Batelco's Cost of Capital

A Report issued by the
Telecommunications Regulatory Authority
on the Consultation

20 November 2005

Purpose: Report on the Consultation regarding Batelco's Cost of Capital.

REPORT

Batelco's Cost of Capital

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1 Introduction

1.1 PURPOSE

This document summarises the responses the TRA received as part of the consultation process for setting Batelco's cost of capital. Details on the final determination of Batelco's cost of capital, which was set at 12.2% nominal, can be found in the accompanying document "*Batelco's Cost of Capital: A Determination issued by the Telecommunications Regulatory Authority"*, reference ERU/1105/207 of 19 November 2005. ("Determination").

During the consultation process, the TRA received responses from two stakeholders: Batelco and MTC-Vodafone Bahrain ("MTC"). Both respondents agreed with the overall methodological approach adopted by the TRA in setting Batelco's cost of capital; that is, using a weighted average cost of capital approach ("WACC"), with the cost of equity derived from the capital asset pricing model ("CAPM").

However, both respondents disagreed with several of the key parameters used by the TRA in the WACC proposals in the consultation document *"Batelco's Cost of Capital: A Consultation Document issued by the Telecommunications Regulatory Authority"*, reference ERU/CN/123 of 31 August 2005 ("Consultation Document"). Following the consultation process, the TRA has reconsidered the values it has placed on some of the WACC parameters. The Determination reflects this reconsideration.

As well as commenting on the choice of parameter values used in the WACC calculation, both Batelco and MTC responded to the TRA's consideration of 'local factors', and in particular the treatment of *asymmetric risk* and the *small company premium*.

The remainder of this document summarises the responses the TRA received to the specific questions raised in the Consultation Document.

2 Response to proposals in the consultation

In the Consultation Document, the TRA set out a number of proposals regarding the overall methodological approach for calculating Batelco's cost of capital, as well as proposals for the values of the parameters used in the WACC calculation itself. This section summarises the responses the TRA received to each of these sets of proposals, along with the TRA's conclusions following the consultation process. Several of the TRA's points are already covered in some detail in the Determination.

2.1 CALCULATING THE COST OF DEBT

The TRA invites comments on its proposed approach to calculating the cost of debt (section 2.2)[1].

Both respondents agreed with the TRA's approach to calculating the cost of debt, where the cost of debt is expressed as the sum of three parts:

r_d = *risk-free rate + country risk premium + company debt premium.*

Where:

- the risk-free rate is calculated based on the yields on developed country government bonds;
- the country risk premium is the additional return, over the risk-free rate, demanded by debt investors for investing in the particular country; and
- the company debt premium is the additional premium (on top of the country risk premium) required to invest in the company.

2.1.1 Proposals on the range for the nominal risk-free rate

The TRA invites comments on the use of a range of 4.25% to 4.75% as the nominal risk-free rate (section 3.1).

One respondent proposed a higher value for the risk-free rate of 5%. This was based on evidence from one country, Australia, which showed the average nominal yield on government bonds over the January 2004 – December 2004 period to be 5.61%.

The TRA does not consider that the Australian evidence provides it with sufficient reason to revise upwards the proposed range of 4.25% - 4.75% for the risk-free rate. Evidence from other developed economies, particularly the Euro-zone countries, would support a risk-free rate towards the bottom of, or below, the proposed range. On balance, the TRA does not consider that there is a strong argument to depart from the proposed range.

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[1] All references in this document refer to sections in the TRA's Consultation Document.

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The TRA determined a value for the risk-free rate of **4.5%** for the Determination.

2.1.2 The country risk premium and the cost of debt

The TRA invites comments on the use of a range of 1.0% to 1.5% as the nominal country risk premium to be applied to the cost of debt (section 3.2).

One respondent argued that the upper value of the range, i.e., 1.5%, was an appropriate choice for the country risk premium to be included in the cost of debt, as this was consistent with the evidence in 'Damodaran Online' (the source of the data underlying the proposed range).

The other respondent argued that a country risk premium of 2.5% was more appropriate. There were two reasons for this suggestion: firstly, the August 2003 Determination used a country risk premium of 2.5%, and thus, in the interests of consistency, the TRA should set the same country risk premium in this determination. The second reason was that the new credit rating of Baa1, on which the 1.0% - 1.5% credit default rating is based, has only been in place for two years and, in the opinion of the respondent, the country risk premium should only be changed after three sustained years of changed country credit rating.

With regard to the first point, the TRA agrees that the country risk premium that is consistent with a credit rating of Baa1 is 1.5% (as per Damodaran Online). The TRA does not consider the second point to be compelling, as the fact remains that the *current* credit rating for Bahrain is Baa1 and not Baa3 as it was up to December 2003. It is appropriate to set the forward-looking cost of capital on the basis of the more recent evidence.

In the Determination, the TRA has used a country risk premium for Batelco's cost of debt of **1.5%.**

2.1.3 The company debt risk premium

The TRA invites comments on the use of a range of 0.8% to 1.0% as the nominal company debt risk premium (section 3.2).

The debt premium of 0.8% - 1.0% was based on a credit rating of AA assigned to Batelco (Standard & Poor's). One respondent stated that given the recent downward trends in company risk premiums in Europe,

the TRA should place more weight on the lower end of this range, i.e., 0.8%. The other respondent stated a preference for the upper end of the range, but provided no additional evidence to support this choice.

Since the Consultation Document, the TRA has not received any more up-to-date information that would lead it to revise the AA credit rating assigned to Batelco. The TRA acknowledges that, in recent years, European corporate spreads have indeed been falling. However, the TRA also acknowledges that, in setting the company debt premium, it is appropriate to allow for some of the transaction costs associated with raising finance. Therefore, the TRA is minded not to choose the lower value of the proposed range, and instead chooses a value from the middle of the range, i.e., **0.9%.**

2.2 CALCULATING THE COST OF EQUITY

The TRA has relied on the CAPM model for calculating the cost of equity. The two key components of the CAPM model are the equity risk premium ("ERP") for Bahrain, and the Beta value for measuring the sensitivity of Batelco's business to systemic risk.

The responses to the Consultation Document have looked in some detail at both of these parameters, and a major part of the responses is devoted to alternative measures of both parameters. In this section we summarise the responses, as well as presenting the TRA's motivation for the values used in the Determination.

2.2.1 The Equity Risk Premium

The TRA invites comments on the use of 5% for the international ERP (section 3.4).

One respondent was in broad agreement with the TRA's proposed value for the ERP. The other respondent disagreed with the TRA's proposal and suggested instead a higher value for ERP, in the range 5.5% - 7.8%. The main piece of evidence presented in support of this higher range was ERP estimates from a range of studies that have been published in recent years, including:

- Damodaran (*1998*[2])
- Dimson, Marsh and Staunton (2002)
- Barclays Capital (1997)

[2] It should be noted that the respondent does not provide dates for the studies published by either Damodaran or Ibbotson Associates/Standard and Poor's.

- Ibbotson and Standard & Poor's (*1999*)

The ERP presented in the Consultation Document used, among other pieces of evidence, the analysis in Dimson, Marsh and Staunton (DMS-2003).[3] The TRA considers that this analysis represents the most robust assessment of data on equity returns. Not only do DMS-2003 consider a wider range of countries that those studies cited by the respondent, but the analysis is more up-to-date than any of the other studies cited.

The TRA, therefore, considers that the ERP of **5%** proposed in the Consultation Document represents the most reliable estimate of future equity returns. Furthermore, an estimate in this range is consistent with determinations by telecommunications regulators on the ERP, such as Ofcom in the UK, who recently *reduced* the ERP in setting the cost of capital from 5% to 4.5%.

2.2.2 The country risk premium to be included in the ERP for Bahrain

The TRA invites comments on the use of a country risk premium of 1.8% (section 3.4).

In setting the ERP for Bahrain, the TRA needs to include a country risk premium to account for the added risk to the investor of investing in equities in Bahrain. On the basis of evidence in Damodaran Online, the TRA proposed a country risk premium to be included in the ERP for Bahrain of 1.8%.

Responses from the two key stakeholders during the consultation process have indicated broad support for the use of the Damodaran estimates. One respondent argued that the proposed premium only accounted for the credit default spread in Bahrain, and the TRA had not taken account of the added equity investment risk. The evidence provided by Damodaran indicates a range of 1.8% (based on current yields on corporate debt rated Baa1) to 2.25% (based on historical data on yields on sovereign debt rated Baa1). The value in the Consultation Document was based on the evidence from current yields only.

Upon further analysis, the TRA considers that both sources of evidence – current yields on corporate Baa1 debt and historical yields on sovereign Baa1 debt - are relevant to assessing the country risk premium for Bahrain. There is an argument to use the top of the range because the data is based on sovereign yields rather than corporate yields, and there is an argument to favour the bottom of the range because it is based on

[3] Dimson, E., P. Marsh, and M. Staunton, 2003, Global Evidence on the Equity Risk Premium, *Journal of Applied Corporate Finance*, Vol. 15, No. 4, Fall, pp. 27-38

more recent data. On balance, the TRA favours the use of data on sovereign yields to estimate the country risk premium. The country risk premium to be included in the ERP for Bahrain is therefore set at **2.25%.**

2.2.3 Beta

> The TRA invites comments on the use of an asset Beta in the range of 0.9 to 1.1 (section 3.5).

One respondent suggested that the TRA should use a lower value of 0.7 for the asset Beta. The other respondent suggested a higher value for the asset Beta of 1.12.

These arguments were based on different samples of comparator companies and different approaches for converting from the observed equity Beta to the asset Beta. The TRA accepts that there is some evidence which can support a lower asset Beta value and some evidence that can support a higher asset Beta value. However, on considering all of the available evidence, the TRA is confident that the range for the asset Beta of 0.9 – 1.1 is appropriate.

In arguing for a lower asset Beta, the respondent suggested that it is more appropriate to benchmark the systematic risk of Batelco to integrated incumbent operators, rather than *cellular telecoms* and *telecoms services* companies as in the Consultation Document.

The TRA does not fully agree with this argument for two reasons. First, the evidence presented by the TRA in the consultation document does not rely solely on *cellular telecoms* and *telecoms services* companies. The sample of companies considered in the cross-country evidence includes a number of integrated incumbent operators. Second, in terms of systematic risk, the TRA considers that it is more prudent to compare the systematic risk of Batelco with a wider range of telecoms companies. This provides a larger sample of companies to be considered and takes account of the variations in risk characteristics across the telecoms sector as a whole.

With regard to the arguments for increasing the range of the proposed asset Beta, one suggestion was that in unlevering the equity Beta in order to calculate the asset Beta, it is important to take account of the tax shield implications due to debt financing. In the Consultation Document, the TRA used the following formula to calculate the asset Beta:

equity Beta = asset Beta/(1-gearing).

Modigliani-Miller propose an adjustment to the formula that takes account of the effects of the interest tax shield on the incentives to 'gear-up' (i.e., increase company debt), which in turn increases the risk-prospects of the firm:

equity Beta = asset Beta/(1-gearing(1-t)),*

where *t* is the marginal corporate tax rate facing the firm. Assuming the marginal corporate tax rate is greater than zero, the Modigliani-Miller formula will result in a higher value for the asset Beta.

The TRA has re-calculated the asset Beta for the sample of firms included in the Consultation Document, while taking account of the impact of the tax shield. The results are shown in Table 1 below. The table shows that while there is a difference between the asset Betas according to the unlevering formula that is used, the difference is relatively small and the asset Beta remains within the range of 0.9 – 1.1 proposed by the TRA in the consultation.[4]

Region	**Sample**	**Asset Beta** **No tax shield**	**Asset Beta** **Accounting for the tax shield***
Europe	20	1.06	1.07
Middle East and Asia	44	0.82	0.86
Australia, Canada and New Zealand	4	0.95	1.12
USA	28	0.76	0.86
Average		**0.90**	**0.98**

Table 1: Summary of Beta data

Source: Damodaran Online, June 2005 (*) Using the effective tax rates as published in "Damodaran Online" http://pages.stern.nyu.edu/~adamodar/. The calculations for each company are shown in Annex 1.

There is little consensus on which approach to use in unlevering the equity Beta in practice. The main reason for this is that it is not obvious what tax rate should be used for the tax shield. There are two possible choices:

- the statutory rate of corporate tax; and

[4] The only exceptions to this observation are Australia, Canada and New Zealand, where the unlevered asset Beta that takes account of the tax shield is 1.12, marginally outside of the TRA's proposed range of 0.9 – 1.1. This result is driven by a single observation of an effective tax rate for one company (TELESYSTEM INTL WIRELESS INC, as reported in Damodaran Online) of 51.4%, which is far in excess of the Canadian statutory corporate tax rate of 38%. Such a significant difference between the two tax rates suggests that the effective tax rate may not in fact be 'permanent'. When the corporate tax rate of 38% is used in the calculation, the average asset Beta falls to 1.09.

- the effective corporate tax rate, i.e., taxes paid by a firm divided by taxable income as reported to stockholders.

The calculations summarised in Table 1 use the effective tax rate.[5] The TRA considers that the differences between the statutory corporate tax rate and the effective tax rate are more likely to reflect permanent differences in taxation and that therefore the more relevant marginal corporate tax rate is the effective tax rate. Permanent differences between the two rates might arise due to factors such as tax breaks for investing capital (particularly relevant for telecommunications), or differential tax treatment of income streams such as dividend payments.

The evidence on the asset Beta that takes account of the tax shield does not prompt the TRA to reconsider the proposed range for the asset Beta of 0.9 – 1.1.

2.3 GEARING

The TRA invites comments on its proposal to use a gearing of 5% (section 3.6).

One respondent proposed an optimal gearing level of 10% for Batelco. As outlined in the Consultation Document, the TRA does not think that, in the case of Batelco, it is necessary to calculate an 'optimal' level of gearing. Therefore, in the Determination, the TRA has used Batelco's actual level of gearing of **5%.**

2.4 OTHER METHODOLOGICAL ISSUES

In addition to specific questions on the parameter values used in the WACC calculation, the TRA sought responses from interested parties in a number of other areas concerning the general approach to setting Batelco's cost of capital. The responses to these questions are set out below.

2.4.1 Asymmetric risk

The TRA invites comments on its approach to asymmetric risk

[5] Sourced from Damodaran Online, see http://pages.stern.nyu.edu/~adamodar/.

(section 4.1).

The TRA argued in the Consultation Document that, while there is some uncertainty in setting the cost of capital, thereby giving rise to concerns of asymmetric risk, in the case of Batelco there were two offsetting factors.

First, if at some time in the future major areas of asymmetric risk were identified that could affect Batelco's ability to raise finance on reasonable terms, then the TRA would be minded to address these risks directly, rather than through an arbitrary adjustment to the cost of capital.

Second, the TRA has indicated that the review period for the current determination is expected to be two years. This is significantly shorter than the typical review periods incorporated into regulatory reviews of the cost of capital, i.e., five years. This substantially reduces Batelco's exposure to any asymmetric risk factors that might arise in the future.

Both respondents were broadly in agreement with the TRA's approach to asymmetric risk. One respondent pointed out that the asymmetric loss principle should lead the TRA to choose a value for the WACC toward the high end of the range rather than the low end.

The TRA considers that this estimated range provides a robust and reliable estimate of Batelco's cost of capital. Furthermore, the range is also consistent with the TRA's statutory duty to consumers, namely to "*protect the interests of Subscribers and Users*".

2.4.2 Premium for company size

The TRA invites comments on whether Batelco faces additional financing costs as a result of its size (section 4.2).

The TRA, in the Consultation Document, noted that Batelco was larger than most companies that have typically been awarded a small company premium. The TRA had, therefore, proposed not to include a small company premium in Batelco's overall cost of capital.

One respondent disagreed with the TRA's proposed approach, presenting evidence to show that, in general, smaller firms face a higher cost of capital. The TRA does not consider that the evidence provided is compelling, since it does not adjust for the type of industry or the regulatory environment. It is possible that the evidence is simply reflecting the fact that smaller companies tend to be found in higher risk industries. Overall, the TRA remains of the view that Batelco is of sufficient size to be able to raise finance on reasonable terms. The TRA considers that the cost of capital allowed in the Determination adequately

covers any transaction costs that Batelco would face in raising finance without the need for a separate adjustment.

2.4.3 Currency risk

> The TRA invites comments on its proposal not to add any further costs for currency risk (section 4.3).

Both respondents agreed with the TRA that it was not necessary to include any additional costs for currency risk in Batelco's cost of capital.

2.4.4 A single cost of capital for Batelco

> The TRA invites comments on its proposal to state a single cost of capital for the whole company, without separating out the different (regulated) business units (section 4.4).

Both respondents agreed with the TRA's proposal to set a single cost of capital for Batelco's entire business.

Annex 1: Beta estimates for telecoms companies

Middle East and Asia

Name	Primary Exchange	Equity Beta	Gearing	Asset Beta	Effective tax rate	Asset beta (using effective tax rates)
Telecom services						
BHARTI TELEVENTURES	Mumbai	1.03	11%	0.92	0%	0.92
CESKY TELECOM AS	Prague-SPAD	1.22	27%	0.90	73%	1.13
CHINA TELECOM CORP LTD-H	Hong Kong	1.44	30%	1.01	19%	1.10
CHUNGHWA TELECOM CO LTD	Taipei	0.53	0%	0.53	18%	0.53
DIGITAL TELECOM PHILIPPINES	Philippines	1.38	61%	0.54	17%	0.69
EMIRATES TELECOM CORPORATION	Abu Dhabi	0.90	0%	0.90	0%	0.90
GLOBE TELECOM INC	Philippines	1.22	30%	0.85	5%	0.87
HUTCHISON GLOBAL COMMUNICAT	Hong Kong	1.55	3%	1.51	0%	1.51
INDOSAT TBK PT	Jakarta	1.11	25%	0.83	0%	0.83
JASMINE INTL PUBLIC CO LTD	Bangkok	1.52	58%	0.64	13%	0.76
JORDAN TELECOM CORP	Amman	0.82	8%	0.75	38%	0.78
KRTNET CORP	KOSDAQ	0.58	11%	0.51	17%	0.52
LOXLEY PUBLIC COMPANY LTD	Bangkok	1.36	33%	0.91	9%	0.95
MAHANAGAR TELEPHONE NIGAM	Mumbai	1.11	0%	1.10	28%	1.10
NETIA SA	Warsaw	0.86	0%	0.86	0%	0.86
ORASCOM TELECOM HOLDING	Cairo	1.10	15%	0.93	20%	0.96
PAKISTAN TELECOM CO LTD	Karachi	1.06	5%	1.01	37%	1.03
PCCW LTD	Hong Kong	1.01	58%	0.43	0%	0.43
SAUDI TELECOM CO	Saudi Arabia	0.93	0%	0.93	0%	0.93
SHIN CORPORATION PUB CO LTD	Bangkok	1.10	12%	0.96	4%	0.97
SINGAPORE TELECOMMUNICATIONS	Singapore	0.89	19%	0.71	17%	0.74
SOUTHERN TELECOMMUNICATIONS	RTS	0.66	56%	0.29	35%	0.42
TATA TELESERVICES MAHARASHTR	Mumbai	1.13	27%	0.83	0%	0.83
TELEKOM MALAYSIA BHD	Kuala Lumpur	1.29	23%	0.99	20%	1.05
TELEKOMUNIKACJA POLSKA S.A.	Warsaw	0.92	38%	0.57	35%	0.69
TELEKOMUNIKASI TBK PT	Jakarta	1.24	13%	1.07	34%	1.13
TIME DOTCOM BHD	Kuala Lumpur	1.12	0%	1.12	2%	1.12
UNITED COMMUNICATION INDUS	Bangkok	1.20	17%	1.00	12%	1.02
URALSVYAZINFORM	RTS	0.85	21%	0.67	32%	0.73
VIDESH SANCHAR NIGAM LTD	Mumbai	1.04	3%	1.01	30%	1.02
VOLGATELECOM	RTS	0.76	17%	0.64	32%	0.68
Cellular telecoms						
ADVANCED INFO SERVICE PCL	Bangkok	0.91	12%	0.80	29%	0.83
MOBINIL-EGYPTIAN MOBILE SERV	Cairo	0.97	11%	0.86	0%	0.86
CHINA MOBILE HONG KONG LTD	Hong Kong	1.38	9%	1.26	33%	1.30
TURKCELL ILETISIM HIZMET AS	Istanbul	1.02	5%	0.96	0%	0.96
MTN GROUP LTD	Johannesburg	0.78	5%	0.74	20%	0.75
SK TELECOM	Korea SE	0.97	22%	0.76	29%	0.82
LG TELECOM LTD	KOSDAQ	0.76	52%	0.36	30%	0.48
MAXIS COMMUNICATIONS BHD	Kuala Lumpur	1.18	4%	1.14	0%	1.14
AMERICA MOVIL SA DE CV-SER A	Mexico	1.28	12%	1.12	18%	1.15
TELESP CELULAR PARTICIPACOES	Sao Paulo	1.00	40%	0.60	0%	0.60
CHINA UNITED TELECOMMUNICA-A	Shanghai	1.08	46%	0.58	0%	0.58
MOBILEONE LTD	Singapore	0.61	12%	0.54	23%	0.55
TAIWAN CELLULAR CORP	Taipei	0.59	24%	0.45	8%	0.46
AVERAGE				**0.82**		**0.86**

Source: Damodaran Online, June 2005

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Europe

Name	Primary Exchange	Equity Beta	Gearing	Asset Beta	Effective tax rate	Asset beta (using effective tax rates)
Telecom services						
CABLE & WIRELESS PLC	London	0.91	24%	0.69	3%	0.70
COLT TELECOM GROUP PLC	London	2.05	59%	0.85	0%	0.85
FASTWEB	Milan NM	1.69	29%	1.20	16%	1.28
KINGSTON COMM(HULL) PLC	London	0.87	24%	0.66	0%	0.66
PIPEX COMMUNICATIONS PLC	London	0.78	12%	0.69	0%	0.69
QSC AG	Frankfurt	1.16	0%	1.16	0%	1.16
SONAECOM SGPS SA	EN Lisbon	1.80	33%	1.20	0%	1.20
TELE2 AB -B SHS	Stockholm	1.31	17%	1.09	0%	1.09
TELE2 AB -A SHS	Stockholm	1.20	17%	0.99	0%	0.99
TELEGATE AG	Xetra	0.84	2%	0.83	4%	0.83
TELENOR ASA	Oslo	1.33	20%	1.06	32%	1.15
TELIASONERA AB	Stockholm	1.42	14%	1.22	0%	1.22
THUS GROUP PLC	London	2.21	23%	1.71	0%	1.71
TISCALI SPA	Milan NM	1.95	39%	1.19	17%	1.31
Cellular telecoms						
COSMOTE MOBILE TELECOMMUNICA	Athens	0.82	6%	0.77	37%	0.79
MMO2 PLC	London	1.38	11%	1.22	0%	1.22
MOBISTAR SA	EN Brussels	0.92	9%	0.83	0%	0.83
TELEFONICA MOVILES SA		1.35	2%	1.32	0%	1.32
TIM SPA	Milan	1.31	1%	1.29	42%	1.30
VODAFONE GROUP PLC	London	1.38	14%	1.19	0%	1.19
AVERAGE				**1.06**		**1.07**

Australia, Canada and New Zealand

Name	Primary Exchange	Equity Beta	Gearing	Asset Beta	Effective tax rate	Asset beta (using effective tax rates)
Telecom services						
BCE Inc.	Toronto	0.74	34%	0.49	36%	0.57
TELECOM CORP OF NEW ZEALAND	NZX	1.28	25%	0.96	31%	1.06
TELUS CORP	Toronto	1.05	35%	0.68	35%	0.81
Cellular telecoms						
TELESYSTEM INTL WIRELESS INC	Toronto	2.34	28%	1.69	51%	2.03
AVERAGE				**0.95**		**1.12**

Source: Damodaran Online, June 2005

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USA

Name	Equity Beta	Gearing	Asset Beta	Effective tax rate	Asset beta (using effective tax rates)
Aliant Inc	0.65	22%	0.51	41%	0.57
ALLTEL Corp.	1.00	25%	0.75	38%	0.85
Amer. Tower 'A'	2.00	45%	1.09	0%	1.09
AT&T Corp.	1.25	48%	0.65	30%	0.83
BellSouth Corp.	1.00	23%	0.77	34%	0.85
CenturyTel Inc.	1.10	41%	0.65	36%	0.81
Cincinnati Bell	1.65	69%	0.52	60%	1.20
Citizens Communic.	1.00	48%	0.52	34%	0.69
Commonwealth Tel.	0.80	28%	0.58	37%	0.66
Crown Castle Int'l	1.80	48%	0.93	0%	0.93
Dycom Inds.	1.15	1%	1.14	40%	1.14
Hellenic Telecom Org. SA (OTE)	0.60	48%	0.31	40%	0.43
IDT Corp.	0.95	4%	0.91	0%	0.91
Level 3 Communic.	1.55	69%	0.47	0%	0.47
Manitoba Telecom Services Inc	0.55	15%	0.47	46%	0.51
Millicom Intl Cellular S A	1.95	46%	1.05	21%	1.24
Mobile Telesystems OJSC	1.00	1%	0.99	29%	1.00
Nextel Communic. 'A'	1.75	23%	1.34	7%	1.37
Qwest Communic.	1.70	68%	0.54	0%	0.54
SBC Communications	1.05	17%	0.87	33%	0.93
Sprint Corp.	1.05	34%	0.69	0%	0.69
Telephone & Data	1.05	46%	0.57	45%	0.79
Telstra Corporation Ltd	0.65	13%	0.57	36%	0.60
U.S. Cellular	1.10	25%	0.83	47%	0.96
Verizon Communic.	1.00	29%	0.71	31%	0.80
Vimpel	1.10	11%	0.98	29%	1.02
West Corp.	1.00	8%	0.92	37%	0.95
Western Wireless 'A'	1.40	43%	0.79	60%	1.16
AVERAGE			**0.76**		**0.86**

Source: Damodaran Online, June 2005