleases.

¹⁵ There remain relatively high economic costs associated with this approach to cost recovery. Less costly for society is a scheme that pays the subsidy out of the state budget, or to include a US contribution as a line item on customers' bills where the amount would be determined, for example, to be a proportion of the bill net of the US component and net of wholesale payments between each contributor. See chapter 3 of WIK (1999), "Study on the re-examination of the scope of universal service in the telecommunications sector of the European Union, in the context of the 1999 Review". Study for the European Commission.

the subsidy liability across all market participants in a way that as far as is practical maintains competitive neutrality, i.e., the 'level playing field' principle. It is with this principle in mind that the UK ADC scheme was designed, although it was later understood to also have its flaws. ADC schemes have not been permitted in the EU since liberalisation occurred at the start of 1998, not least because they cannot be designed in a way that does not impose costly economic distortions.

Putting the issue of the existence of an AD or not, to one side, Digicel considers that the present scheme contradicts the principles that can be gleaned from the Act, and indeed is inconsistent with specific words found in the Act, such as "*ensuring the efficient, economic and harmonised development of the telecommunication and broadcasting services (...) of Dominica*". Indeed, the way the ADC scheme has operated is contradictory to the principles of fair competition.

Assuming that C&W has a genuine AD, an *ex post facto* correction of the ADC scheme that has operated to date is required to achieve appropriate regulatory objectives. The correction would need to impose retroactive ADC contributions on C&W's off-net calls including from C&W mobile to C&W fixed and visa versa.¹⁶ These would be charged at the same rates as were charged to the new entrant ADC contributors. The annual revenue that this amounts to represents the overpayment made by the new entrant contributors (e.g. Digicel) for each year the ADC scheme has operated. If estimated correctly C&W's retroactive payments of its share of the claimed AD will equal the overpayment by the other contributors. This amount should be refunded by C&W to the market participants according to the proportion of each licensee's contribution to the total annual subsidy payments that have gone to C&W. The amounts payable by C&W should of course be adjusted upward to reflect interest charges.

Such payments would mean that all firms will have contributed on an approximately equitable basis, although the pricing distortions that will have occurred over the period and which favoured C&W, will not be corrected by this return of the over-paid ADC subsidies.

¹⁶ These calls must be included in order to approximately preserve a 'level playing field' among competitors.

4 OVERALL CONCLUSIONS

In this document Digicel has analysed C&W likely access costs and the scale of C&W's access deficit (AD) in Dominica. Digicel's analysis suggests that there is no AD in Dominica and that therefore ADC funds paid to date should be returned to the contributors. Moreover, even if C&W did have an AD, we explained serious flaws in the present ADC system which warrants retroactive adjusting payments going back to the start of the ADC scheme, from C&W to the ADC contributors.