

Asset Valuation: Some Important Considerations For Caribbean Regulators

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Abstract

Caribbean countries embarking on telecommunications liberalization will find the issue of asset valuation to be of critical importance. The experience of the Office of Utilities Regulation and other National regulators in determining appropriate asset values for regulatory purposes (price caps and setting interconnection charges) should prove useful to Caribbean regulators who are at various stages of their own liberalization process.

This paper presents an overview of some of the more important activities to be undertaken in ascertaining the economic value of gross and net assets for an incumbent telecommunications provider. It also identifies some of the nuances that must be given attention in an asset valuation exercise. It concludes that the regulator's objective in undertaking an asset review should be to achieve asset values that reflect their economic replacement costs. Additionally, it underscores the point that the approach adopted by the Jamaican and other National regulators to asset valuation incorporates elements of a number of different methodologies including market valuations, benchmarking and indexation.

ASSET VALUATION: SOME IMPORTANT CONSIDERATIONS FOR CARIBBEAN REGULATORS

1. Introduction

In September of 1999 an agreement was concluded between the government of Jamaica and Cable and Wireless Jamaica to facilitate the liberalization of the Jamaican telecommunications sector. That agreement, *inter alia*, provided for the introduction of competition in all areas of telecommunications over a three-year period beginning March 2000, changes in the regulatory regime for telecommunications and the application of new regulatory mechanisms such as price caps.

Subsequent to the signing of the Jamaican agreement, a number of other English speaking Caribbean countries including, Barbados and the OECS, also concluded similar agreements for liberalization. Progress in respect of the implementations of these agreements is currently at different stages with Jamaica arguably the most advanced in terms of the liberalization process.

Most of the islands of the Caribbean face similar conditions both in respect of the history and characteristics of their telecommunications sectors. These similarities are evidenced in the history of monopoly control of the sectors, reliance on rate of return mechanisms and regulation by the political executive. The other major item of commonality is that for the most part subsidiaries of Cable and Wireless Plc. have been sole telecommunications provider in a number of the islands for many years.

As has been the case elsewhere, liberalization has thrown up a number of challenges for regional regulators. Not least among such challenges are issues surrounding the valuation of assets. The Jamaican regulator, Office of Utilities Regulation (the Office) first took an interest in C&WJ's assets values in 1998, when it commissioned Coopers & Lybrand to conduct a study into the Company's accounting system. That interest intensified with liberalisation in 2000 with the Office commissioning further studies of C&WJ asset values and conducting additional investigation into the Company's accounting systems. The result of these studies and investigations and the relevant determinations by the Office are now available in the

form of a determination notice published on the Office's web site.² This paper underscores some of the more important issues involved in determining asset values drawing specifically on the Jamaican experience.

2. Regulatory Background to Liberalisation

The conditions immediately preceding liberalization is typically that of entrenched monopolies with the right to earn a global return on assets. In such instances, the regulator is largely concerned with the overall value of assets and the rate of return earned by the monopoly. Moreover, the principles and methods used for purposes of asset valuation are usually done without regulatory supervision and depreciation rates are usually low, thus inflating the value of net assets. With regard to the latter, such rates are usually out of sync with technological progress and innovation, taking place within the industry.

With liberalization however, there is a need not only to be assured of the value of total assets but equally important to determine that the appropriate depreciation charges are attributed fairly and that costs are allocated appropriately. These issues are of particular importance because an incumbent supplies critical inputs to competitors as well as sell services to retail customers.

Among the more important issues that regulators have to grapple with in undertaking asset valuation are:

- developing an understanding of and assessing the appropriateness of the principles and methods of asset valuation prior to liberalization;
- determining appropriate valuation methodologies;
- assessing the appropriateness of depreciation charges in light of technological changes; and
- ascertaining the appropriateness of attribution methods for allocating various overhead charges to different asset categories.

² See Principles and Method of Asset Valuation for C&WJ, July 2003, A determination Notice at <http://www.our.org.jm>

Prior to March 2000, the legal provisions governing rate setting for telecommunications were set out in the All Island Telephone Licence issued in 1988 to C&WJ, formerly Telecommunications of Jamaica (TOJ). This licence incorporated provisions relating to the rate of return that should be employed, the methods of accounting, and specified the depreciation rates for various classes of fixed assets. It also granted the Company a monopoly licence, which was intended to run for a period of twenty-five years.

Section 27(1) of the 1988 Licence, explicitly provided that C&WJ would be allowed to earn after-tax rate of return of 17.5-20% on shareholders' equity for the duration of its exclusive licence. The licence also specified the basis for rate reviews and established the frequency with which these could take place.

Section 27(2) of the 1988 Licence provided that for purposes of rate regulation,

“...the accounting methods applied shall be those used in the preparation of the last consolidated accounts of the Holding Company and its subsidiaries upon which the auditors have rendered an unqualified opinion prior to the adoption of this licence.”

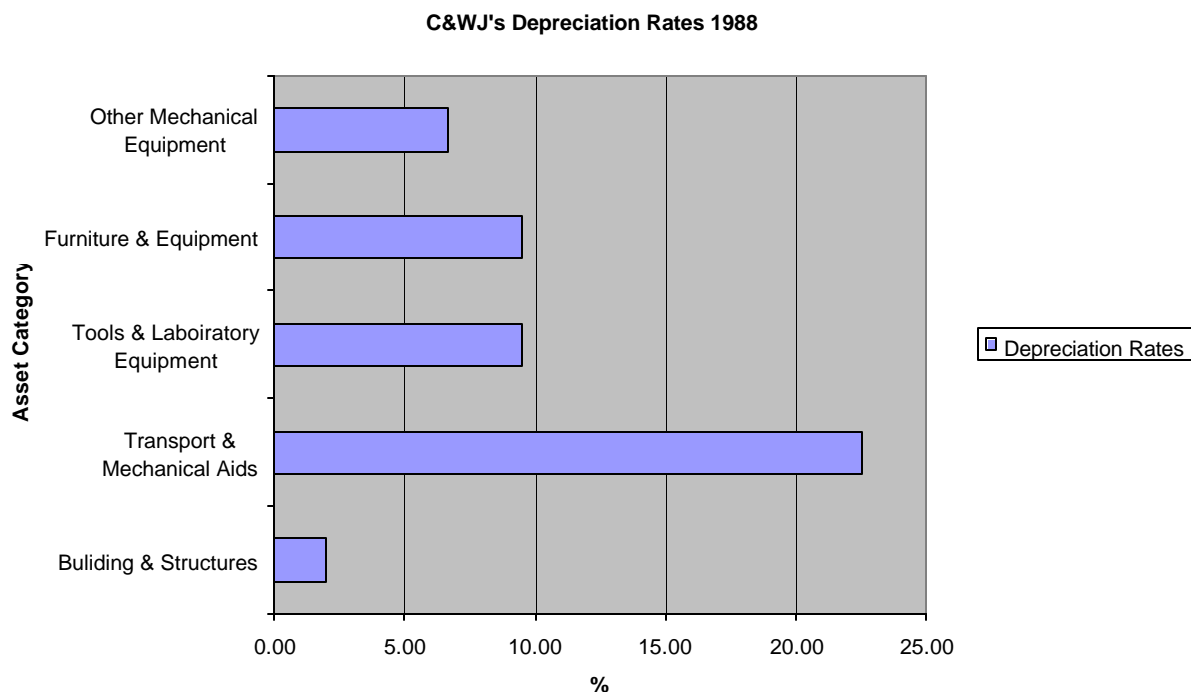
The last unqualified audited consolidated accounts of the Holding Company (Telecommunications of Jamaica) and its subsidiaries (Jamintel and Jamaica Telephone Company³) were dated 31 August 1988⁴. The audited report established the principles and methods that were to be employed in determining asset values during the period of monopoly. With regard to asset valuation it specifically stated: -

“Plant in service is stated at replacement cost, using relevant industry indices for equipment purchased abroad (adjusted where applicable for exchange rate changes) and indices for local costs, taking into consideration modern equivalent units where applicable. Additions to plant and equipment include labour, materials and an appropriate charge for overheads. An allowance for funds used during construction is capitalised, based on the average cost of funds.”

³ Jamintel was the monopoly international carrier and JTC the monopoly domestic carrier.

⁴ This audit was based on TOJ's audited consolidated financial statements for the period ended 31 March 1988 and on the audited accounts of the subsidiaries for the three financial periods ended 31 March 1988.

Depreciation rates are a critical component of asset valuation. Although depreciation rates for general property were not provided for in the All Island Telephone Licence, the audited consolidated accounts (dated 31 August 1988) applied the rates in Figure 1 below for Telecommunications of Jamaica, and its subsidiaries.



With respect to various other categories of telecommunications equipment the depreciation rates were set out in a schedule to the Licence. The fixing of depreciation rates at the outset meant that whatever changes in technology took place over the period the rate of depreciation would remain unaltered.

It is fair to say that the focus of attention for asset valuation under the rate of return monopoly regime was on ensuring that: only relevant assets were included in the asset base; that the stipulated depreciation rates were accurately applied; and that the agreed rate of return was calculated properly. The regulatory capacity did not exist to scrutinise the accounting process by which asset values were determined⁵ and in particular the appropriateness of the indices that

⁵ To be fair, it should be noted that even if the capacity existed, the legal stipulations left little room for the exercise of discretion.

were applied and the inclusion and allocation of various overhead charges. Nor for that matter were these deemed as important considerations. In short there was no serious attempt to ensure that asset reflected their economic values.

3. Regulatory Framework for Liberalisation

The Telecommunications Act, 2000 (the Act), provides the Office of Utilities Regulation (OUR) with the authority to regulate telecommunications in Jamaica. The Act requires the OUR to regulate interconnection to ensure that among other things, such charges are cost oriented⁶ and costs shall include operating expenditure and depreciation and should be set at such levels as to give the carrier an opportunity to earn a reasonable rate of return.

The promulgation of the new Telecommunications Act provided both for the strengthening of regulatory capacity in the sector as well as for new regulatory applications. This no doubt stemmed from the understanding that the concern for a regulator in a liberalised market, with a desire to ensure entry, are somewhat different from what would have obtained under the old regime.

4. Accounting Approach to Asset Valuation

Assets in a telecommunications company consist mainly of the network infrastructure and the valuation of such assets has a major impact on charges. Moreover, in a liberalised market, an incumbent with market powers sells both retail services to final consumers and intermediate services to competitors. It has become the practice in such markets to implement price cap arrangements aimed largely at ensuring that retail consumers enjoy the benefits of greater efficiency.

While there is scope within a price cap to provide protection for competitors who have to buy services from an incumbent, it is perhaps the requirement for cost oriented interconnection charges that provides the best protection for competitors of incumbent. Whatever the case, appropriate asset valuation is critical for both

⁶ Cost oriented charges are defined in the Act to be between Total Long Run Incremental Cost (TLRIC) and the Stand Alone Cost (SAC) of providing the service. In establishing such charges the following additional costing principles to be applied: (i) interconnection seekers must not bear a disproportionate burden of common costs, and (ii) cost are to be borne by the carrier whose activities cause those costs to be incurred.

price cap and interconnection purposes. In the absence of this there is great scope for carrying out such anti-competitive practices as, predatory pricing, cross subsidisation, margin squeeze and vertical cost shifting.

Some of the more critical issues in asset valuation are, the accounting approach that is adopted, the principles and methodology applied in arriving at asset values, the types of overheads that are included in asset values, the allocation of such overheads across plant used for different services and the applicable depreciation rates.

In general there are two accounting approaches to obtaining asset values for regulatory purposes: (i) Historical Cost Accounting (HCA), and (ii) Current Cost Accounting (CCA). In some jurisdictions regulatory statements are prepared using both standards.

Under the HCA method, gross assets are valued at their original cost and net assets are valued at original cost less accumulated depreciation. With CCA, gross assets and accumulated depreciation are re-valued periodically. They are both increased or decreased by the same proportion to reflect re-valuation.

In general, the assets of a company are considered beneficial to its stockholders. From a CCA perspective, the amount of that benefit is related to the *real* value of the assets—not the nominal value. Since C&WJ revalued its assets on an annual basis under the old regime the Company could make a credible claim that the determination of its asset values reflected CCA accounting principles. It is important to underscore, however, that a CCA⁷ approach does not necessarily equate to true economic value of assets.

5. Methodology for Asset Valuation

From an economic perspective, the true current value of any asset is the price that will be paid for it in a free market. Where there are active markets for an item it is relatively easy to determine current values. For example, the current value of a listed company is

⁷ Notable two types of Current Cost approaches to valuation are mentioned in the practitioners' literature, Operating Capability Maintenance (OCM) and Financial Capital Maintenance (FCM). Readers may consult the Australian Competition Commission's document on Accounting Separation Regime for a fulsome discussion of these concepts at <http://www.accc.gov.au/telco/fs-telecom.htm>

reflected in the price of its stock at any point. For a number of reasons, including the absence of a market for used plants, rapid technological advancement and changing functionalities; the task of determining the value of assets in a telecommunications company is not as straightforward.

The “economic value” of existing assets (embedded plant) is essentially the current cost of replacing the plant with one of the same functionality. It is generally accepted by both academics and practitioners that a Modern Equivalent Asset (MEA) approach is the best way to determine true value of a telecommunication asset. This is particularly the case because the rapidity with which telecommunications technology changes requires a valuation method that will allow for the capture of such changes. The advantage of the MEA approach in this regard is that the asset that is currently in use is valued at the cost of replacing it with an asset, which incorporates the cheapest proven technology that serves the same function.

An alternate valuation concept that is worthwhile noting is that of reproduction cost. This is the cost of replacing existing plant with a new plant of the same type. The difference between this and MEA is that MEA focus on functionality and thereby allows for the incorporation of the latest technology whereas a replacement cost approach would only capture changes in price.

A first step in establishing economic value is determining the cost of replacing existing assets with new assets that have the same functionality. Once the replacement values are established, certain adjustments are then made to approximate economic value. The adjustments reflect the considerations that embedded plant has a shorter remaining economic life than does newly purchased plant; and that embedded plant may have undergone physical deterioration and therefore have higher maintenance costs than newly purchased plant. These adjustments suffice if embedded plant is replaced with plant that is identical, except that it is new. In most instances, however, it would not be cost-effective to replace embedded plant with the same type of plant. It would instead be more cost-effective to replace it with its “Modern Equivalent”.

Where replacing embedded plant with its modern equivalent would be cost-effective, a further adjustment must then be made to replacement cost to get economic replacement value. This is because a new plant would embody valuable features that embedded plant does not have. Such features may increase revenues and/or reduce operating costs.

International Practice

The use of MEA valuation is quite popular in many jurisdictions. The United Kingdom, Ireland and Australia are some of the more prominent jurisdictions, which use the MEA approach when estimating the replacement cost of particular assets.

In practice, the methodology adopted by companies and accepted by regulators for determining asset values incorporates a mix of practices which includes the use of purchase prices, commercial valuation, appropriate indices, the calculation of replacement values and in a very limited number of instances historical prices. British Telecoms (BT) for example, applies either absolute valuation or indexation for assets that reflect existing technology (access fibre cable and personal computers are respective examples cited) but applies absolute valuation for assets that are the subject of rapid technological changes (local exchanges, payphones). For low value short life asset such as cordless phones and other telephone ancillaries historical cost are applied.⁸

The Australian Competition and Consumer Commission argues that for assets subject to rapid technological changes MEA valuation is required whereas for other assets with low value or short lives, historical costs or appropriate indices may be used. The Commission also advocates that absolute valuation is appropriate where the replacement asset for the plant being valued has the same service potential.⁹

⁸ See BT Group, Current Cost Accounting, Detailed Methodology, December 6, 2002, Valuation, http://www.btplc.com/Corporateinformation/Regulatory/Financialstatements/PDF2002n/Accounting_documents_2002.pdf

⁹ See Australian Competition, and Consumer Commission's consultation document on Accounting Separation Regime, www.accc.gov.au.

6. Jamaica's Experience with Asset Valuation

Jamaica's experience with asset valuation is pretty similar to what obtains in other jurisdictions. Prior to liberalisation, the incumbent telecommunications provider maintained a CCA system of asset valuation, which utilised, absolute valuation, indexation and market prices (Box 1 below).

Box 1: Valuation Methods

Factor inputs and Telephone Plant Categories	Method of Valuation
<u>Buildings</u>	Valuations by the independent valuator
<u>Cable Held for Future Use</u>	Market prices of suppliers, converted to Jamaican dollars.
<u>Underground Conduit</u>	Construction civil material indices developed by independent valutors*
<u>Foreign Materials and Foreign Labour</u>	The C. A. Turner Telephone Plant Index
<u>Local Labour</u>	An index that reflects C&WJ's average payroll cost, per head.
<u>Overheads</u>	An index that reflects movement in the rate of interest applied to C&WJ's plant under construction.

Subsequent to liberalisation and at the insistence of the regulator, C&WJ commissioned an MEA study for specific asset classes (switching and transmission equipment). Box 2 sets out the methods currently in use for valuing various categories of assets. Notably, as a result of the Office's intervention a number of the factor inputs and plant categories are now valued using either absolute valuation or a mix of absolute valuation and indexation, which amount to MEA.

Some observations on the various forms of asset valuation as well as the specific Jamaican experience are set out below.

Box 2: Current Methods of Asset Valuation

Classes of Telephone Plant	Valuation Method
Building	Valuations by the independent valuator
<u>Cable Held for Future Use</u>	Market prices of suppliers, converted to Jamaican dollars.
C. O. Switching	Absolute valuation and Indexation
Satellite & Earth Stations	Absolute Valuation
C. O. Transmission	Absolute Valuation & Indexation
Poles	Absolute Valuation & Indexation
Metallic Aerial Cable	Absolute Valuation & Indexation
Metallic Underground Cable	Absolute Valuation & Indexation
Non-Metallic Aerial Cable	Absolute Valuation
Non-Metallic Underground Cable	Absolute Valuation
Submarine Metallic Cable	Absolute Valuation
Submarine Non-Metallic Cable	Absolute Valuation
Underground Conduit	Absolute Valuation

(i) Absolute Valuation

As indicated at the outset, the aim of economic valuation is to mirror the value of equivalent replacement assets with the same functionality. Where changes in technology is not a major concern it is entirely appropriate to use absolute valuation whether arrived at through commercial valuation or by reference to existing market price for equivalent assets. In this regard, the use of independent commercial valuation for buildings and market prices to determine the value of cable held for future use is consistent with both the objective of valuation and best practice in other regulatory jurisdictions.

(ii) Indexation

CCA approach to asset valuation often relies on a range of indices to ensure that values for installed assets reflect equivalent replacement cost. Indexation is generally more appropriate for asset whose technology is fairly constant. Where technology is changing rapidly a CCA valuation that relies heavily on indexation is not likely to generate asset values that reflect their economic replacement cost as this approach makes very little adjustment for such changes. This

contention is clearly borne out in the results of the assessment of C&WJ's CCA asset values by the OUR.

Prior to 2001, C&WJ used the C. A. Turner Index to determine the value of foreign material and foreign labour in arriving at the reproduction cost for its local plant. The C. A. Turner Index, used largely among US telephone companies, is designed to determine the reproduction cost of US local telephone companies' plant in service.

In its application to Jamaica there were two major problems. Firstly, the foreign material component of the index did not reflect technological progress in such areas as the benefits from larger capacities of new switches and the inclusion of additional functionalities. It also did not reflect the cost savings that could be achieved by substituting fibre optic systems for copper cables.

The Office argued that the shortcomings of the Turner Index with regard to the incorporation of technological progress were evidenced by the following observations.

- The Turner Index for digital switching declined over time, but it did not decline as rapidly as the actual decline in switching costs.
- The Turner Index for circuit equipment was fairly flat for the most recent years although it was likely that the economic costs of such equipment had actually declined significantly, given the possibility for using newer, larger-capacity systems.
- Although the cost of loops had likely increased over time, such increases would have been mitigated by the use of fibre optics and loop carrier systems. As a result, the increase in loop costs should have been less than indicated by the Turner index.

Where an external index is relied on, the regulator must also carefully scrutinise the productivity of both foreign and local labour as well as how such costs are incorporated into asset values. These considerations are especially important in the context of developing countries, which often have high import content, unstable inflation levels and fluctuating exchange rates. The second failing of the Turner Index was in respect of these factors.

The labour component of the index did not take account of local labour productivity, whether within the company or in the wider economy. For example, C&WJ used payroll cost per head as an index of local labour prices but did not take into account the possibility that this index would have been misleading if over time local labour productivity was on the increase. The employment of more educated and skilled personnel and technology will raise payroll per head but at the same time is likely to increase productivity.

When using an external index to value asset it is vital to guard against doubling up of costs. One such cost that could be accounted for twice, depending on the design of the index, is labour for installation. With regard to the assessment of C&WJ's CCA values it was found that even though the Turner Index already incorporates capitalised labour costs for installation, C&WJ also made a second adjustment to include local labour cost for installation.

An additional concern with regard to indexation is that an index may include provision for labour cost that would not be at all incurred if the most modern substitutable assets were being used for replacement. Hence it is also important to consider the relevance of all cost when reviewing asset values.

C&WJ has now modified both the C. A. Turner and its local indices to correct for the problems identified by the Office. These modified indices are now applied to the categories of assets (shown in Box 2) whose values are determined by a mix of absolute valuation and indexation.

(iii) The Allocation Issue

The over arching principle that should govern cost allocation is that cost should be charged to the activities that cause them. In deed, the Telecommunications Act 2000 specifically enshrines this as a principle to be applied in allocating interconnection charges¹⁰. In reality there are a number of permutations to the application of this principle.

¹⁰ Even with the most refined costing model there will be common costs for which it will be difficult to make appropriately assignments. In such instances equal across the board allocation may be acceptable or the regulator may want to direct such allocations in such a way as to minimise the effect on competition.

Firstly since a telecommunications plant is used to produce both final consumption and intermediate services, the allocation of cost as between these, presents an interesting challenge. An incumbent regulated by price caps has a vested interest in maintaining an inequitable balance between cost allocated to retail services and cost attributed to interconnection services¹¹. This has the effect of pushing up the input costs of competitors and making them less able to compete in downstream markets. It is therefore important to ensure that in valuing assets plant elements are matched up against equivalent services.

Secondly there is the issue of what costs elements are to be treated as expenses as against what are to be capitalised. Where costs are treated as expenses they have the immediate effect of raising prices for the present but lowering capital charges as reflected in depreciation for the future.

Various cost designated under the heading of network planning were included in the MEA values that were submitted by C&WJ for its switching and transmission plant. Such costs included, expenses relating to: external construction; external engineering, external plant planning, management of external plant; SVP engineering, cable maintenance and construction; external construction and maintenance; network installation, network projects, forecasting and analysis, external plant quality control and network engineering.

These costs were all lumped together and allocated equally to assets across the board rather on the basis of careful analysis of causation. The effect of this was that a disproportionate amount was allocated to switching and transmission activities as compared with outside plant.¹² Cost assigned in this way places a disproportionate burden on interconnection charges and raises the cost of competitors. The importance of this point should not be lost given the contention that a dominant incumbent would have an incentive to maintain such a historical imbalance.

¹¹ This is known in the regulatory literature as vertical cost shifting.

¹² In this paper "outside plant" include all asset categories in Table 2 except for buildings, cable held for future use, C. O. Switching, Satellite & Earth Station, C. O. Transmission.

Another important allocation issue is the need for regulatory review of the reasonableness of overhead charges typically, interest during construction, interest on Work in Progress (WIP) and cost for insurance freight and duty. The inclusion of such overheads as part of replacement costs is legitimate but the concern is that they may be inflated in a bid to secure additional payments from both consumers and competitors.

In Jamaica's case, C&WJ argued for both the inclusion of WIP in the assets base on which it is entitled to earn its real rate of return for those services subject to regulation and the inclusion of an interest charge for plant under construction. This represented a clear case of double counting in that the Company would both be both earning its cost of capital (which already reflect interest charges) and would at the same time be capitalising an amount for interest charges. The Office therefore ruled that capitalisation of Interest During Construction (IDC) may be done in lieu of including the WIP in the rate base, not in addition. The company eventually acceded to this.

With regard to the inclusion and allocation of freight insurance and duty in its asset values the Office found that the initial loading factor applied by C&WJ in arriving at its CCA asset values was relatively high. Additionally, the factor appeared to have been applied to both labour and material costs. The correct application would have been to material cost alone. C&WJ was therefore directed to apply a lower figure agreed to by the Office and to only apply this to material costs.

(iv) Depreciation

Equally important to ensuring that assets are valued correctly at the beginning of any valuation exercise is ensuring that appropriate depreciation charges are applied to establish the net value of assets from one period to another. Annual economic depreciation expense is the change in economic value of embedded plant during a particular year. Accumulated economic depreciation is the total reduction in economic value of embedded plant since its purchase. Subtracting the value of accumulated depreciation from that for gross assets yield the value of net plant.

Plant suffers from obsolescence and physical wear and tear, the effect of which is that they are worth less over time. Additionally,

economic depreciation also results from changes in replacement costs over time. In particular, if the price of new equipment falls, the replacement cost of embedded plant falls. That, in turn, leads to economic depreciation and a reduction in the economic value of embedded plant. On the other hand, if the price of new equipment rises, there is an increase in replacement cost, which reduces economic depreciation. If the prices of new equipment rise sufficiently rapidly, economic depreciation may actually be negative.

Economic depreciation of telecommunications equipment derives primarily from technological progress. Such progress often reduces replacement costs over time. It also leads to the development of MEAs, which directly lower economic values of embedded plant and additionally may be the primary factor limiting the economic life of embedded plant.

An MEA valuation establishes the gross replacement value of embedded plant. Embedded plant is not new however, and so what is at issue is the net value of plant. To establish net values, it is necessary to subtract the value for accumulated depreciation, however, if accumulated depreciation charges have been done on the basis of inappropriate rates this must also be adjusted to arrive at the appropriate sums.

To assess the reasonableness of C&WJ depreciation rate prior to liberalisation, the Office made comparisons with rates for a number of U.S. companies. For the benchmark companies, the average rate of depreciation as a percentage of gross plant was found to be 7.2 percent compared with average depreciation expense for C&WJ of 5.3% for 1997-1998. The benchmark companies did not, however, revalue their assets annually and so the OUR computed that to be comparable to the asset values of those companies, C&WJ would have to apply annual depreciation rate approximating to 16.2 percent of gross plant.

The Office's finding with respect to depreciation rates for C&WJ's concurred generally with the findings of a 1998 study undertaken by Coopers and Lybrand, which indicated that C&WJ's depreciation rates (then Telecommunication of Jamaica -TOJ) were well below those for benchmarks of European Telecommunications Companies.

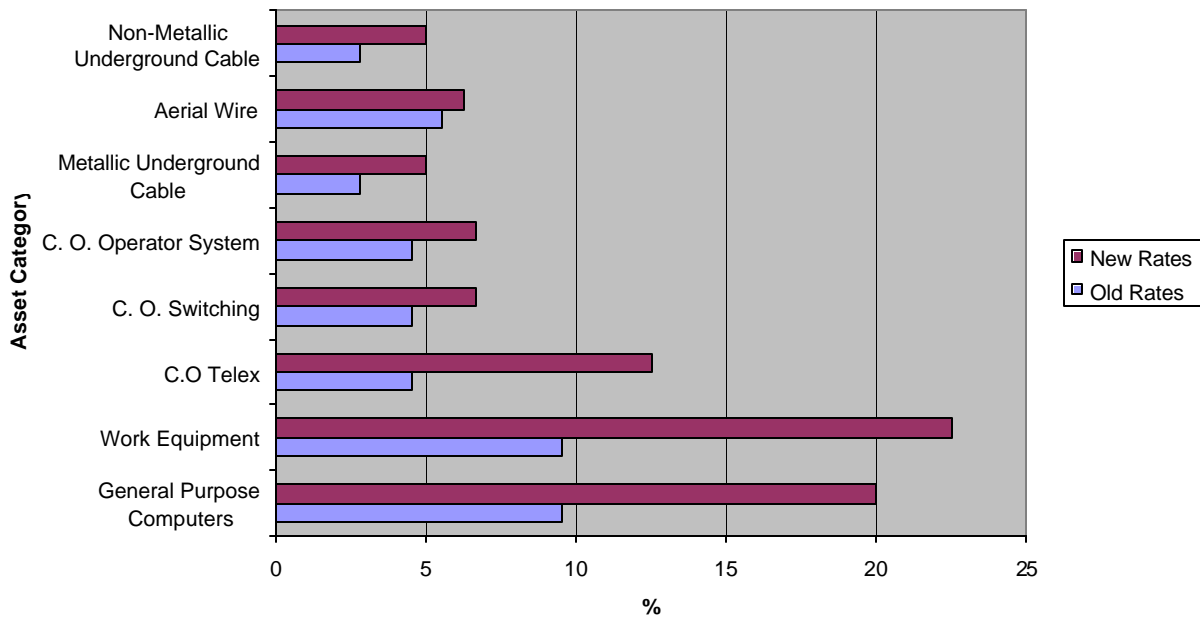
Subsequent to the initial review of its asset values, the Company adopted new depreciation charges that the Office deems to be more reflective of current charges.

Box 4 shows the results of the 1998-benchmark comparisons while Figure 2 shows the comparison between C&WJ's historical depreciation rates and new depreciation rates adopted by C&WJ since October 2002.

Box 3 Comparative C&WJ and European Benchmark for Depreciation Rates - 1998

	Depreciation Rates (TOJ) %	Economic Life (TOJ) Years	Depreciation Rates (Europe) %	Economic Life (Europe) Years
Buildings	2.0	50.0	2.5	40
Telephone Exchange	4.5	22.2	10.0	10
Station Apparatus	6.5	15.4	10	10
Station Connections	10.0	10.0	10	10
Aerial Cable	6.3	16.0	6.7	15
Underground Cable	2.8	35.7	5.0	20

Comparison of C&WJ's Depreciation Rates 1988 & Current



v) Some Other Important Considerations

Like any other network industry, a telecommunications company sizes and prepares its network not just to meet current demand but also to meet reasonably anticipated growth in demand. In considering what asset values are relevant for regulatory purposes the regulator must make allowance for such anticipated expansion. This necessarily requires some level of spare capacity.

In a market in which prices are freely determined, there is no need for a regulator to consider what level of excess capacity constitutes inefficiency. In markets subject to regulation, however, there is a need for such considerations as neither final consumers nor competitors should be asked to pay for a level of spare capacity that is beyond what is deemed necessary to meet reasonable demand growth projections. In determining the level of spare capacity that is reasonable, a regulator can take note of such matters as historical demand growth, imminent market changes and international benchmarks for similar firms. The OUR, having examined C&WJ's level of spare for switching equipment, concluded that the figure was just about twice the level that should reasonably obtain and directed the Company to make the appropriate adjustments.

Since the object of valuation is to determine what it would cost the firm to replace the asset with its functional and technological equivalent, consideration must be given not only to general market prices but also to specific applications that would apply in respect of the firm whose assets are being valued. One such factor is the level of discount that the firm is likely to obtain on replacement asset. The OUR in examining the level of discount applied by C&WJ in obtaining its asset values concluded that this was inadequate. The result of this was that the Company made additional submission on the basis of a level of discount that the Office found more acceptable.

7. Summary and Conclusion

Issues involved in asset valuation represent a common challenge for Caribbean states undertaking liberalisation of their telecommunications sectors. Jamaica has already gone through such an exercise and so its experience should be instructive.

A first consideration for those charged with the task of regulation is the different emphasis of asset valuation in a liberalised as compared with a rate of return monopoly regime. Concerns in such a market are not only limited to consumer protection but also to prevent anticompetitive practices, which will have an adverse effect on the entry and sustainability of competition. Since the value placed on assets is a large determinant of intermediate and final consumers charges, the regulator needs to be vigilant with regard to their valuation.

The appropriate valuation approach for telecommunications plants is one that results in economic replacement values for assets. The first step in arriving at economic replacement values is to ensure the use of CCA. CCA does not, however, necessarily equate to economic replacement values. There is therefore a need to scrutinise and make adjustment to CCA accounting values to obtain economic replacement values.

Among the important issues to treat with in asset valuation are: the choice of valuation methodology, appropriate depreciation charges and allocation of overhead charges. In the end, the choice of valuation methodology will depend on the nature of the asset that is

being valued. Where an asset is not subject to rapid technological changes, indexation is appropriate for arriving at economic realisable values. On the other hand, where rapid technological changes are taking place MEA is the appropriate method.

The OUR's experience with asset valuation indicates that a mix of approaches has to be adopted. At the same time careful attention has to be given to guard against over inflated asset values which simply raise cost to both consumers and competitors. In reviewing asset values, the regulator should look out for such occurrences as disproportionate allocation of overhead costs, the use of inappropriate loadings, doubling up of charges and lower than industry standard depreciation charges which do not adequately capture technological changes. Even within the context of actual MEA valuation it may be necessary to make appropriate cost reallocations and to adjust values for what amounts to unreasonable excess capacity.

Bibliography

Australian Competition and Consumer Commission, Accounting Separation Regime, July 2003, <http://www.accc.gov.au>

BT Group, Current Cost Accounting, Detailed Methodology, December 6, 2002, Valuation, <http://www.btplc.com>

Coopers & Lybrand (1998), An Evaluation of Telecommunications of Jamaica's Assessment and Reporting of its Financial and Economic Returns, (Study for Office of Utilities Regulation Jamaica)

Falch, Morten (2001), Cost and Demand Characteristics of Telecoms Networks, in Telecoms Reform, Principles, Policies and Regulatory Practices, Den Private Ingeniorfond, Technical University of Denmark.

Office of Utilities Regulation, Principles and Method of Asset Valuation for C&WJ, July 2003, A determination Notice, <http://www.our.org.jm>.

Watt, John (1996) Accounting in the Business Environment, Pitman Publishing.