FINANCIAL TARGETS AND DIVIDEND REQUIREMENTS  
FOR COMMONWEALTH GOVERNMENT BUSINESS ENTERPRISES -  
ARE THEY APPROPRIATE AND WHY SHOULD THEY  
BE DETERMINED AND MEASURED?  

by  

Patrick Xavier* and Barry Graham+  

(Serial No. 38, 1987)

Faculty of Business  
Staff Papers

SWINBURNE INSTITUTE OF TECHNOLOGY  
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*Some of the work for this paper was done whilst the author was a visiting research fellow at the Centre of Applied Economic Research, University of New South Wales, and he would like to record his thanks to the Centre. The authors thank also Telecom, OIC and Australia Post for assisting this study and Susan McDonald for patiently and competently typing the drafts of the paper.

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This paper was presented to the 16th Conference of Economists 23-27 August, 1987, Surfers Paradise, Queensland

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FINANCIAL TARGETS AND DIVIDEND REQUIREMENTS FOR COMMONWEALTH GOVERNMENT BUSINESS ENTERPRISES - ARE THEY APPROPRIATE AND HOW SHOULD THEY BE DETERMINED AND MEASURED?

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ABSTRACT

In June 1986, the Commonwealth Department of Finance released a policy discussion paper which proposed that financial targets and dividend payments be required of Commonwealth Business Enterprises. A major purpose of our paper is to examine the economic rationale of financial targets and dividend requirements for such enterprises.

The Department of Finance discussion paper does not specify details of the proposed financial targets and dividend requirements, nor of how they would be measured; these are presumably being considered. Thus another major purpose of our paper is to assist in this consideration. It seeks to do this by examining the various approaches to the determination of financial targets, including accounting methods and their financial implications. In particular, the paper assesses Victoria's approach to, and experience with, the use of financial targets and dividend requirements for that state's public enterprises based on "Rate of Return Reporting" (a version of Current Cost Accounting).
1.0 INTRODUCTION

In June 1986, the Minister of Finance released a policy discussion paper which proposed (among other things) that financial targets and dividend payments be required of Commonwealth Government Business Enterprises (GBE). A major purpose of this paper is to examine the economic rationale of financial targets and dividend requirements for such public enterprises.

The Department of Finance discussion paper does not specify the precise details of the proposed financial targets and dividend requirements; these are presumably being considered. Thus another major purpose of this paper is to assist in this consideration. It seeks to do this by examining the various approaches to the determination of financial targets for GBE and their financial implications. In particular, the paper identifies the lessons to be gleaned from the Victorian experience with the use of financial targets and dividend requirements for the state's public enterprises. The paper also addresses the question of the appropriate accounting system to be used in measuring achievement of a financial target and dividend paying capacity. This is an important issue which has been highlighted recently by the Victorian Government's advocacy of a version of Current Cost Accounting (CCA) to measure the profit performance and dividend capacity of the state's major public enterprises. Since different versions of CCA can yield substantially different profit computations (as we demonstrate), this issue has (potentially) significant financial implications and warrants attention in a study concerned with the determination of financial targets and dividend requirements.

The paper focusses on the implications of financial targets and dividend requirements for the Overseas Telecommunications Commission (OTC), Telecom Australia (Telecom) and Australia Post. In view of the current debate over privatisation, it is worth noting that even if a GBE is privatised, some degree of regulatory scrutiny seems highly likely. Hence, the concerns of this paper in regard to appropriate rates of return and accounting systems will continue to be of interest. This is evidenced by the regulatory supervision of the now privatised British Telecom and the privately-owned public utilities in the United States.

The organisation of this paper is as follows. Following this introduction, section 2 identifies the current financial objectives held by Commonwealth GBE and discusses the financial performance of OTC, Telecom and Australia Post. Section 3 discusses the Department of Finance proposals for financial targets and dividend requirements. Section 4 reviews the economic rationale of these requirements against the scenario of the Victorian Government's approach to financial targets and dividend requirements. Section 5 discusses the question of the appropriateness of dividend requirements for government business enterprises. Section 6 examines the various accounting approaches that may be used to measure real rate of return and dividend capacity. Then Section 7 sets out to identify the impact of alternative CCA systems on a firm's profit results with reference to OTC, Australia Post and Telecom as case studies. And finally section 8 presents the conclusions of the paper.
2.0 CURRENT FINANCIAL OBJECTIVES AND PERFORMANCE OF GOVERNMENT BUSINESS ENTERPRISES

2.1 Financial Targets

Telecom and Australia Post are specifically required to earn sufficient revenue to cover expenses properly chargeable to revenue and to provide for at least 50% of capital expenditure.

OTC's enabling legislation does not indicate a specific internal funding requirement. The OTC Annual Report for 1985-86 describes its corporate financial policy as having,

"The objective of ensuring the financial strength of the Commission, principally through effective use of resources, the development of strong internal funding sources and the retention of sufficient earnings to fund the business growth and maintain a prudent debt equity ratio."

OTC considers that on a long-term average, debt should represent 30% of debt plus equity, and that at any time the relationship should not exceed 50%.

2.2 Internal Funding of Capital Expenditure

As Table 2.1 indicates, Telecom, OTC and Australia Post have comfortably satisfied the objective of financing at least 50% of capital expenditure from internally generated funds (from profits and non-cash charges such as depreciation).

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<tbody>
<tr>
<td>OTC</td>
<td>81</td>
<td>96</td>
<td>63</td>
<td>74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecom</td>
<td>74</td>
<td>77</td>
<td>71</td>
<td>65</td>
<td>71</td>
<td>73</td>
</tr>
<tr>
<td>Australia Post</td>
<td>100</td>
<td>91</td>
<td>93</td>
<td>100</td>
<td>93</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Annual Reports of OTC, Telecom and Australia Post

Telecom's and OTC's level of internal funding averaged more than 70% in recent years, whilst Australia Post's internal funding has exceeded 90% and, in 1986/87, was an estimated 100%.

Of course the internal funding ratio is only one of a number of possible financial objectives. Moreover it has frequently been criticized as being a misleading financial performance criterion since, for instance, a reduction in the level of capital expenditure would result in an increase in the proportion of capital expenditure financed by a given amount of internal funds. Clearly such an increase in the internal funding ratio need not suggest an improved financial performance.
2.3 Rate of Return on Assets

Although not required by current legislation it will be interesting to examine the enterprises' performance on the basis of a rate of return criterion of financial performance, particularly since this has been the subject of considerable discussion. As Table 2.2 shows, the rate of return on total assets (in historical cost terms) has varied significantly between the enterprises and, from year to year, for each enterprise.

| TABLE 2.2 |
| PROFIT BEFORE INTEREST AND TAX AS A PERCENTAGE OF TOTAL ASSETS IN HISTORICAL COST TERMS (%) |
| OTC* | 20 | 13 | 18 | 22 | 20 |
| TELECOM | 9.2 | 10.0 | 11.1 | 11.1 | 10.8 | 11 |
| AUSTRALIA POST | 1.1 | 3.4 | 6.8 | 6.2 | 6.7 |

(e) Estimated

*Unlike most other Commonwealth Government statutory authorities, OTC is required to pay corporate income tax. To facilitate comparability, OTC's income tax payments have been added back into profits in order to compute the rates of return before interest and tax shown in Table 2.2.

Source: Annual Reports of OTC, Telecom and Australia Post

In historical cost terms, OTC earned a rate of return on total assets averaging about 20% in recent years, Telecom's rate of return averaged 11% and Australia Post increased its rate of return from a low of 1.1% in 1981/82, to 6.7% in 1985/86.

Although comparison with private sector rates of return are hazardous and must be very qualified, they are commonly regarded as one basis of comparison. Table 2.3 provides estimates of the rates of return earned in the private sector.

| TABLE 2.3 |
| PROFIT BEFORE INTEREST AND TAX AS A PERCENTAGE OF TOTAL ASSETS |
| All Company Sample |
| - Average | 9.1 | 8.8 | 8.6 | 9.8 |
| - Median | 10.3 | 9.2 | 9.5 | 9.8 |
| Top 25 Companies | 7.4 | 7.6 | 8.9 | 10.0 |
| Miscellaneous Services | 8.1 | 6.4 | 8.6 | 11.0 |

Source: The Stock Exchange Financial and Profitability Study, 1985/86
Sydney Stock Exchange
In historical cost terms, OTC's rate of return on total assets which averaged about 20 per cent was more than double the average rate of return of 9 per cent earned by private sector companies. Telecom's average rate of return has also exceeded the average for private companies. And the rate of return earned by Australia Post in recent years, although somewhat lower than the private sector average was nevertheless a respectable 6 per cent. Moreover, Telecom and Australia Post could argue that their rate of return would need to be considered in the light of the so-called "Community (or Public) Service Obligations" (notably the obligation to levy uniform charges despite significantly different supply costs) which are required of them. Of course these rates of return have been estimated in historical cost accounting terms and later sections of this study will examine the implications of real rates of return based on a Current Cost Accounting approach.

2.4 Dividend Requirements

OTC

Under the Overseas Telecommunications Act 1946, dividend payments are determined by the Minister for Communications with the concurrence of the Minister for Finance, having regard to advice furnished by OTC. In OTC's opinion, the Commonwealth Government's method of determining a dividend target has been unsatisfactory. OTC disclosed (Annual Report 1985-86) that a major reason for its dissatisfaction was that dividend decisions have, in practice, been made by the Government on a year-to-year basis with the long term needs of the business becoming subordinate to the Commonwealth's budgetary demands.

In 1983, the Government agreed to set a predetermined dividend target for the five-year period to 1987-88 of 10% of Capital and Reserves, in order that OTC could better plan its capital expenditure programme. However, despite this undertaking the 1985-86 target was altered to 12.5% of Capital and Reserves. As OTC exclaimed:

"This approach does not help forward planning and is not referenced to the actual performance of the Commission. It is possible for 100% of after-tax profit to be distributed as dividends by calculating them on this base... A better basis is seen to be an agreed percentage of after-tax profits. The private sector norm, as shown by StateX surveys, is approximately 50%. Because of OTC's high growth and the need for large amounts of supporting capital investment, an appropriate dividend pay-out proportion is considered to be 40%. This would allow the present and projected growth to be sustained without increasing new debt finance past the Commission's upper targeted gearing limit (of 50%)." (Annual Report 1985-86)

As Table 2.4 shows, in recent years OTC has been required to pay dividends well in excess of the 40% of operating profit (in historical cost terms) it considers appropriate. In 1985-86, the dividend payout comprised 53.6% of operating profit (roughly the average dividend payout made by private companies) after being as high as 95.5% in 1981/82.
TABLE 2.4

OTC: DIVIDENDS AS A PERCENTAGE OF OPERATING PROFIT (1980/81 to 1985/86) ($'000)

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<tbody>
<tr>
<td>Operating Profit</td>
<td>29,954</td>
<td>19,901</td>
<td>16,279</td>
<td>30,320</td>
<td>48,177</td>
<td>55,647</td>
</tr>
<tr>
<td>Extraordinary Items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividend</td>
<td>20,000</td>
<td>19,000</td>
<td>12,500</td>
<td>18,440</td>
<td>19,886</td>
<td>29,822</td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>9,954</td>
<td>901</td>
<td>3,779</td>
<td>11,880</td>
<td>28,291</td>
<td>25,825</td>
</tr>
<tr>
<td>Dividend as % of after Tax Operating Profit</td>
<td>66.8</td>
<td>95.5</td>
<td>76.8</td>
<td>60.8</td>
<td>41.3</td>
<td>53.6</td>
</tr>
</tbody>
</table>

Source: OTC Annual Reports

Moreover, unlike most other GBEs, OTC is required to pay corporate income taxes (presumably since it is considered that OTC bears less "Public Service Obligations"). Table 2.5 indicates the proportion of operating profit OTC paid out through both income tax and dividend requirements. In 1985-86, 71.6% of OTC's operating profit was absorbed by these requirements having been as high as 87.8% in 1981/82.

TABLE 2.5

OTC: INCOME TAX AND DIVIDENDS AS A PERCENTAGE OF OPERATING PROFIT ($'000)

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</tr>
</thead>
<tbody>
<tr>
<td>Operating Profit</td>
<td>50,164</td>
<td>43,716</td>
<td>42,120</td>
<td>63,942</td>
<td>92,974</td>
<td>100,862</td>
</tr>
<tr>
<td>Before Income Tax</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income Tax</td>
<td>22,724</td>
<td>23,743</td>
<td>23,320</td>
<td>33,606</td>
<td>44,836</td>
<td>42,393</td>
</tr>
<tr>
<td>Dividends</td>
<td>20,000</td>
<td>19,000</td>
<td>12,500</td>
<td>18,440</td>
<td>28,291</td>
<td>29,822</td>
</tr>
<tr>
<td>Income Tax and Dividends</td>
<td>42,274</td>
<td>42,743</td>
<td>35,820</td>
<td>52,046</td>
<td>73,127</td>
<td>77,215</td>
</tr>
<tr>
<td>As % of Operating Profit</td>
<td>85.2</td>
<td>87.8</td>
<td>85.0</td>
<td>81.4</td>
<td>78.7</td>
<td>71.6</td>
</tr>
</tbody>
</table>

Source: OTC Annual Reports

Telecom

Although Telecom makes substantial interest payments on funds provided by the Commonwealth Government, it does not have any specified dividend obligations under the Telecommunications Act 1975. However, S.76(2) of the Act gives the Minister for Communications power to determine how any surplus should be applied. Presumably one possibility would be for the Minister to require that part of the surplus be paid out as a dividend to the Government. It is worth noting however, that the Attorney-General's Department has evidently given an opinion that in the context of the Telecommunications Act, the meaning of "surplus" is profit less 50% of capital expenditure. Under this definition there has never been a surplus (for example, in 1982/83 the profit was $181M while 50% of the capital expenditure was $775M) and it is most unlikely that there ever will be one. (Finance Directorate, Telecom, 1985 p.13)
Like Telecom, Australia Post too does not currently have any legislatively specified dividend requirement. However, it also has made significant repayments of, and interest payments on, the $105.2 million provided by the Commonwealth Government at its inception in July 1975. At June 1986, Australia Post had reduced its indebtedness to the Commonwealth to $39.9 million.

During 1981–82, the Commonwealth Government decided that interest on funds loaned to Australia Post would increase to 10% from January 1982, and, from July each financial year thereafter, one-tenth of the funds would be converted to the maximum interest rate applicable to public semi-governmental loans as at 1 January preceding. Subsequently, in June 1983, the Government increased the basic 10% rate to 13.21% with effect from 1 July 1983. This resulted in the average rate of interest paid in 1985–86 on funds provided by the Commonwealth rising to 13.7%.
3.0 THE PROPOSED FINANCIAL OBJECTIVES AND DIVIDEND REQUIREMENTS

The financial reforms proposed by the Department of Finance (1986) may be discussed in terms of, (i) financial targets and (ii) dividend requirements. Let us look at precisely what was proposed by the Department of Finance.

(i) Financial Targets

"The Government considers that its business enterprises should be required to work towards a financial target established annually in advance. This would supplement any other performance monitoring measures considered appropriate to the individual circumstances of each enterprise. Financial targets should be determined by the responsible Minister in consultation with the enterprise. However, the underlying rate of return on total funds employed by government business enterprises should be sufficient to justify the long-term retention of those assets in that enterprise rather than in some alternative use. The Government is calling for further work by officials, under the chairmanship of the responsible Minister's department, with a view to translating this guideline into specific targets for individual enterprises..."

In setting financial targets the Government will have regard for the trading conditions in the industry within which the enterprise operates, for its relative commercial and market strengths and for the extent to which, on the basis of Government policy, it is required to meet any community service obligations and the extent to which government business enterprises are required to pursue non-commercial objectives as determined by Government policy." (Department of Finance [1986] p.22)

(ii) Dividend Requirements

"Where a government business enterprise, consistent with its statutory obligations, is able to generate a financial surplus after meeting all costs (including interest charges) then dividends should be paid to the Commonwealth. The extent of such payments from individual enterprises will depend, among other things, on the requirement of those enterprises to retain earnings to finance capital expansion, reduce borrowings or improve their cash-flow position. In most cases it will be appropriate to provide for an enterprise to recommend a dividend payment to the Commonwealth and for the responsible minister to accept or vary that recommendation. Some enterprises have no Commonwealth equity but instead make a return to the Commonwealth through fixed interest payments. This would need to be taken into account." (Department of Finance [1986] p.22)
4.0 FINANCIAL TARGETS: THE ECONOMIC RATIONALE

The most widely discussed form of financial target for public enterprises has been a rate of return requirement. In concept, the rate of return (RRR) is a measure which seeks to relate profit - i.e., the surplus after deducting aggregate costs from aggregate revenues - to an appropriate base. The base can be the resources or total assets committed to the activity under consideration, the shareholders' funds as reflecting the owners' stakes in the activity, or some other base such as annual sales recorded. The measure is expressed as a rate or ratio of values so as to abstract from differences in the size of profit and the base and so enable comparisons to be made between activities or entities and over time.

4.1 Should a Rate of Return Requirement (RRR) be Imposed on Public Enterprise?

There now seems broad agreement that in general, public enterprises should be required to recover their costs although the issue of whether, in addition, they should earn profits, or a rate of return on capital employed, is not as clearly resolved. However it is certainly possible to put forward some cogent arguments in favour of an RRR for public enterprises. Notably it is arguable that an RRR might be useful:

(i) as a basis for helping to ensure (allocative) efficiency in the use of resources within a public enterprise, between one public enterprise and another, and between public and private enterprises;

(ii) as an aid to achieving "reasonable balance" between commercial objectives ascribed to public enterprise and the wider objectives of government policy for this sector and the economy at large;

(iii) as a surrogate for profits, thereby providing a 'discipline' or incentives for internal, managerial or X-efficiency, particularly where constraints on public enterprise price increases (e.g., 'price increases would be less than the rate of inflation' as in Victoria) and/or complementary non-financial performance requirements exist; and

(iv) as an observable, monitorable, measure useful in the appraisal and control of public enterprises, the argument here being that, to the extent that there are difficulties in obtaining the information required for effective monitoring and control of efficient pricing, there will be a need to depend on observable measures such as an RRR.

For such reasons, there has been considerable emphasis placed, and, indeed, it appears, undue expectations, upon the RRR to encourage efficiency in public enterprises.

4.2 Appraisal of an RRR Requirement

Too much should not, however, not be claimed, or expected, of an RRR as a measure, or as a means, of promoting economic efficiency and improved performance in public enterprises. In view of the current emphasis being given to the RRR, it is worth reiterating its limitations.

(i) An RRR for public enterprises has been objected to, on theoretical grounds, on the basis of the "theorem of second-best." In short, the second-best theorem warns that changes in pricing policy for one public enterprise should not be considered in isolation from the pricing policy of other public (and private) enterprises, particularly closely related ones. But, since an RRR policy is being considered for wide application, the constraint of the second-best theorem seems less binding.
(ii) An RRR by itself need not necessarily serve to stimulate managerial/cost efficiencies in public enterprises. Clearly, to exert any pressure for reductions in X-inefficiency, the RRR prescribed would have to be higher than the rate of return the public enterprise itself would have chosen to achieve and there would have to be sufficient penalties for failure to achieve the prescribed target.

However, to the extent that a public enterprise is a monopoly facing price inelastic demands, at least for some services - as seems the case for many public enterprises - the RRR could be achieved by price rises and/or changes in the level of product quality/service (such as reliability, durability, safety etc). The fact that a specific RRR is compatible with many combinations of pricing and non-price dimensions of a public enterprise's behaviour was demonstrated in Xavier (1986a).

Nevertheless, the propensity for a RRR to encourage X-efficiency should not be altogether dismissed. Where there are constraints on the ability of public enterprises to increase their prices - such as consumer resistance or a government policy guideline that price increases be less than the rate of inflation, as currently exists in Victoria - pressures to contain costs will probably exist. Internal efficiencies are also more likely if the RRR policy is complemented with information on a range of financial and non-financial performance indicators.

(iii) An RRR in itself provides no guarantee of, and may, in fact, obstruct (allocative) economic efficiency if its achievement requires a departure from efficient pricing structures. Moreover, by focussing on a revenue requirement, the RRR could give strong reinforcement to traditional pricing policies such as those concerned with recovering historical or accounting costs of past investments embedded in current assets plus a mark-up to cover the RRR, rather than the concern with forward-looking economic costs prescribed by economic theory.

(iv) Some economists have warned that an RRR for public enterprises could distort efficient investment decisions. Indeed, there is an extensive literature on how a regulated maximum RRR for public utilities in the United States has resulted in over-capitalisation and economic inefficiency. For public enterprises subjected to a minimum RRR as in the United Kingdom, and now in Victoria, the least-cost input mix will not be chosen if the target RRR exceeds the rate at which the public enterprise borrows. New investment in plant which has a long construction period (e.g. power stations) will increase net assets and hence the revenue requirement before the plant is in operation and generating revenue. Moreover, the RRR could encourage both the choice of less capital intensive investments and of accounting practices which write off net assets more quickly. The prospect of such distortions led Webb (1986) and Gravelle (1976) to conclude that for the purpose of raising revenue, the least-cost approach would be to prescribe a simple lump sum target rather than an RRR.

(v) Once prescribed, the calculation of an RRR actually achieved by a public enterprise is again open to interpretation and disagreement. For instance, over short periods the internal rate of return can be subject to considerable variation because of the lumpiness of capital expenditures. In these circumstances an average of rates over a number of years might have to be used. Alternatively, the asset may be amortized over its economic life at its appropriate cost of capital, to reduce variation in cash flows and therefore returns.
Fisher and McGowan (1983) warn that this internal rate of return should not be confused with the accounting rate of return which is defined as the accounting profit per book value of assets. The accounting rate of return can vary between enterprises due to different accounting procedures, e.g., through the subjective amortization of capital expenditures or capitalization of expected future cash flows as well as different valuation procedures, which may have no bearing on the performance of a public enterprise. Moreover, as Fisher and McGowan point out,

"... accounting rates of return, even if properly and consistently measured, provide almost no information about economic rates of return. The economic rate of return on an investment is, of course, that discount rate that equals the present value of its expected net revenue stream to its initial outlay. Putting aside the measurement problems referred to above, it is clear that it is the economic rate of return that is equalized within an industry in long-run industry competitive equilibrium and (after adjustment for risk) equalized everywhere in a competitive economy in long-run equilibrium. It is an economic rate of return (after risk adjustment) above the cost of capital that promotes expansion under competition and is produced by output restriction under monopoly. Thus, the economic rate of return is the only correct measure of the profit rate for purposes of economic analysis. Accounting rates of return are useful only insofar as they yield information as to economic rates of return." (p. 82)

Fisher's later (1984) explanation of the problem is also useful:

"That problem is as follows. The numerator of the accounting rate of return in question is current profits; those profits are the consequence of investment decisions made in the past. On the other hand, the denominator is total capitalization, but some of the firm's capital will generally have been put in place relatively recently in the expectation of a profit stream much of which is still in the future. While the economic rate of return in the magnitude that properly relates a stream of profits to the investments that produce it, the accounting rate of return does not. By relating current profits to current capitalization, the accounting rate of return fatally scrambles up the timing." (p. 510) (emphasis in original)

However, accounting rates of return can provide some useful information and should not be entirely dismissed. In this regard the Commonwealth Treasury's (1983) defense of attention to accounting rates of return is worth reiterating:

"... any study of the actual performance of public undertakings must of necessity be conducted on the basis of average rather than marginal results and in accounting (rather than economic or opportunity cost) terms. While there would not be a strict equivalence between the desired economic return on marginal investments and average enterprise accounting returns, some insights into the relative performance of public business undertakings are possible using average historical accounting returns. The benchmark preferred by some is based on the concept of pre-tax returns to equity capital. However, while estimates of such average measures are available for the private sector, comparisons on that basis with public business undertakings are either impossible (where no equity as such exists) or unreliable (unless the equity bears a valid relation to normal commercial capitalisation) (p. 25).
Conclusion To conclude this section, we summarize the thrust of its argument. While there are some persuasive arguments in favour of an RRR for public enterprises, too much should not be claimed, or expected, of an RRR. Indeed, in itself an RRR provides no guarantee of, and could in fact result in departures from, efficient pricing, other than pricing, and investment policies. For this reason, it is sometimes argued (e.g., Heald [1980] Aitchison [1985]), that an RRR target should reflect sound pricing and investment policy and not vice versa. But such an argument based on a concern for allocative efficiency does not fully recognize the X-efficiency, financial and other benefits (discussed earlier) potentially derivable from an RRR. In particular, it is likely that an RRR does help to ensure that the opportunity cost of capital employed is a matter of continuing concern to management. Nevertheless, the warning is clear that although it is one useful performance indicator, we must be wary of claims which regard the RRR as a "principal performance criterion".

Clearly the use of an RRR as an indicator of economic efficiency and performance should be judicious and qualified. And, clearly, moreover, we should not depend unduly on an RRR to promote better performance but should be seeking other ways and means of fostering and measuring performance.

4.3 What Level of RRR would be Appropriate?

We begin by considering arguments favouring the use of the Social Opportunity Cost of Capital (SOCC) and the Social Time Preference Rate (STPR) approaches to determining the appropriate level of RRR.

The SOCC Approach The arguments in favour of the SOCC approach have been extensively discussed in the literature (e.g., Dasgupta and Pearce, 1972) so that only a brief discussion is necessary here. In essence, the argument is that the real cost involved in the use of resources by public enterprises is the opportunity cost of these resources. That is, the value of those resources when in their best alternative use. This approach seems favoured by the Commonwealth Treasury which argued (Commonwealth Treasury, 1982):

"If public business undertakings are to make decisions about the pricing of, and investment in, economic services which are efficient in the sense that maximum value is obtained from the resources used (compared with alternative uses) then the rate of return on capital employed should match that obtainable from alternative uses available to society as a whole."

(p. 49)

The Treasury considers that the rate of return earned by public enterprises should be comparable to that earned on average by the private sector which it estimated to be 10 per cent in real terms (before tax) on total funds employed.

In putting this argument to the Senate Standing Committee on Statutory Financing (1983), the Treasury backed up its argument by pointing to the widespread use of a 10 per cent rate of return:

"The 10 per cent real return before tax is a rate commonly used in the private sector. Some organisations use a higher rate. The evidence to that is rather anecdotal; given the nature of private enterprises they each have their own practices. Overseas a number of governments and government departments use a 10 per cent real rate of return. In the United States it is used for most purposes; in New Zealand it is the rate of return required on new public sector investment projects; and in Canada it is the rate used. We also have some evidence on the rates of return required in the private sector in Australia from stock market and other data. This has confirmed our impression that a rate of return of the order of 10 per cent real return before tax is an appropriate rate of return for investments."

(p. 95)
However, there are many well known objections, on conceptual and practical grounds, to the use of an achieved average rate of return in the private sector as an indication of the opportunity cost of funds utilized by public enterprise. One objection is that the alternatives to public enterprise investment are not only investment but also consumption now in both the private domestic and non-domestic sectors. This point underlies the rationale of the Social Time Preference Rate (STPR) approach.

The STPR Approach In simple terms the STPR approach is concerned with identifying the appropriate RRR through ascertaining the rate of return which the community requires as a reward for deferring present consumption in favour of future consumption. As with the SOCC approach, the estimation of the STPR faces both theoretical and practical difficulties. It is sometimes suggested that a way around some of the estimation difficulties would be to use the real long term bond rate and the long term growth of real incomes as surrogates for the STPR. Both these rates have been estimated to lie between 2 per cent and 3 per cent in real terms (Victorian Department of Management and Budget, 1984). However, in view of the difficulties in making such estimates of the STPR, the Victorian Department of Management and Budget considers that it may be advisable to perceive the 2 per cent to 3 per cent rate derived from this approach as a lower limit for the rate of return expected of public enterprises.

Nevertheless there are those such as Aitchison (1985), who would argue that the rate determined by the STPR approach should be the one used in practice:

"In an ideal model the social cost of capital should be equal to a concept called the social rate of time preference (STP). The STP rate is a measure of how the community values benefits or costs occurring at two different times. In more realistic models there is still a strong link between the STP rate and the social cost of capital, even though the model specification is complicated by secondary effects. Therefore in practice the appropriate public sector discount rate should be the STP rate. Theoretical discussions of this rate indicate that it should be quite low, in the realm of 0%-3%.

It is therefore disturbing to observe that State and Federal governments are being pressured to use the marginal private rate of over 10% as the correct public discount rate. This high rate discounts events in the future very heavily, and is seemingly at odds with current community concerns regarding the future (in such areas as environmental damage, education, etc). It is also contrary to theoretical discussions of the social rate of time preference which suggest that quite low rates are appropriate." (p. 4 of the non-technical summary)

4.4 The Victorian Government's Weighted Average Cost of Capital Approach to Rate of Return Determination

The Victorian Government announced in the State's 1982/83 Budget that Victorian public enterprises would be required to price their goods and services so as to meet a real rate of return requirement (RRR) on total assets employed of 4 per cent. The rationale for this policy was reiterated by the Government's Information Paper on Energy Pricing 1985-86:
"The principal performance criterion established for public authorities such as the SECV (State Electricity Commission of Victoria) and the GCV (Gas and Fuel Corporation of Victoria) is a target rate of return on assets. The authorities are required to manage their internal costs and set prices to achieve a 4 per cent real rate of return on the written down current replacement cost of assets in service. The rate of 4 per cent has been set by the Government to reflect the long run real rate of return attainable elsewhere in the economy and the minimum return required by the suppliers of investment funds. If lower rates of return are achieved in the energy sector, the result would be a misallocation of resources. Public authorities are required to recover all operating costs and capital costs and the real rate of return is a component of the capital costs of the public authority's operations. This means that public authorities performing commercial-type functions should achieve the same level of efficiency expected of private sector organisations.

The rate of return policy ensures that prices and investment will be set according to the overall return generated, thus contributing to long term price stability. It also gives flexibility to the utilities in lowering the cost of finance, consistent with the borrowing limits of State and Commonwealth Governments. Moreover it avoids prices being set to achieve a fixed level of internal funding for capital expenditure, and thus prevents large changes in prices due to changes in investment" (p. 11).

How was the rate of 4 per cent arrived at?

The Weighted Average Cost of Capital Approach. A Government document (Department of Management and Budget, 1984) discloses that the reasoning used was based on the "weighted average cost of capital approach". Evidently the 4 per cent RRR was derived from estimates of the long term costs of debt and equity to the public sector, weighted by the extent to which these forms of finance (i.e., debt and equity) are utilized by public enterprises (the debt:equity ratio). To determine the long term cost of debt to Victoria's public enterprises," ... research was undertaken as part of studies conducted with the SECV and the Melbourne and Metropolitan Board of Works. These studies involved time series analysis spanning more than 100 years to derive data on interest rates and inflation so as to determine the real interest rates on the debt of these authorities. The long term average of these real rates, whilst subject to short term fluctuations, was found to be around 3%. While acknowledging that at any particular point in time it is likely that the real interest rate would differ from this 3 per cent, it was considered that this rate reflects the long term average of the cost of debt which investors in these authorities would impute into their investment decisions as expectations of the long term return." (Department of Management and Budget, [1984] p 42)

Conclusion Regarding the Level of RRR The above discussion has identified advocacy of three different rates of return, 2 per cent to 3 per cent using STPR, 4 per cent using WACC and 10 per cent using SOCC. In a theoretically perfect world the three rates would converge. However, in our imperfect world the differences will persist and the choice is problematical partly because the different approaches address different legitimate concerns. As Feldstein (1973) pointed out, the SOCC approach is concerned with intratemporal efficiency in the allocation of resources between the private and public sectors, while the STPR is concerned with intertemporal efficiency between present and future consumption benefits.
Enough has been said above to underline the fact that a specific prescribed level of RRR is open to challenge even before the formidable practical problems of estimation are discussed. What all this suggests is that a specific RRR, for instance the Victorian Government's RRR of 4 per cent, based on a weighted average cost of capital, cannot be demonstrated to be superior on uncontentious theoretical grounds, no matter how confidently such a claim might be made. Nevertheless, since a continuing concern with the opportunity cost of capital used by a public enterprise is to be encouraged, the use of an RRR as one of several financial and non-financial indicators is sound.

Is the Victorian Government's prescribed RRR of 4 per cent defensible? Even if one considers that a higher rate such as the 10 per cent RRR advocated by the Commonwealth Treasury (on the basis of the SOCC approach) is the appropriate one, the 4 per cent RRR does meet the eventual requirement of focussing attention on the opportunity cost of capital utilized.

Moreover, as Ball and Davis (1984) point out, recent work undertaken by the Australian Graduate School of Management (AGSM) has indicated much lower average real rates of return in the private sector than previously estimated. For instance, in an earlier study the Institute of Applied Economic and Social Research (1982) estimated that over the 9 years to 1977-78, private corporate trading enterprises in Australia achieved a real rate of return on all assets employed, before interest, of about 12 per cent per annum. As Table 4.1 shows the AGSM estimates that in the 1970's the average real return was considerably less than 4 per cent (Ball and Davis, 1984, pp 40-43).

**TABLE 4.1**

**INFLATION-ADJUSTED RATES OF RETURN IN THE PRIVATE SECTOR, 1961-82**

<table>
<thead>
<tr>
<th>Year</th>
<th>Historical Cost</th>
<th>Inflation Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>7.7%</td>
<td>4.7%</td>
</tr>
<tr>
<td>1962</td>
<td>8.1</td>
<td>6.4</td>
</tr>
<tr>
<td>1963</td>
<td>8.6</td>
<td>5.8</td>
</tr>
<tr>
<td>1964</td>
<td>9.0</td>
<td>6.7</td>
</tr>
<tr>
<td>1965</td>
<td>9.1</td>
<td>6.4</td>
</tr>
<tr>
<td>1966</td>
<td>6.4</td>
<td>3.8</td>
</tr>
<tr>
<td>1967</td>
<td>6.6</td>
<td>3.5</td>
</tr>
<tr>
<td>1968</td>
<td>6.8</td>
<td>4.4</td>
</tr>
<tr>
<td>1969</td>
<td>7.1</td>
<td>4.8</td>
</tr>
<tr>
<td>1970</td>
<td>7.5</td>
<td>4.0</td>
</tr>
<tr>
<td>1971</td>
<td>7.3</td>
<td>2.3</td>
</tr>
<tr>
<td>1972</td>
<td>7.0</td>
<td>2.1</td>
</tr>
<tr>
<td>1973</td>
<td>7.5</td>
<td>1.2</td>
</tr>
<tr>
<td>1974</td>
<td>6.3</td>
<td>-5.1</td>
</tr>
<tr>
<td>1975</td>
<td>6.2</td>
<td>-5.5</td>
</tr>
<tr>
<td>1976</td>
<td>6.3</td>
<td>-4.7</td>
</tr>
<tr>
<td>1977</td>
<td>6.5</td>
<td>-2.2</td>
</tr>
<tr>
<td>1978</td>
<td>6.7</td>
<td>-0.6</td>
</tr>
<tr>
<td>1979</td>
<td>8.8</td>
<td>-0.1</td>
</tr>
<tr>
<td>1980</td>
<td>9.5</td>
<td>-0.6</td>
</tr>
<tr>
<td>1981</td>
<td>10.4</td>
<td>2.5</td>
</tr>
<tr>
<td>1982</td>
<td>10.7</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Average 1961-82 7.7 1.9
Average 1973-82 7.9 -1.3

Source: Ball and Davis (1984) p 43
4.6 Should the RRR Vary Among Public Enterprises?

The Victorian Government's policy is that all public enterprises earn or move towards earning an RRR of 4 per cent. Is this prescription of a common RRR appropriate? The Senate Select Committee on Statutory Authority Financing (1983) concluded that a common RRR is appropriate, arguing that,

"On resource allocation grounds it is hard to see any compelling reason why in the longer term the rate, however it is determined, should vary among authorities although there are clearly a number of social and equity considerations that must be addressed and there would obviously be some problems in implementing a general rate of return requirement. It could be argued that the degree of competition, financial arrangements, and 'social obligations' confronting authorities are so different that a requirement to earn the same rate of return on assets employed would create anomalies even worse than those prevailing under the present system where real rates of return vary significantly and have generally not even been identified.

However, if social obligations or other national interests are deemed sufficiently important for an authority to perform a role other than what it would choose to do on strictly commercial grounds, this requirement should be specified, and funded in an appropriate way, preferably by a direct subsidy. This will almost always produce a more efficient result than funding social obligations indirectly through the pricing system."

(P 98 - 99)

If, as concluded above, in an imperfect world, there is no unique theoretically correct RRR, the choice of an RRR figure seems to be a matter of judgement which recognizes the various considerations. For instance, Ball and Davis (1984) argue that the RRR should vary because the level of risk varies among industries. This would support the view that a different RRR might be set for each public enterprise. There seems considerable support for this view. Indeed, a broader view was taken by the U.K. White Paper on Nationalised Industries (1978) which argued that the specification of an RRR for a public enterprise should take many factors into account:

"The level of each financial target will be decided industry by industry. It will take account of a wide range of factors. These will include the expected return from effective, cost-conscious management of existing and new assets; market prospects; the scope for improved productivity and efficiency; the opportunity cost of capital; the implications for the Public Sector Borrowing Requirement; counter inflation policy; and social or sectoral objectives for e.g. the energy and transport industries."

(p 26)

In Australia, a paper by Streton (1984) is emphatic that the RRR should vary among public enterprises. His reasoning is worth quoting at some length:

"Rates of return will vary from industry to industry. The Government should not accept suggestions, for example by the Senate Standing Committee on Statutory Authority Financing, that public enterprises should aim at a common rate of return to assets employed, or at rates comparable with the average rate in the private sector. First, the division of labour between the sectors gives the public sector a disproportionate share of capital-intensive industries whose returns are low everywhere, whether they are publicly owned or (as many are in the U.S.) privately owned. Second, there are wide variations around the average rate of return in each sector. Information as to the variations in the Australian private sector is not available. But the U.S. range is from above 20 per cent (e.g. in pharmaceuticals and many personal services) through some low rates in steel, housing and other manufacturers, to negative rates for railroads and some other franchised private services which enjoy public subsidies. The
variations do not generally reflect degrees of monopoly, and cannot be sufficiently explained by factors of risk. They exist for complex historical, institutional and technological reasons. The different returns to assets employed may be masked by share-price adjustments, but the basic differences are wide. The private sector cannot and does not cluster its returns closely around its average rate, and it offers no such example to the public sector. Public sector returns vary as widely around the sector average, for similar reasons. Subject to other considerations and to prevailing price surveillance policies, for example, the Government may look for very high returns from OIC, high returns from Telecom, moderate returns from Australia Post, and none for the time being from ANR."

Information collated by the Reserve Bank of Australia (1986) offers some evidence that in the private sector the rate of return does vary between industries. As Table 4.2 shows, gross profit as a percentage of total assets varied from 9.6 per cent for the mining industry to 15.1 per cent for non-resource-based manufacturing.

**TABLE 4.2**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource-based manufacturing</td>
<td>16.8</td>
<td>15.0</td>
<td>11.4</td>
<td>10.2</td>
<td>13.3</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>15.0</td>
<td>15.7</td>
<td>14.4</td>
<td>13.4</td>
<td>15.1</td>
</tr>
<tr>
<td>Total manufacturing</td>
<td>15.6</td>
<td>15.4</td>
<td>15.2</td>
<td>12.1</td>
<td>14.4</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>13.1</td>
<td>13.9</td>
<td>12.7</td>
<td>12.0</td>
<td>13.9</td>
</tr>
<tr>
<td>Retail trade</td>
<td>14.1</td>
<td>14.6</td>
<td>13.4</td>
<td>12.0</td>
<td>14.5</td>
</tr>
<tr>
<td>Services</td>
<td>15.1</td>
<td>15.0</td>
<td>14.6</td>
<td>13.4</td>
<td>13.5</td>
</tr>
<tr>
<td>All industrials</td>
<td>15.3</td>
<td>15.2</td>
<td>13.4</td>
<td>12.2</td>
<td>14.2</td>
</tr>
<tr>
<td>Mining</td>
<td>19.0</td>
<td>11.8</td>
<td>8.1</td>
<td>9.9</td>
<td>9.6</td>
</tr>
<tr>
<td>Total non-financial</td>
<td>15.8</td>
<td>14.7</td>
<td>12.5</td>
<td>11.8</td>
<td>13.3</td>
</tr>
</tbody>
</table>

"Average of values at beginning and end of each period

The Department of Finance discussion paper on proposed policy guidelines for Commonwealth Statutory Authorities and Government Business Enterprises (Department of Finance, June 1986) agrees that a common RRR would not be appropriate. As we saw earlier, it proposes that in setting financial targets the Government will have regard for the trading conditions in the industry within which the enterprise operates, for its relative commercial and market strengths, and for the extent to which, on the basis of Government policy, it is required to meet any community service obligations and the extent to which government business enterprises are required to pursue non-commercial objectives as determined by Government policy.

A comparison of a public enterprise's actual (achieved) RRR against its specific, predetermined, RRR as an ex-post measure of performance should also be conducted judiciously. Indeed, Officer (1986) argues that a predetermined RRR is inappropriate:
It is not critical if the cost of capital (required rate of return) set by management turns out to be significantly different from the rate of return which ultimately was achieved. What is critical is how the returns from a company's investments compare with the returns achieved by alternative investments. In aggregate, what was the performance of the company compared to other companies? The cost of capital is a relative concept, relative to the return that can be expected from alternative investments. If alternative investments fail to realize the return that was expected at the time of making investment decisions and the investment under consideration similarly failed to meet that which was expected, then the value of the investment will not necessarily be changed. That is, assuming that expectations of the returns from all investments are downgraded the value of the investment will not necessarily be changed. Or if values do change, the relativities are maintained between investments (assets).

The implication is that it is misleading to set a required rate of return as a central mechanism and then conclude that the system has got out of control if that required rate of return is not met. The firm or investments have only "gone out of control" if the return that they have realized have fallen relative to returns realized for investments of the same risk class. It is only in these circumstances that investment and perhaps management decisions should be changed to ensure a more efficient allocation of resources. In short, the appraisal of the firm by the market-place is not done in a vacuum, it is done in the context of the return achieved or expected by alternative investments." (pp 8-9)

Potential Misuse of Non-uniform RRR There is a danger, however, that when no RRR is set or when a different RRR is set for each public enterprise in recognition of varying conditions, the scope for the government to pursue social and political objectives through the pricing policy of a public enterprise is expanded. In addition, there would be more scope for the (covert or overt) government manipulation of public enterprises which as many studies—both official and academic have concluded, invariably results in a deterioration of economic performance. Moreover, the possibility of rationalising a lower RRR could provide a cloak behind which inefficiencies of various types might readily proliferate. Social benefits are hard to quantify and easy to exaggerate. For such reasons Trengove (1984) has urged that governments do not oblige public enterprises to have 'social objectives.'

As a small step towards reform we could recommend that state enterprises not be given, in the relevant statutes, "general purpose" social objectives. Instead we suggest that parliaments and governments take direct responsibility for the social policies for which they believe they have a mandate. We note the possibility that current arrangements do provide some sort of indirect check on the distillation and implementation of social policies by state enterprise managers. That is, managers are allowed some discretion but subject to an evaluation of their performance in the exercise of that discretion. We have also noted that this type of arrangement tends to be reflected in the qualities required of managers. Successful state enterprise managers, as things presently stand, are those able to distil the essence of the political balance from the ether and pursue a mix of commercial and social policies to reflect that balance and so safeguard and further enhance their futures.
We regard this practice as detrimental to both forms of accountability - of state enterprise to the parliament and of parliament to the people. In effect, nobody knows who to blame or praise for the pursuit of both the social and commercial objectives. We feel it is preferable if enterprise managers are not judged, even if only partially, on their ability to anticipate political fortunes, as against their success in running their enterprises efficiently. By the same token, we feel that it is inappropriate for politicians to escape the monitoring of the electorate in respect of the public policies they pursue, or condone, by allowing the implementation of those policies to be confused with the efficient running of state enterprises." (p.44)(emphasis in original)

It is not difficult to understand why the use of public enterprise pricing policies to achieve political objectives would be attractive. It is a convenient method and avoids the need for explicit government subsidies and therefore the need for explicit Parliamentary and bureaucratic processes which can be time-consuming, expensive and uncertain in outcome. Redistribution through public enterprise policies can take place with far less fuss because the nature and extent of the redistribution are typically obscure. So, too, are the extent and location of costs which, even if sizeable, are usually spread around a large number of payers and thus insufficiently burdensome on the individual to motivate him to bring pressure to bear through the political process (Stigler, 1971).

This convenience of using public enterprises to pursue social/political objectives, while a major advantage from the point of view of the beneficiaries, is precisely the major disadvantage from the point of view of society as a whole. In many cases those who ultimately pay are only dimly aware of this, and certainly have not volunteered to do so. Nor has the pattern of redistribution usually been sanctioned by society as a whole via parliamentary debate or explicit government budgetary decision. It may well be that such redistribution reflects the political power of pressure groups rather than a considered community decision. The major argument against the use of public enterprises to serve "non-economic" purposes is thus not that the resulting redistribution of income is excessive or in the "wrong" direction - though both of these may be true. (In this context it is worth recalling that there are extensive subsidies channelled to and through the private sector such as housing interest subsidies, payments to primary producers, investment allowances, etc., which may be comparable in magnitude and direction). The point is that such redistribution is not the result of informed public debate, and is "unauthorised"; in that respect it is inferior to more explicit methods. (This discussion is particularly pertinent to the practice of cross-subsidization by public enterprises)

A Suggested Approach The arguments in the above discussion suggest that explicit reasons be given where an RRR diverges from the level which is considered appropriate. Moreover, they would suggest that where public enterprises are required to undertake social or national interest obligations, explicit subsidies should be paid.

If the Government is unable to implement direct subsidies (for reasons of overall budgetary demands) then, at a minimum, the implicit subsidy element should be revealed in the annual reports of the public enterprises. If, after including such real or implicit subsidies, it is not possible for a public enterprise to earn what is considered to be an appropriate RRR, there should be specific inquiries into the reasons for this failure. When a public enterprise consistently falls short of the required RRR, it should indicate this clearly
in its annual reports and present calculations of the extent to which its prices, and/or its costs, would have to be varied to meet the target (Senate Select Committee, 1983). These measures would help guard against the interference with, and excessive use of, public enterprises to serve political and/or non-commercial objectives. Moreover they would enhance the ability of Parliament and the public to realistically assess the performance of such enterprises and to identify costs and benefits borne by, or provided to, sections of the community.

The above approach would be broadly consistent with the guidelines proposed by the Department of Finance (1986) which suggests that,

"Where the costs of meeting such community obligations are substantial it will be necessary to make due allowance for this. It may prove difficult in some instances to quantify the costs attributable to the servicing of such community obligations. However, the assessment of such costs - although necessarily qualified in some cases - will be possible in most instances. The Government will expect enterprises to make such assessments and to include them in their annual reports. This information will strengthen the capacity of Ministers and Parliament to weigh such costs in setting and monitoring financial performance." (p. 23)
5.0 DIVIDEND REQUIREMENTS

The Commonwealth Department of Finance Discussion Paper (1986) proposes that dividends be required from Commonwealth public enterprises.

Of obvious and immediate interest is the fact that the Victorian Government has, since 1983, required the state's major public enterprises to make dividend payments. An examination of the rationale and financial implications of the Victorian Government's dividend policy is of much interest to the present study.

5.1 The Victorian Government's Public Authority Dividend (PAD)

The most controversial aspect of the recent reforms to public enterprise policies by the Victorian Government is probably the Public Authority Dividend (PAD). The Victorian Public Authorities (Dividends) Act 1983, requires that 'commercial statutory authorities' (public enterprises) pay to the State's Consolidated Fund each year a return on equity, in the form of a Public Authority Dividend (PAD) of up to 5 per cent of the value of the public equity held in that authority. We saw above how this rate of 5 per cent was determined.

In the Government's view, the basis of the PAD is that the people of Victoria, represented by the Government, are the ultimate owners of public enterprises. Accordingly, they have an equity holding in the assets of these enterprises and therefore can expect a return on that equity. This return, in the Government's view, should be paid to the Consolidated Fund and thereby made available to the Government for use in pursuit of its overall programs and objectives, or to reduce State charges elsewhere, thus distributing the benefits according to the priorities of the community as a whole.

A Government document (Energy Pricing Information Paper, 1985-86) explained that in any particular year the level of the PAD payable by individual public enterprises would depend on a number of factors, including:

- the overall RRR on assets which has been achieved by the public enterprise (those which are moving towards the target rate of return on assets are not required to pay a dividend at the maximum rate of 5 per cent)
- the cost of debt and the proportion of debt and equity capital in the business
- the level of accumulated reserves reflecting past returns on equity which have been retained for use by the public enterprise.

The Government has emphasised that the PAD requirement and the RRR guideline are separate and distinct aspects of public authority policy. It has claimed repeatedly that the level of prices are affected by the target RRR but not the PAD. This is because it is the RRR which determines the enterprise's surplus out of which the return to equity remains after the cost of debt is met. The return to equity is then available to meet PAD payments. The Government claims (Energy Pricing, 1985-86) that,

"Whether the return to equity is kept by the public authority as retained earnings, or a part is paid to the Consolidated Fund as a dividend, there will be no direct effect on actual tariff levels. The retention of the return to equity by public authorities will not directly lower tariffs although it will reduce the proportion of debt finance for future capital works." (p 12) (Emphasis added)
The Government statement is curious and seems self-contradictory. In view of the strong demand for investment capital faced by many (capital intensive) public enterprises, surely PAD payments which deplete internal funding capacity and result in increased dependence on borrowing will result in increased debt repayments and servicing charges and consequently price increases? Hence, at least in the medium or longer term, PAD payments will affect the level of public enterprise prices (and/or result in reductions in the range and quality of services).

This conclusion is consistent with the view expressed by Mr. J.R. Smith, Chief General Manager of the SECV, in a letter to the editor of 'The Age' newspaper (13 September 1986),

"In the past eight years the SECV has paid $458 million in dividends to governments. It has had to borrow that much more because of those dividends. Obviously electricity customers have to pay the interest bill on that extra debt.

It is surely evident ... that whatever government goods and services have been provided by the use of such dividend payments, they have been paid for by the SECV borrowing more money.

This is not to say dividends are inappropriate, but [one should] reveal the implications."

5.2 Are Dividend Payments Appropriate?

Trengove (1984) suggests that the question of dividend requirements is open to dispute because, where public enterprises are concerned, the concept of equity capital is unclear,

"In the context of the private sector, there is a concrete distinction between equity and debt. Equity capital consists of those monies advanced to the firm by shareholders who have no guarantee of them ever being repaid, but who in exchange can expect to receive residual payments from the firm's cash flows after all fixed charges have been paid. Accordingly, the rate of return is just equal to those residual payments (the numerator) divided by the monies originally advanced to the firm (the denominator).

In the case of the public enterprise we face a lack of a similarly clear cut notion of equity. To be sure, advances are often made by the taxpayer, and without any guarantee of repayment. But this is distinct from private sector equity finance, since there is generally no requirement to generate a (variable) residual profit to be paid in return for this initial advance. On the other hand, much of the debt financing - direct from the taxpayer or via government guarantee - is subject to a variable return, variable due to a frequent tendency towards underpayment of the debt incurred." (p.41)

Streton (1984) agrees that for public enterprises the identification of equity capital is unclear. He suggests that public enterprise equity capital may be treated in at least three ways: (i) as owned by the enterprise for purposes prescribed by Act of Parliament; (ii) as equity, on which government as owner may expect dividends; or (iii) as lent by government, which may expect loan interest or repayment. Streton argues that the choice is a matter of policy and concludes in favour of the Victorian Government's approach. However, he makes some interesting comments which in view of the contentious nature of the PAD are worth repeating:
"To treat public enterprise capital as equity, share-owned by the Australian people through an appropriate branch of their government, as it already is in Qantas and other publicly owned companies, seems the most promising arrangement. As noted, it may help to facilitate useful comparisons of performance and movements of people and expertise between the public and private sectors. It allows what are in reality profits and dividends to be honestly described. It allows them to vary as they should with the nature and earning capacity of each corporation’s business, and grow or decline as the business grows or declines.

As the basic financial relation between government and its business enterprises, an investor’s or equity-owner’s relation, rather than a lender’s relation, allows every desirable flexibility. It is only necessary to ensure that it does not also allow undesirable flexibility. It is appropriate that a Government paper should identify that danger in the bluntest terms as the danger of political misuse. As governments face the regular agonies of annual budgets and periodical election campaigns they must not be tempted — which means they must not be able — to plunder their business enterprises for revenue or starve them of necessary capital for short-term or partisan political purposes. The Government should acknowledge that when politicians come under the pressures characteristic of their profession, the corporate resources need to be protected by some equivalent of the time locks which prevent unscheduled access to bank safes." (pp 32-33)

5.3 What Level of Dividends Is It Appropriate To Expect From Public Enterprises?

Economic theory seems of limited assistance in the case of public enterprises. It is arguable that dividend payments to Consolidated Revenue could be viewed as a form of taxation (indirect taxation if they are passed on to consumers). In this view, to appraise their appropriateness and efficiency, one must compare dividends as a method of taxation against other alternatives for raising Consolidated Revenue — a complex task clearly beyond the scope of this paper.

It might be suggested that a more pragmatic method of assessing whether the level of dividend payments in public enterprise is appropriate might be to compare it with those prevailing in private enterprise. Let us therefore pause to examine such information.

Dividends In The Private Sector The following discussion proceeds on the basis of the considerations for dividend policy suggested by Ergas (1986) and the Department of Finance (1986) to examine the available-information to see what comment can be made about an appropriate dividend level.

As Table 5.1 indicates, in the private sector dividends paid as a percentage of average shareholder’s funds has varied from year to year and for 1984 ranged from 3 per cent for resource-based manufacturing, to 8.3 per cent for the services industry, averaging 4.8 per cent for all non-financial industries. Depending on which sector a public enterprise is considered comparable to, a PAD requirement of 5 per cent for instance, may be argued to be either excessive, appropriate or too low.
TABLE 5.1
DIVIDENDS AS A PERCENTAGE OF AVERAGE* SHAREHOLDERS' FUNDS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource based manufacturing</td>
<td>4.3</td>
<td>3.6</td>
<td>2.8</td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>5.6</td>
<td>5.9</td>
<td>5.9</td>
<td>5.5</td>
<td>5.8</td>
</tr>
<tr>
<td>Total manufacturing</td>
<td>5.1</td>
<td>5.0</td>
<td>4.6</td>
<td>4.4</td>
<td>4.7</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>5.1</td>
<td>4.7</td>
<td>5.2</td>
<td>4.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Retail trade</td>
<td>5.2</td>
<td>5.4</td>
<td>5.8</td>
<td>4.8</td>
<td>6.8</td>
</tr>
<tr>
<td>Services</td>
<td>6.7</td>
<td>5.9</td>
<td>5.4</td>
<td>5.5</td>
<td>8.3</td>
</tr>
<tr>
<td>All industrials</td>
<td>5.2</td>
<td>5.1</td>
<td>4.8</td>
<td>4.5</td>
<td>5.2</td>
</tr>
<tr>
<td>Mining</td>
<td>7.3</td>
<td>4.0</td>
<td>2.1</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Total non-financial</td>
<td>5.6</td>
<td>4.9</td>
<td>4.3</td>
<td>4.1</td>
<td>4.8</td>
</tr>
</tbody>
</table>

*Average of values at beginning and end of each period

Source: Reserve Bank of Australia (1986), Bulletin Supplement: Company Finance (August) p. 6

Table 5.2 provides an annual breakdown of dividends paid by industrial companies as a percentage of net profit from 1979 to 1984. Dividends rose from 46 per cent in 1981 to 60 per cent in 1982 and 67 per cent in 1983 as companies maintained dividend payments despite falling profits. In 1984, dividend payments declined sharply to 51 per cent. This ratio had been around 48 per cent in most years after 1976. Does such information suggest appropriate dividend payments for public enterprise?

TABLE 5.2
DIVIDENDS AS A PERCENTAGE OF NET PROFIT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource-based manufacturing</td>
<td>42.0</td>
<td>46.8</td>
<td>71.6</td>
<td>71.1</td>
<td>37.2</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>51.4</td>
<td>49.6</td>
<td>62.2</td>
<td>67.2</td>
<td>50.5</td>
</tr>
<tr>
<td>Total manufacturing</td>
<td>48.0</td>
<td>48.8</td>
<td>64.2</td>
<td>68.2</td>
<td>46.0</td>
</tr>
<tr>
<td>Wholesale trading</td>
<td>39.6</td>
<td>35.4</td>
<td>53.5</td>
<td>63.8</td>
<td>40.6</td>
</tr>
<tr>
<td>Retail trade</td>
<td>51.7</td>
<td>48.8</td>
<td>63.0</td>
<td>60.0</td>
<td>62.1</td>
</tr>
<tr>
<td>Services</td>
<td>48.8</td>
<td>44.4</td>
<td>44.4</td>
<td>63.2</td>
<td>84.4</td>
</tr>
<tr>
<td>All industrials</td>
<td>47.8</td>
<td>47.4</td>
<td>60.4</td>
<td>66.5</td>
<td>51.1</td>
</tr>
<tr>
<td>Mining</td>
<td>47.9</td>
<td>59.7</td>
<td>82.4</td>
<td>58.7</td>
<td>68.9</td>
</tr>
<tr>
<td>Total non-financial</td>
<td>47.8</td>
<td>48.9</td>
<td>62.0</td>
<td>67.1</td>
<td>52.7</td>
</tr>
</tbody>
</table>


Ergas (1986) who considered this issue in the context of the Australian Telecommunications Industry warned of the limitations of such comparisons:
"It is nonetheless difficult, even in theoretical terms, to define the 'correct' level of dividend payments for a public enterprise. Let us therefore pause to examine such information. This is because some of the factors underlying dividend policy in a private company do not apply in the context of the relations between government and its commercial undertakings; these include the differential tax treatment of interest payments, retained earnings and dividends, and the disclosure element of company dividend announcements." (p 61)

Ergas continues by suggesting some factors which might be considered in setting PD payments required of public enterprises:

"It is reasonable, however, to suggest that the dividend policy of a public enterprise should perform two functions:

. reflect a capital structure, in terms of debt-equity ratios, which does not impose an excessive burden of fixed interest obligations on the enterprise, since (particularly in capital intensive industries) this will lead to unjustifiable price rises during cyclical downturns;

. take account of the growth prospects of the industry, of the need to provide for growth through adequate injections of equity, and of the fact that commercial equity capital would generally be available on favourable terms to rapidly growing private companies."

Ergas' position appears similar to that of the Department of Finance (see p. 7 of this paper). In short, both suggest that consideration of dividend payments should occur on an enterprise by enterprise basis rather than a blanket, predetermined, rate in order that the circumstances of each particular enterprise might be considered. We agree.

In the next sections we turn to examine another aspect of the determination of financial targets and dividend requirements, namely the question of the appropriate accounting system to be used in measuring financial targets and dividend paying capacity. This is an important issue which needs to be addressed within our study since, as we shall see, different accounting systems can yield significantly different profit and return to equity computations (which form the basis upon which dividend payments to the government might be determined). The issue has been highlighted recently by the Victorian Government's advocacy of Current Cost Accounting to measure the profit performance and dividend capacity of the state's major public enterprises.
6.0 RATIONALE AND ALTERNATIVE APPROACHES TO CURRENT COST ACCOUNTING

As we saw earlier in Section 4, in the State of Victoria major public enterprises are required to aim at achieving a RRR target of 4 per cent estimated in real (inflation adjusted) terms, and to pay dividends determined on the basis of these returns. These policies led to the advocacy of an accounting system for such enterprises known as Rate of Return Reporting (RRR Reporting) which is essentially a version of Current Cost Accounting (CCA) and shares the rationale of the latter. Especially in view of the Victorian Government's approach to setting financial targets for public enterprises, it might be expected that the Commonwealth Government is likely to consider the desirability of using a similar CCA approach. Indeed, there have been strong arguments in favour of using CCA for Commonwealth instrumentalities. As Ball and Davis (1984) argued:

"The use of conventional 'historical cost' methods of accounting allows inflation to obscure evaluations of overall financial performance. The principal problems are created by the failure of conventional accounting systems to record the effect of inflation upon the prices of assets and thus upon costs that are charged against income for the use of assets, such as depreciation and use of stores. We endorse the Rae Committee's strong support for inflation adjustment of public authorities' accounts." (p. 32)

The Commonwealth Auditor-General evidently agrees pointing out recently (Monaghan, 1987) that,

"... financial statements prepared under the historical cost convention do not necessarily disclose the current value of the total resources being used by the enterprise. This can make it difficult for users to interpret the financial statements of enterprises which have long-lived assets. And the statements may not provide a sufficient basis for considering the returns the Commonwealth might expect.

The issue has been the subject of considerable discussion between the AAO and the Department of Finance. This may prove to be an area where public sector accounting will have to develop with some divergence from private sector practice." (p. 16)

The issue of financial targets based on CCA estimates is clearly, then, of much interest to this study. Hence this section and the next examine the rationale of CCA for public enterprises and explain why there are several different versions of CCA which can yield significantly different measures of operating profit for OTC, Telecom and Australia Post.

6.1 Background to the Inflation Accounting Debate

For several decades now there have been proposals in regard to accounting systems which can incorporate the effects of changing prices in assessing a firm's performance and financial position. This is because the traditional historical cost accounting system is not equipped to handle changes in the purchasing power of the unit of currency nor unrealized changes in the value of assets. There have long been concerns (see e.g. Barton [1975]) that with historical cost accounting:

(a) reported financial results may be distorted because current revenues are matched not by current costs but with (historical) costs incurred at an earlier date;
(b) the balance sheet may fail to adequately reflect the level of inflation adjusted economic cost of resources employed in the business;

(c) pricing and dividend decisions based upon historical cost profits may result in an erosion of the capital needed to maintain operations; and

(d) performance evaluation measures such as return on assets and return on equity may be misleading.

The major proposed accounting approaches which would take inflationary effects into account were based on either the restatement of historical cost information in constant purchasing power units or the incorporation of current (or replacement) costs. Neither approach has gained universal acceptance, although versions of the latter referred to as Current Cost Accounting (CCA) have proved more popular, despite their inherent subjectivity, because they reflect firm (or industry) specific price movements. More complex CCA systems also incorporate adjustments for changes in the general purchasing power of the unit of currency as well. More recently, CCA in one form or another, has been advocated as an especially appropriate basis for evaluating the economic performance of public enterprises (see for example, Byatt Report [1986], Victorian Department of Management and Budget, [1986]). This is because of the

- relatively greater capitalization and generally longer asset lives of public enterprises;
- absence of a market assessment and discipline; and
- need to monitor and regulate monopoly public enterprises.

(a) Longer Asset Lives. Public enterprises tend to be both capital intensive and to have much longer asset lives than those in the private sector. Clearly, accumulated inflation makes nonsense of historical costs over the 30 years of a power station's Life or the 100 years or more of many underground pipes. Moreover, even modest technical progress can transform real costs over such periods.

(b) Absence of a Market Assessment. For public enterprises there is no share price to reflect a market assessment of performance of the company in managing resources employed and there is no market discipline, through takeovers etc., in encouraging efficiency in resource use. The information presented in the accounts of a public enterprise accordingly becomes very important for judging efficiency.

(c) Monitoring Public Enterprise. Where, as in Victoria, financial targets are set in real terms, CCA would clearly facilitate performance monitoring.

The particular CCA system adopted is of critical importance because the reported profit it identifies, which may vary widely, is used in evaluating performance against predetermined goals and as the basis for determining dividend paying capacity. We turn now to examine these issues in more detail.
6.2 Components of an Accounting System

Any system of accounting which purports to measure performance and portray financial position requires the specification of three factors, namely:

(a) the asset valuation basis (for example, historical cost or current cost);

(b) the capital maintenance concept that is to be used (for example, the maintenance of operating capability or the maintenance of financial capital); and

(c) the unit of measurement that is to be used - nominal dollars or units of constant purchasing power.

The objectives underlying the preparation of the financial statements and the nature of the business operations provide guidance in determining which combination of these factors should be employed in determining profit and the basis for balance sheet preparation. The possible combinations relevant to our analysis are those which employ the Current Cost Valuation basis. The major issue of contention concerns whether the appropriate capital maintenance concept to employ is operating capability or financial equity, expressed in real or nominal terms.

6.3 Maintenance of Operating Capability - An Entity Viewpoint

The maintenance of operating capability can be described in terms of inputs (maintain the same quantity of input factors of production usually measured at current replacement cost) or outputs (maintain the output capacity of the existing assets). Maintenance of output is the generally preferred interpretation with capacity usually measured by reference to physical units (volume) thereby allowing technological advances to be reflected in the current cost of the assets required to maintain output.

Profit determination in this system involves charging against revenue the current cost of maintaining the net operating assets required to generate the revenue. It is universally agreed that Fixed Assets and Stock are a part of net operating assets but the treatment of monetary assets and liabilities remains contentious.

One school of thought holds that net monetary working capital (e.g., trade debtors and creditors, which do not alter in amount as a consequence of a change in prices), also provides operating capability and that the impact of changing prices on the level of monetary working capital necessary to sustain operations should be allowed for by applying the change in the price level relevant to the holding of the monetary item (for example, a relevant index for the holding of trade debtors is movements in the price of inventories).

A variation of this concept of maintaining operating capability intact is adopted in the Australian accounting profession's Statement of Accounting Practice "Current Cost Accounting" (SAP1) which adjusts for the specific purchasing power gains and losses from holding all monetary assets and monetary liabilities, excluding loan capital, during periods of changing prices. (Loan Capital is defined as current and long term borrowings used in financing the operating capability of the entity). Under the SAP1 approach, adjustments for depreciation, cost of sales and monetary items (excluding loan capital) are made to historical cost profit with corresponding entries to a Current Cost Reserve which forms part of owners' equity. This "current operating profit",
from which is deducted income tax and interest, results in the surplus which could be distributed by way of dividends at the end of the period, whilst still maintaining intact operating capability as it existed at the beginning of the period. An implication of the operating capability maintenance concept is that changes in the price of net operating assets (holding gains and losses) are treated as adjustments of capital and, as such, are taken directly to the Current Cost Reserve account.

The above capital maintenance concept is consistent with the acceptance of an entity viewpoint and measures the amount which can be distributed to all contributors of capital (interest and dividends) without impairing the operating capability of the enterprise.

6.4 The Maintenance of Operating Capital - A Proprietary (Entity) Viewpoint

An alternative viewpoint to that outlined above holds that the measure of profit should take into account the manner in which the company is financed. An enterprise's net operating assets may be financed substantially by debt, which is fixed in money terms, the real value of which is eroded in times of rising prices. Therefore, it is argued, the burden of maintaining an enterprise's operating capability is not borne by equityholders alone and allowance for this improvement in the proprietors' welfare should be incorporated in the measure of profit. The resulting profit, attributable to the owners, is the amount that could be distributed without impairing that proportion of the enterprise's operating capability financed by the owners.

There is considerable disagreement, however, as to how these debt related benefits to shareholders should be computed and reported (for example, compare the approaches recommended in the CCA Standards of the United Kingdom's SSAP16 [now withdrawn] and New Zealand's CCA1). This is a significant issue for the Australian government sector at present and shall be elaborated on in section 7 of this paper.

6.5 The Maintenance of Financial Capital - Another Proprietary Viewpoint

The capital maintenance concept may be measured entirely in financial terms rather than in terms of operating capability. Under this approach profit is defined as the change in shareholder's funds over the period, after allowing for transactions of a capital nature. For example, the historical cost accounting system maintains the financial capital of shareholders in money terms.

When applied to a CCA system the concept of financial capital maintenance is usually accompanied by the restatement of the opening equity for the change in the general price level. As a result financial equity is maintained in real terms and the real holding gains (losses) are incorporated into the measure of income. This version of Real CCA is one of two Real CCA systems supported by Barton (1985) and Byatt (1986).

The RRR Reporting system of the Victorian Government also adopts a maintenance of financial equity capital maintenance concept but expressed in nominal rather than real terms. This system involves the restatement of assets to a current cost basis and the inclusion of purchasing power gains on all monetary assets and liabilities in the measure of profit, including purchasing power gains on loan capital measured by reference to changes in the general level of prices.
This method of determining the profit attributable to equityholders is internally inconsistent as it requires the current cost restatements of the non-monetary assets be taken directly to the Current Cost Reserve account. This treatment is not consistent with the RRR Reporting method's "financial equity" capital maintenance concept which, as it is expressed in nominal terms only, would require such current cost restatements to be taken directly to the Profit and Loss account. In fact, the RRR Reporting system has more in common with CCA systems which employ an operating capability capital maintenance concept, except that it diverges from this approach in measuring the purchasing power gains on loan capital by reference to general price level change rather than specific price level changes. Perhaps the reason for this inconsistency lies in the DMB's comment (DMB, 1986b, p. 18) that the present RRR Reporting guidelines may prove to be an interim step on the way to the implementation of a Real CCA system (described above). A more extensive appraisal of the RRR Reporting method is available in Xavier and Graham (1987).

6.6 Factors Determining the Selection of a Capital Maintenance Concept for Public Enterprises

In general, information about both profit after operating capability maintenance and profit after (real) financial capital maintenance is relevant for the different purposes of the various users of accounts. Whether it is appropriate to select one basis or the other as dominant in presenting accounts depends on a range of factors determining the applicability of the concepts, the availability of alternative sources of information, the quantitative difference between the two concepts and the specific role envisaged for the accounts. Comparability between businesses in a similar position will also be a consideration. Several factors are discussed in the following paragraphs.

Objectives for public enterprises formulated recently by the Public Sector Accounting Standards Board (Sutcliffe, 1985). These objectives were identified as,

"the disclosure of financial information:
(i) useful in making economic decisions .. about such matters as resources to be allocated to particular entities, the nature and cost of services to be provided by those entities and the future consumption of those services; and
(ii) for accountability purposes; that is information to assist users in assessing the extent to which managers have discharged their responsibilities with respect to the use of public monies, the delivery of particular services and the achievement of specified objectives." (p. 17)

The study goes on to state that, to achieve these objectives, financial reports should disclose information relevant to an assessment of financial status, performance and compliance. These terms are defined in the following way:

"Financial status refers to the economic condition of the entity. Performance refers to the proficiency with which the entity has managed public monies, whether it has acquired and used resources economically, efficiently and as prescribed, and has been effective in achieving specified objectives.

Compliance refers to the extent to which the entity has adhered to the requirements of the rules and regulations of a financial nature intended to govern its operations and which are relevant to the objectives of financial reporting." (p. 19-20)
The first factor to be considered in selecting the appropriate capital maintenance concept is whether the nature of the business is a continuing one or whether its assets form part of a series of one-off investments designated to be sold later. Public enterprises are inherently continuing businesses. (Indeed in many cases they have the objective of increasing operating capacity). This suggests a measure of profit which could be distributed without damaging the operating capability of the business.

Secondly, consideration should be given to whether or not there is an adequate capital market in shares in the business which would provide investors with continuous information about the return on their investment apart from the accounts. If there is an adequate capital market, accounts which identify the distributable profit after maintaining operating capability can usually provide the accounting information relevant to determining the real return on investors' capital stake. However, there is no capital market providing a measure of economic performance of public enterprises. It is therefore desirable that the real rate of return being earned on the capital employed from the point of view of the public as investors should be visible in the accounts, although managers and employees will still need to know what could be taken out of the business without impairing its operating capability.

The third factor determining the relevance of the choice of capital maintenance concept is the role of the accounts in relation to pricing policy. For many public enterprises the price of output is not determined in a competitive market. Information about the continuing cost of supply is relevant to determining pricing policy and cost reduction objectives. The continuing cost of supply includes a normal profit on investment after financial capital maintenance. Thus where monitoring of such public enterprises is involved, it is particularly relevant for accounts to be available clearly showing performance on the basis of financial capital maintenance.

Finally, rapid reductions in capital costs due to technical progress will tend, in highly competitive markets, to make profits after operating capability maintenance a significant overstatement of real returns to the investor. Where technical progress - or more generally relative price changes - substantially affects costs over the lifetime of the principal assets of a business, this will be a factor determining the prominence given to financial capital maintenance in the accounts.

This does not mean that technical progress necessarily makes investors worse off. The reverse will normally be true: as costs and prices fall, sales will expand and the value of the business, as opposed to the value of the tangible assets to the business, will tend to increase. Technical progress in capital goods is a welcome event: it is a benefit not a loss to the nation and a share of this benefit will normally go to investors, although competitive pressures will usually work to pass most of the benefit on to consumers through falling prices. Public enterprises are expected to emulate this process, while taking account of practical limitations on the rate at which new technology can be introduced.

The continuing nature of public enterprises argues for prominence to accounts based on operating capability maintenance in these industries. However, the absence of a share market for public enterprises and, for the price makers among them, the absence of competitive product markets, argue for accounts which show clearly the real return being made on investors' funds as a basis for monitoring economic performance. If public enterprises were regulated on the basis of earning normal profits on capital employed after operating capability maintenance, consumers would benefit from technical progress through lower prices at the expense of the investors' capital base. This would clearly be unsustainable in the private sector. For public enterprises it would be equally likely to involve inappropriate transfers between the public as taxpayers and the public as consumers.
For reasons such as those discussed above the Byatt Report (1986) concluded that, as a general principle, the accounts of public enterprise should include profits estimated on the basis of real financial capital maintenance. However, as we have stressed, information about profits based on operating capability maintenance is also important as a guide to management decisions in these enterprises and should continue to be given. A constructive view of this conclusion would be to suggest that information based on both concepts should be presented in the accounts. To do this would not be difficult. Of course which basis of capital maintenance should be dominant in the presentation of the accounts should reflect an assessment of the considerations discussed above to an individual public enterprise.

Where it is considered appropriate to use the financial equity approach, there remains the problem that there are various versions of this approach which could yield strikingly different profit results. We turn now to appraise these various versions and their financial implications.
7.0 **THE IMPACT OF ALTERNATIVE CCA SYSTEMS ON THE REPORTED PROFITABILITY RESULTS OF GBE**

7.1 Introduction
The previous section pointed out that there are several possible versions of inflation accounting. This is not just of academic interest but can have important practical implications, particularly in regard to the assessment of financial performance and dividend paying capacity.

Tables 7.1, 7.2 and 7.3 compare Telecom's, OTC's and Australia Post's profit results under conventional historical cost accounting with those under the four alternative systems which were described in the previous section namely:

- SAP1 (the Australian Accounting Profession's Statement of Accounting Practice);
- Rate of Return (RRR) Reporting (the method prescribed by the Victorian Government);
- CCA1 (the New Zealand Accounting Standard); and
- Real CCA (a system advocated by Barton [1985] and Byatt [1986]).

The various CCA profitability figures displayed in Tables 7.1, 7.2 and 7.3, were derived from current cost adjustments to the GBEs' historical cost profit results based on:

(i) estimates of the replacement cost of assets; and
(ii) asset specific price indices

both provided by the GBEs.

We emphasize that the figures are preliminary and could well be subject to significant revision. (For instance, it could be argued that in a CCA system, 'technologically obsolete' portions of Telecom and OTC equipment should be written off). Nevertheless even such preliminary figures are of considerable interest. First, they indicate that there could be significant differences in the level of profit and financial performance estimated under various CCA systems. Thus they warn that a judicious approach is required in selecting the appropriate CCA approach for GBEs. Second, the figures illustrate the impact that different assumptions and inflation indices (e.g. asset specific indices or CPI) could have on the profitability results. And, thirdly, the figures enable us to illustrate our reservations about the Victorian Government's RRR Reporting approach to CCA, which is likely to be amongst those considered for application to Commonwealth GBEs.
<table>
<thead>
<tr>
<th>Historical Cost Accounting</th>
<th>Operating Capability Maintenance</th>
<th>Proprietary Approaches to Capital Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAP1 Reporting</td>
<td>RRR CCA1 Real CCA</td>
</tr>
<tr>
<td></td>
<td>$M</td>
<td>$M</td>
</tr>
<tr>
<td>Revenue (exc. interest)</td>
<td>5,444.0</td>
<td>5,444.0</td>
</tr>
<tr>
<td>Interest Revenue</td>
<td>27.7</td>
<td>27.7</td>
</tr>
<tr>
<td>Operating Revenue</td>
<td>5,471.7</td>
<td>5,471.7</td>
</tr>
<tr>
<td>Less Operating Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>816.0</td>
<td>1,228.0</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>3,263.6</td>
<td>3,263.6</td>
</tr>
<tr>
<td>Loss on Monetary Items</td>
<td>(excl Loan Capital)(c)</td>
<td></td>
</tr>
<tr>
<td>Profit Before</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance Charges</td>
<td>1,392.1</td>
<td>972.8</td>
</tr>
<tr>
<td>Less Finance Charges</td>
<td>927.5</td>
<td>927.5</td>
</tr>
<tr>
<td>Add Gearing Adjustment</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Add Real Holding Gains</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Profit to Equityholders</td>
<td>464.6</td>
<td>45.3</td>
</tr>
<tr>
<td>Average Written Down Cost</td>
<td>11,433</td>
<td>16,209(g)</td>
</tr>
<tr>
<td>Rate of Return on Assets</td>
<td>(7 ÷ 13)</td>
<td>12.2%</td>
</tr>
<tr>
<td>Opening Equity, 1 July, 1985</td>
<td>2,354</td>
<td>6,958(h)</td>
</tr>
<tr>
<td>Rate of Return on Equity</td>
<td>(11 ÷ 15)</td>
<td>19.7%</td>
</tr>
</tbody>
</table>

Sources: Australian Telecommunications Commission, Annual Report, 1986; Finance Directorate, Telecom, 1985; and authors' estimates.

Notes to Table 7.1 are provided in Appendix 1
<table>
<thead>
<tr>
<th>Historical Cost Accounting</th>
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<th>Proprietary Approaches to Capital Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M</td>
<td>$M</td>
</tr>
<tr>
<td>Revenue (exc.Interest)</td>
<td>516.9</td>
<td>516.9</td>
</tr>
<tr>
<td>Interest Revenue</td>
<td>23.9</td>
<td>23.9</td>
</tr>
<tr>
<td>Operating Revenue</td>
<td>540.8</td>
<td>540.8</td>
</tr>
<tr>
<td>Less Operating Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>43.5</td>
<td>62.7(b)</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>349.6</td>
<td>349.6</td>
</tr>
<tr>
<td>Loss (Gain) on Monetary Items(excl.Loan Capital(c))</td>
<td>-</td>
<td>(0.9)</td>
</tr>
<tr>
<td>Profit Before Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charges and Tax</td>
<td>147.4</td>
<td>129.4</td>
</tr>
<tr>
<td>Less(Add)Finance Charges</td>
<td>22.9</td>
<td>22.9</td>
</tr>
<tr>
<td>Gearing Adjustment</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Add Real Holding Gains</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11. Operating Profit Before Tax</td>
<td>124.8</td>
<td>106.5</td>
</tr>
<tr>
<td>12. Income Tax</td>
<td>56.9</td>
<td>56.4</td>
</tr>
<tr>
<td>13. Operating Profit</td>
<td>67.9</td>
<td>49.6</td>
</tr>
<tr>
<td>14. Add Abnormal and Extraordinary Items</td>
<td>12.2</td>
<td>12.2</td>
</tr>
<tr>
<td>15. Profit to Equityholders</td>
<td>80.1</td>
<td>61.8</td>
</tr>
<tr>
<td>16. Dividends Payable</td>
<td>398</td>
<td>398</td>
</tr>
<tr>
<td>17. Retained Surplus</td>
<td>40.3</td>
<td>22.0</td>
</tr>
</tbody>
</table>

18. Average Written Down Cost of Assets in Service | 726.8 | 972.3(g) | 972.3 | 972.3 | 972.3 |

19. Rate of Return on Assets (7 ÷ 18) | 20.3% | 13.3% | 13.0% | 13.3% | 13.2% |

20. Opening Equity, March 31, 1986 | 265.2 | 557.6(h) | 557.6 | 557.6 | 557.6 |

21. Rate of Return on Equity (15 ÷ 20) | 30.2% | 11.1% | 15.4% | 7.1% | (11.9)% |

Source: OTC Annual Reports, Information provided by OTC and authors' estimates.

Notes to Table 7.2 are provided in Appendix 2
### TABLE 7.3

**AUSTRALIA POST - 1985/86**

**COMPARISON OF RETURNS UNDER HISTORICAL COST ACCOUNTING WITH THOSE UNDER ALTERNATIVE CCA METHODS**

<table>
<thead>
<tr>
<th>Historical Cost Accounting</th>
<th>Operating Capability Maintenance</th>
<th>Proprietary Approaches to Capital Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M</td>
<td>$M</td>
<td>$M</td>
</tr>
<tr>
<td>SAP1</td>
<td>Reporting</td>
<td>CCA1</td>
</tr>
<tr>
<td>1. Revenue (exc. Interest)</td>
<td>1307.8</td>
<td>1307.8</td>
</tr>
<tr>
<td>2. Interest Revenue</td>
<td>17.6</td>
<td>17.6</td>
</tr>
<tr>
<td>3. Operating Revenue</td>
<td>1325.4</td>
<td>1325.4</td>
</tr>
<tr>
<td>Less Operating Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>16.1</td>
<td>23.8(b)</td>
</tr>
<tr>
<td>5. Other Expenses</td>
<td>1272.2</td>
<td>1272.2</td>
</tr>
<tr>
<td>6. Loss on Monetary Items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(excl. Loan Capital)(c)</td>
<td>-</td>
<td>4.4</td>
</tr>
<tr>
<td>Profit Before Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charges and Tax</td>
<td>37.1</td>
<td>25.0</td>
</tr>
<tr>
<td>Less (Add) Finance Charges</td>
<td>6.2</td>
<td>6.2</td>
</tr>
<tr>
<td>9. Add Gearing Adjustment</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10. Add Real Holding Gains</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11. Profit to Equityholders</td>
<td>30.9</td>
<td>18.8</td>
</tr>
<tr>
<td>12. Average Written Down Cost of Assets in Service</td>
<td>528.4</td>
<td>942.3(g)</td>
</tr>
<tr>
<td>13. Rate of Return on Assets</td>
<td>(7 ÷ 12)</td>
<td>7.0%</td>
</tr>
<tr>
<td>14. Opening Equity, 1 July, 1985</td>
<td>122.4</td>
<td>500.1(h)</td>
</tr>
<tr>
<td>15. Return on Equity</td>
<td>(11 ÷ 14)</td>
<td>25.2%</td>
</tr>
</tbody>
</table>

**Source:** Australian Postal Commission, Annual Report, 1985-86, and authors' estimates.

Notes to Table 7.3 are provided in Appendix 3.
Comparative Evaluation of CCA Systems

All four CCA methods reviewed are arguably appropriate where the objective is to determine the real rate of return on assets employed. The rate of return on assets is measured as profit before interest and tax, as a percentage of the average assets employed in earning the profit. In CCA systems this is achieved by adjusting the historic cost measure of expenses to their current cost at the time the resource was consumed in generating revenue and by restating the assets in the balance sheet to their current cost as at the balance date.

The current cost of Telecom's fixed assets and the related depreciation expense were determined in accordance with the notes to Table 7.1 presented in Appendix 1. The shift from a historical cost to a current cost valuation method resulted in the depreciation expense increasing by $412m (50%) to $1,228m and the value of average total assets in service by $4,776m (42%) to $16,209m. These adjustments, which are common to all four CCA methods, decrease reported profit and significantly increase the asset base, thereby causing a substantial decline in the rate of return on assets compared with conventional historical cost accounting (as is indicated at Line 13 of Table 7.1). Variations in other computations are discussed under separate CCA method headings below.

The current cost of OTC's fixed assets and the related depreciation expense were determined in accordance with the notes to Table 7.2 presented in Appendix 2. The switch from a historic cost to a current cost valuation basis resulted in the depreciation expense increasing by $19.2m (44%) to $62.7m (Line 4, Table 7.2). The average written down cost of assets in service rose by $245.5m (34%) to $972.3m (Line 18, Table 7.2).

The current cost of Australia Post's fixed assets and the related depreciation expense were determined in accordance with the notes to Table 7.3 presented in Appendix 3. The switch from a historical cost to a current cost valuation basis resulted in the depreciation expense increasing by $7.7m (48%) to $23.8m. Average assets in service showed a more dramatic increase, rising by $413.9m (78%) to $942.3m. The significant difference in the percentage increases in these figures can be explained by the fact that non-depreciable land accounts for nearly 70% of the increase in the value of assets.

No current cost adjustments have been made to other non-monetary assets in preparing the Tables as it was considered that they would have no material impact on the results. Variations among the CCA methods with respect to other adjustments for each GBE are discussed below under the separate CCA method headings.

The Australian Accounting Profession's Recommended Approach: Statement of Accounting Practice 1 (SAP1)

In accordance with SAP1 guidelines, an adjustment to reflect the specific purchasing power gain (loss) on monetary items (excluding loan capital) was made for each GBE.

For Telecom, this adjustment showed a loss of $7.3m and was estimated using the change in the specific prices of Telecom's relevant assets (as recommended by SAP1).
For OTC, the adjustment resulted in a gain of \$0.9m (Line 6, Table 7.2). A notable feature is that the specific price indices relevant to OTC's trade debtors and trade creditors were either stable or declined over the period. This may reflect a number of influences including a decline in the real cost of providing services as a result of substantial advances in technology pertaining to OTC's operations. Whatever the cause, the adjustment made on the basis of the indices resulted in little impact upon profit (before interest and tax) in 1986/7. The likely impact in the future is difficult to assess. But if the specific price indices relevant to debtors and creditors move more or less uniformly, the net effect is likely to remain small.

For Australia Post the adjustment showed a loss of \$4.4m, estimated on the basis of the CPI movement (see Line 6, Table 7.3). The CPI was used to estimate this loss since there was a high degree of correlation between the CPI and the relevant asset specific indices. As in the case of Telecom and OTC, the loss on this item was deducted in determining profit before finance charges, thus lowering the return on assets compared with the historical cost result.

The feature which distinguishes SAPI from the other three CCA methods is that, in adopting an "entity approach" to the measurement of profit, it thereby excludes holding gains on "loan capital". Although SAPI acknowledges that the alternative proprietary approach (which includes such holding gains) does provide relevant data to shareholders, it prescribes that such holding gains on loan capital be transferred directly to a reserve account before determining the CCA entity profit.

As indicated in Line 11 of Table 7.1, due largely to the increase in depreciation allowance referred to earlier, in 1985/86, Telecom would have earned a return to equity of only \$45.3m under SAPI, \$419.3m less than the historical cost figure of \$464.6m.

OTC's return to equity under SAPI would have been \$61.8m for the year ending March 1987, \$18.3m less than the historical cost figure of \$80.1m (as shown at Line 15, Table 7.2).

Australia Post's return to equity under SAPI was estimated at \$18.8m in 1985/86, \$12.1m less than under historical cost accounting (see Line 11, Table 7.3).

The entity approach adopted in SAPI has been criticized as a misleading and conservative measure of the return to equityholders because it excludes the inflation-generated holding gains on loan capital from the measure of profit. Thus those who consider that a measure of the real return to equityholders should include such holding gains have favoured the "proprietary approach" to determining profits. Since there are several versions of the proprietary approach, we turn now to examine profit measurement under three well-supported CCA alternatives which are based on this approach. First we examine profit measured under the RRR Reporting version which is prescribed by the Victorian Government, then under the CCA1 method used in New Zealand, and, finally, under the so-called Real CCA method.
The Victorian Government's Rate-of-Return (RRR) Reporting

The Victorian Government claims that the RRR Reporting version of CCA it prescribes is based on a financial equity capital maintenance concept. This underlies the important difference from SAP1 in that RRR Reporting incorporates holding gains (losses) on all monetary assets and liabilities into the measure of profit to the owners of an enterprise.

Under RRR Reporting the losses in purchasing power of interest earned from holding monetary assets due to inflation are deducted from interest revenue, and the holding gains on monetary liabilities are deducted from nominal interest expense, so as to express both interest revenue and interest expense in real terms. Thus, under RRR Reporting, real Finance Charges are calculated as the reported (historical cost accounting) interest expense less the holding gains on monetary liabilities.

A notable feature of RRR Reporting is that it measures the holding gains on loan capital by reference to changes in the general level of prices over the period. The reason given for this procedure is that "in times of inflation there is a gain from having incurred monetary liabilities because the amount repayable is fixed in monetary terms" (Department of Management and Budget, 1986b, p. 18). We accept the validity of this statement but would argue that it is a dubious practice to measure the gain to the owners by reference to changes in the general level of prices. Instead, we consider, along with many others, including Richardson (1976), Sandilands (1975), Byatt (1986), that the extent to which the owners are better off is dependent upon the rate of increase in the price of those assets which are being (partially) financed by debtholders. The distinction is important because when the current replacement cost of a GBE's assets is increasing at a slower rate than the general level of prices, RRR Reporting, which estimates holding gains based on the latter, will overstate profit and vice-versa.

Indeed, the difference between measuring holding gains by reference to asset specific rather than general price level movements is of particular significance for enterprises, such as Telecom and OTC, which have relatively high levels of gearing with, as well, replacement costs of the major proportion of their fixed assets tending to decrease in real terms over time due to technological advances. In such circumstances, the RRR Reporting method of measuring holding gains on monetary liabilities, based on CPI increases, can result in a significant overstatement of the profit to owners. This issue is examined further shortly under the CCA1 method (and more extensively in Xavier and Graham [1987]).

For Telecom, in 1985/86, under RRR Reporting a holding loss on monetary assets would have resulted in a negative real interest revenue of $7.6m. This would have been more than offset, however, by a holding gain on monetary liabilities of $639.5m, reducing the $927.5m nominal finance charge to a real finance charge of $288.0m (see Line 8, Table 7.1). Due to this substantial interest adjustment, even after depreciation and other adjustments were made, the overall profit to equityholders which would have resulted under RRR Reporting was $656.8m, still about $192m more than the $464.8m profit under historical cost accounting (see Line 11, Table 7.1).

For OTC, during the year ended March 1987, the item of greatest significance was the holding gain on monetary loan capital of $23.8m which would have resulted in a negative real interest expense of $3.5m (see Line 8, Table 7.2). The overall profit to equityholders result under RRR Reporting would have been $85.6m, about $6m more than under historical cost accounting (see Line 15, Table 7.2).
For Australia Post, holding gains on the average level of all monetary liabilities were estimated (by reference to the 1985/86 CPI increase of 8.4%) at about $14m which resulted in a Real Finance Charge estimate of negative $7.4m. However, under RRR Reporting (and other CCA methods) Australia Post's depreciation expense increased by $7.7m (48%) to $23.8m. The overall return to equityholders result under RRR Reporting would have been $22.3m, $8.6m less than the conventional historical cost profit of $30.9m (see Line 11, Table 7.3). Of course, this result under RRR Reporting could be quite different if Australia Post incurs substantially more debt and, accordingly, higher holding gains on such debt.

The curious negative real finance charge results for OTC and Australia Post requires some explanation. This occurred because under RRR Reporting, the holding gain is calculated on all monetary liabilities even those which do not incur interest expense. This means that holding gains can exceed interest expense. In addition, for OTC, the holding gains on monetary liabilities was calculated with reference to a CPI increase of 9.4% (for the year ending March 1987) whereas the average interest rate paid on OTC's loan capital was less than 9.4%. (For example, the Anzcan Cable Loan, the major loan item, had an average interest rate of 8.5%). At any rate, the negative real finance charge outcome for OTC and Australia Post reinforces our point that CPI referenced holding gains on monetary liabilities, prescribed by RRR Reporting, is a dubious practice which can significantly overstate the profit result.

CCA1 - The New Zealand Standard

The Richardson Report (1976) and the United Kingdom accounting standard SSAP16 were the antecedents of this standard. The significant aspect of CCA1 for our present purpose is that it prescribes that the holding gain on loan capital be computed by reference to the specific price movements of the assets being financed. Due to the various rates of change in the specific prices of different non-monetary assets, the calculation of this holding gain is simplified through the use of a "gearing adjustment". The procedure involves applying the gearing ratio (net borrowings to operating assets) to the total holding gains (losses) on assets brought to account over the year in the Current Cost Reserve account. In essence, the gearing adjustment represents a weighted average approach to calculating the holding gains (losses) attributable to the owners on the debt-financed portion of the enterprise's assets. This approach has the benefit of reducing the number of calculations that would otherwise be involved in computing the holding gain (loss) on debt finance of each non-monetary asset. The CCA1 procedure and its impact on profit by comparison with RRR Reporting is illustrated in the following simplified example.
EXAMPLE 1: THE MEASUREMENT OF HOLDING GAINS ON DEBT BY REFERENCE TO
CHANGES IN SPECIFIC AND GENERAL PRICE LEVEL MOMENTS

Data

1. Authority formed in 19X0 and acquires non-depreciable assets at a cost of $100 financed in the proportions of 50% debt @ 13% and 50% equity.

2. Inflation, as measured by the Consumer Price Index, increases at 10% per year.

3. The authority is not subject to taxation.

4. The replacement cost of the asset increases at 5% per year.

5. Dividends equal to reported profit are declared and paid.

6. Cash requirements in excess of the cash flow from operations are financed by borrowings.

<table>
<thead>
<tr>
<th>Profit and Loss Statements for period ended 19X1</th>
<th>RRR Reporting (CPI Adjustment) $</th>
<th>Gearing Adjustment Specific Price Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Operating Profit Before Interest</td>
<td>4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Nominal Interest</td>
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<td>6.50</td>
</tr>
<tr>
<td>Gain on Loan Capital</td>
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</tr>
<tr>
<td>Real Finance Charges</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td>Gearing Adjustment*</td>
<td>2.50</td>
<td></td>
</tr>
<tr>
<td>Return on Equity</td>
<td>2.50</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>===</td>
<td>===</td>
</tr>
</tbody>
</table>
Balance Sheets
as at 19X1

<table>
<thead>
<tr>
<th>Assets</th>
<th>105.00</th>
<th>105.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt</td>
<td>55.00</td>
<td>52.50</td>
</tr>
<tr>
<td>Equity</td>
<td>50.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Capital</td>
<td>50.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Current Cost Reserve</td>
<td>-</td>
<td>2.50</td>
</tr>
<tr>
<td></td>
<td>105.00</td>
<td>105.00</td>
</tr>
<tr>
<td>Dividends</td>
<td>$2.50</td>
<td>Nil</td>
</tr>
<tr>
<td>Debt to Equity Ratio</td>
<td>1.10</td>
<td>1.00</td>
</tr>
</tbody>
</table>

* To simplify the example the Gearing Adjustment is calculated here as

\[
\text{Borrowings at Beginning} \times \frac{\text{Increase in Current Cost}}{\text{Current Cost of Assets at Beginning}} = \frac{50 \times 5}{100} = \$2.50
\]

The inclusion of holding gains on debt under RRR Reporting is based on the view that proprietors are better off in inflationary periods by having used loan capital whose repayment is fixed in money terms. Therefore, the RRR Reporting prescribes that the most suitable price index to employ is one that best represents changes in the average purchasing power of money, e.g., the Consumer Price Index (CPI).

However, the RRR Reporting profit outcome $2.50 for 19X1 overstates the increase in the well-offness of the proprietors. This is because although debtholders are repaid in dollars of decreased purchasing power, this is of no benefit to proprietors unless the value of the assets so financed has increased by at least the same rate.

In the above case, the replacement cost of the assets has increased by only 5% over a period when the general level of inflation was 10%. That is, the replacement cost of the assets has declined in real terms. Such a situation should make it clear that the computation of holding gains on borrowings by reference to movements in the CPI does not necessarily measure, and in this case would overstate, the increase in the well-offness of shareholders. That the proprietors' wealth is overstated in such an instance is reinforced by the fact that the profit estimated on this basis was paid as a cash dividend, the resultant borrowings necessary to find the dividend would result in the debt to equity ratio increasing from 1.0 to 1.1.

The use of a specific price level change in our example leads to a debt-related gain of only $2.50 being attributable to proprietors. The excess of interest payments over operating surplus of $2.50 still requires some borrowings to be made, but the level required leaves the gearing ratio steady at 1:0. It is not to be inferred from this that the gearing ratio itself has any impact on the determination of profit. Rather, the use of the gearing ratio simplifies the computation of the impact of asset specific price changes on the well-offness of the proprietors. Nonetheless, as part of the dividend paid needs to be finance by borrowings, the gearing ratio becomes a residual element and movements in it are indicative of whether or not proprietors can be considered to be any better or worse off.
For Telecom. Table 7.1 shows that after deducting the finance charges at Line 8 of $927.5 and then adding back the gearing adjustment of $341.4m (Line 9), Telecom's Profit to Equityholders is $386.7m (Line 11). This profit, in principle, be distributed to the equityholders of Telecom by way of a dividend while still maintaining intact the level of operating capability provided by them. The CCAI profit result is $270.1m less than that achieved under the RRR Reporting method. Such a result occurs because that the estimated rate of increase in the current cost of Telecom's fixed assets over the period was less than the increase in the CPI, thereby causing the reported holding gains on debt to be lower under the CCAI method than under the RRR Reporting method. This result might be expected where technological advances enable the current replacement cost of equivalent asset services to decline in real terms over time (see, for example, Byatt Report, 1986). This is the situation faced by technology orientated enterprises such as Telecom and OIC (as is supported by a Telecom study which indicates that the replacement cost of Telecom's telephone exchanges is materially lower than their reproduction cost [Finance Directorate, Telecom, 1985]). Any such long term decline in the real cost of providing services may be offset or distorted in the short-term by economic factors (such as the impact of the Australian dollar devaluation on the cost of imported equipment) and Commonwealth Government policy decisions (such as the 1987 decision to impose customs duty and sales tax on Telecom equipment used for internal purposes).

Where CPI increases exceed asset specific price movements, the use of the RRR Reporting method will lead to an overstatement of the profit attributable to equityholders. If this profit were to be fully distributed by way of loan financed dividend payments, an increase in Telecom's debt to total assets ratio (measured on a current cost basis) would result. On the other hand, payment of loan financed dividends of an amount equal to the profit reported under the CCAI method would maintain Telecom's debt to total assets ratio at its present level.

For OTC, Table 7.2 shows that after making the monetary working capital adjustment (the same as for SAP1) and deducting the gearing adjustment of $22.3m (Line 9), a profit of $39.5m (Line 15) results, which could in principle be distributed to the owners by way of a dividend while still maintaining intact the level of operating capability provided by them. This CCAI profit result is significantly less than the historical cost result and the previously addressed CCA methods. The reason for this outcome is apparent from a perusal of Table 7.4 which indicates that the difference between written down revalued cost of fixed assets and their historic cost has decreased from $292.4m in 1986 to $198.6m in 1987. The major cause of this decline is the estimate of costs in the Cables category which, despite an increase in historical cost of $9m, showed a decrease in revalued cost terms of $52m. Further, although the Plant etc. category increased by $44m in historic cost terms, there was an increase of only $12m (5%) in terms of revalued cost.
TABLE 7.4

ASSET VALUES

OTC - AS AT 31 MARCH

<table>
<thead>
<tr>
<th></th>
<th>1987</th>
<th>1986</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$'000</td>
<td>$'000</td>
</tr>
<tr>
<td>LAND &amp; SITE IMPROVEMENTS</td>
<td>5782</td>
<td>20321</td>
</tr>
<tr>
<td>BUILDINGS</td>
<td>119877</td>
<td>163484</td>
</tr>
<tr>
<td>CABLES</td>
<td>288438</td>
<td>343884</td>
</tr>
<tr>
<td>PLANT, FURN, &amp; M.VEHICLES</td>
<td>167805</td>
<td>252835</td>
</tr>
</tbody>
</table>

* Including work in progress

Source: OTC

It is difficult to assess the replacement cost of assets which are subject to complex technological changes. But although doubts may be cast over the accuracy of the revalued cost figures, the declining direction of OTC’s replacement costs should not be surprising since it is well known that the communications industry is presently experiencing significant changes in technology which is driving down the replacement cost of existing asset services.

The result of such a decline in the replacement cost of assets would be to show that OTC has incurred holding losses on the debt financed proportion of its assets. That is, it has borrowed money to finance assets whose replacement cost has declined. A similar situation is also reflected in the stable or decreasing price indices relevant to the provision of OTC’s services, as discussed previously with respect to OTC debtors and creditors. As the replacement cost of asset services continues to decline, the real cost of these services should similarly decrease.

A notable aspect of the profit calculation at Line 15 Table 7.2 is that the CCAI of $39.5m result is $46.1m less than that achieved under the RRR Reporting method. This clearly highlights the difference between calculating the holding gains on loan capital by reference to specific asset price changes (CCA1) and general price level movements (RRR Reporting). To suggest, as RRR Reporting does, that the owners of the enterprise are better off as a result of using debt financing when the value of the assets being financed is decreasing in real terms would seem a highly dubious basis for measuring the return to equityholders and, accordingly, the dividend paying capacity of the enterprise. In fact, the 1986/7 dividend provision of $39.8m marginally exceeds the CCAI profit to equity-holders of $39.5m, which includes $12.2m of non-recurring abnormal and extra-ordinary items in 1986/7.
For Australia Post, the profit to equityholders under CCAl would have been $23.5m, only $1.2m more than the RRR Reporting profit and $7.4m less than the historical cost profit to equityholders figure (Line 11, Table 7.3). The small difference between the RRR Reporting and CCAl profit reflects the fact that the rate of increase in the current replacement cost of Australia Post's non-monetary assets (mainly land and buildings) was closely correlated with the rate of increase in the CPI used to calculate the holding gains on debt under the RRR Reporting method. The CCAl profit result would have been lower than the historical cost result because appreciation is lower for the former while the gains and losses on monetary items offset each other.

Real Current Cost Accounting (Real CCA)

Methods which combine the effects of both general and specific price level changes have long been favoured by those seeking the correct inflation accounting system but have been considered too complex to apply and interpret in practice. One variation proposed by advocates of a real CCA system is based on a real financial equity capital maintenance concept and is relatively easy to implement. Under this system, which was described briefly in section 6, the following adjustments would be made:

(a) non-monetary assets are restated to reflect their current cost at balance date;
(b) the holding gains (losses) arising from the restatement of the non-monetary assets are credited (debited) direct to the profit and loss account, not to a Current Cost Reserve account (i.e. they are included in the measure of profit); and
(c) the opening equity is restated to reflect the change in the general level of prices over the period, as measured by the CPI, with this adjustment being charged to the profit and loss account.

The resultant profit figure represents the change in the enterprise's net assets, measured at current cost, over the period, after allowing for the purchasing power of the initial equity to be maintained. The real holding gains for Telecom in 1985/86 under this method amounted to $171.6m (as shown at Line 10 of Table 7.1). For OTC, as Table 7.2 indicates, the Real CCA loss for OTC's equityholders in 1986/87 would have been $66.1m (as shown at line 15). This loss represents the decrease in OTC's net assets on a current cost basis over the year after allowing for the purchasing power of the initial equity to be maintained. The real holding loss of $127.0m (line 10) is measured by reference to changes in the specific prices of non-monetary assets held by OTC.

For Australia Post, the Real CCA Profit to Equityholders result would have been $61.4m. As Line 11, Table 7.3 shows, this figure is more than double the result estimated on the basis of the alternative CCA methods which employ a proprietary approach to capital maintenance. The reasons for this relatively high result are inherent to the method and Australia Post's particular circumstances in 1985/86. Firstly, the Real CCA method credits the holding gains on assets ($80.2m) directly to the Profit and Loss (not to a Current Cost Reserve Account as is done under the RRR Reporting and CCAl methods). A debit to the Profit and Loss account is then made to reflect the adjustment to the opening equity ($42.0m) necessary to maintain intact the financial equity in real terms. These adjustments result in a holding gain of $38.2m which reflect the excess of the holding gains on assets in nominal terms over the amount required to maintain the financial equity in real terms. On the other hand, Australia Post's low level of loan capital results in relatively low holding gains on this item.
As the holding gains included in the measure of profit are measured by reference to the changes in the prices of specific assets, the effect is not dissimilar to that achieved under the CCAi method. However, the gains (losses) to equityholders resulting from the use of debt financing are not calculated directly under the Real CCA method. The real holding gains on assets, which are included in the return to equityholders, incorporate two components:

(a) the holding gains (losses) from the debt financed portion of assets measured by reference to specific price level changes of assets, and

(b) the holding gains (losses) from the equity financed portion of the assets measured by reference to specific price level changes of assets less the general price level change.

The following simplified example illustrates the derivation of the holding gains in a Real CCA system.

EXAMPLE 2: DERIVATION OF DEBT FINANCED HOLDING GAINS IN A REAL CCA SYSTEM

No transactions for the period; asset non-depreciable.

<table>
<thead>
<tr>
<th>Balance Sheet</th>
<th>Year Start</th>
<th>Year End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Asset</td>
<td>1000</td>
<td>X 1.10</td>
</tr>
<tr>
<td></td>
<td>1000</td>
<td>1100</td>
</tr>
<tr>
<td>Loan Capital</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Equity</td>
<td>600</td>
<td>X 1.12</td>
</tr>
<tr>
<td>Profit (Loss)*</td>
<td>-</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>1000</td>
<td>1100</td>
</tr>
</tbody>
</table>

*Reconciliation of Profit

(a) Holding Gain on Debt Financed Portion of Assets

\[
\frac{.4(1100-1000)}{1000} = 40
\]

(b) Real Holding Loss on Equity Financed Portion of Assets

\[
\frac{.6(1100-1000) - (672-600)}{1000} = 12
\]

Real Holding Gain:

\[
= 28
\]

Comparison With CCAi Method

Gearing Adjustment

\[
\frac{400 \times (1100-1000)}{1000} = 40
\]

It may be seen from the example that the holding gain of $40 on the debt financed portion of the assets is the same under both the Real CCA and CCAi methods. Whether or not the total holding gains of the Real CCA method will be greater, or less, than those under the CCAi method depends upon two factors:
(a) the relationship between movements in the CPI Index and the weighted average of specific price increases of the firm's assets; where the CPI change is greater (as in the example) the Real CCA holding gains will be smaller than the CCAl gearing adjustment and vice-versa; and

(b) the extent to which the enterprise is financed by non-monetary liabilities excluded from the measure of net borrowings in calculating the gearing adjustment in the CCAl method; the greater the relative importance of these items the lower the holding gains under the CCAl method compared with Real CCA.

With respect to Telecom's estimated 1985/86 results, the first of these factors (i.e., CPI increased by more than assets specific prices) proved to be dominant, with the result that the CCAl profit of $378.0m reported at Line 11 of Table 7.1 exceeded the Real CCA profit of $224.2m by $153.8m (or 69%). For OTC, too, CPI increased by far more than asset specific indices, which explains the substantial difference between the CCAl gearing adjustment loss of $22.3m and the Real CCA holding loss of $127.0m (see Table 7.2).

7(iii) The Relative Profit Performance of Alternative CCA Systems Under Different General and Specific Price Level Conditions

The different CCA systems have the same asset base and equity base, although the component parts of the latter will differ among the systems due to the different approaches to profit measurement. In particular, there are some differences among the methods in regard to computing Profit Before Finance Charges (Line 7, Table 7.1) which is used in deriving the Real Rate of Return on Assets:

(a) The RRR method deducts the holding gains on all monetary liabilities from finance charges (at Line 8) in determining real finance charges. Consequently we would normally expect this method to report a lower Profit Before Finance Charges than either SAP1 or CCAl which both include in this measure the holding gains on monetary liabilities (excluding loan capital).

(b) The Real CCA system, as applied here, does not separately compute a holding loss (gain) on monetary items other than loan capital in determining Profit Before Finance Charges. This system can be amended to accommodate such an adjustment so as to give us the same result as for the SAP1 and CCA systems. As our present concern is the rate of return to equity, which would not be affected by such an adjustment, this amendment was not done so as not to further complicate the computations.

The Rate of Return on Equity is always affected by the level of gearing employed by an enterprise. This also applies to the four CCA systems examined, but with results which differ due to the different underlying capital maintenance concepts.

In periods when all prices are rising, the following usually applies regarding the Profit to Equityholders (Line 11, Table 7.1):

(a) SAP1, which adopts the entity version of the operating capital maintenance concept, excludes holding gains on loan capital and, therefore, reports the lowest profit.
(b) RRR Reporting and CCAI both include gains on loan capital in the measure of profit. The RRR Reporting system measures these gains by reference to the CPI whereas the CCAI system measures them by reference to changes in asset specific price levels. It follows that when the movement in the general price level exceeds that of asset specific prices RRR Reporting system will report a higher level of holding gains on loan capital and vice-versa.

(c) The relationship between the Real CCA and CCAI systems was explained earlier as being dependent upon the relationship between specific and general price level movements and the extent of non-monetary debt in the financial structure.

To summarize, in periods when the specific prices of assets held by the enterprise are rising faster than the general level of prices the rank order of methods in terms of Profit to Equityholders would normally be:

1. Real CCA
2. CCAI
3. RRR Reporting
4. SAP1

In periods when the specific prices of assets held rise at a slower rate than the general price level, the ranking becomes:

1. RRR Reporting
2. CCAI
3. Real CCA
4. SAP1

In periods during which asset specific prices approximate the increase in the CPI, RRR Reporting, CCAI and Real CCA will give similar results except for the previously mentioned influence of non-monetary liabilities which tends to boost the Real CCA results.

In concluding this section, we reiterate our view that the appropriate procedure for measuring holding gains on monetary liabilities in a CCA system should be by reference to asset specific price changes and not the CPI as practised by the Victorian Government's RRR Reporting version of current cost accounting. This would be consistent with the real CCA approach the Victorian Government itself appears to consider is the appropriate approach, as suggested by the following statement (DMB, 1986[b]):

"This version of the financial equity approach adopted in the present guidelines may prove to be an interim step in the development of Rate of Return Reporting. Consideration will be given in due course to two additional adjustments. The first is the inclusion of holding gains and losses on physical as well as monetary assets in the calculation of the return on equity in the Statement of Revenue and Expenses. The second involves a negative adjustment in the Statement of Revenue and Expenses to take account of the impact of the change in general level of prices on the opening value of equity in the authority. The measurement of a return on equity based on this real financial equity concept of capital maintenance indicates the amount available for distribution to the owners while maintaining the real level of financial equity. These matters will be considered in consultation with the authorities and the accounting profession." (p. 18)
8. CONCLUSIONS

(i) Financial Targets

(a) In principle the imposition of a RRR for public enterprises is justifiable on economic and financial grounds. In short, in the interests of an efficient allocation of resources, investments by public enterprises should be required to earn at least a return comparable to their opportunity cost (what they would be able to earn in their best alternative use).

(b) Moreover, a RRR goes some way in providing a surrogate for the discipline of a profit requirement in containing costs. It is true that many public enterprises face price inelastic demand schedules - at least for some services - so that cost increases can be easily passed on in higher prices. Nonetheless, where there are constraints on the ability of public enterprises to increase their prices - such as consumer resistance or a government policy guideline that price increases be less than the rate of inflation, as currently exists in Victoria - pressures to contain costs will exist.

(c) However, there are several questionable aspects concerning the use of a prescribed RRR. Firstly, the RRR should not be regarded as a 'principal performance criterion' since this would be to claim or expect far too much of it. Other potential sources and incentives of improved performance for public enterprises need to be identified, implemented and monitored.

(d) Secondly, economic principles advocate that the RRR on marginal investments reflect opportunity costs. An RRR such as the Victorian Government's prescribed RRR of 4 per cent, is an average or overall RRR on a public enterprises total assets. These assets are a result of historical investment decisions, some of which might be considered to be 'sunk costs' and not included in the estimation of the RRR. (The 'replacement cost' value approach to the estimation of total assets, the Victorian Government has prescribed that the public enterprises use, does try to take sunk costs into account. However, the focus remains on average, overall, returns rather than marginal returns).

(e) Thirdly, it should be recognised that an RRR, estimated in accounting terms, is unlikely to reflect economic rates of return and hence will not provide a good indicator of the degree of efficient and effective use of resources by a public enterprise.

(f) Fourthly, a uniform RRR applied to all public enterprises is not prescribed by economic theory nor by the observation that rates of return vary widely among private and public sector enterprises. One must guard against the danger, though, that the prospect of rationalising a lower RRR for a particular public enterprise could provide a cloak behind which inefficiencies of various types, as well as social and political pursuits, might readily proliferate. This concern suggests that where public enterprises are required to undertake social obligations, explicit subsidies should be paid. If the Government is unable to implement direct subsidies (for reasons of overall budgetary demands) then, at a minimum, the implicit subsidy element should be revealed in the annual reports of the public enterprises. This would enhance the ability of Parliament and the public to realistically assess the performance of such enterprises and to identify costs and benefits borne by, or provided to, sections of the community.
(g) Finally, in practice it is difficult to identify the appropriate RRR for public enterprises. The RRR of 4 per cent prescribed by the Victorian Government, which was determined by the 'weighted average cost of capital approach', cannot be demonstrated to be correct or superior on uncontentious theoretical grounds. A (lower) rate based on the Social Time Preference Rate approach, or a (higher) rate based on the Social Opportunity Cost of Capital approach, seems equally tenable. This recognition identifies the prescribed RRR of 4 per cent to be determined as a matter of government policy which, while perfectly valid on this basis, should not be considered to be prescribed, unambiguously, by economic principles. Nevertheless, it is concluded that when the real rates of return earned by private enterprises are considered, a rate of 4 per cent for public enterprises seems, for the present, more reasonable than the rate of 10 per cent which is sometimes suggested as an appropriate target.

(iii) Dividend Requirements

(h) The legitimacy of requiring dividends from public enterprises is open to some dispute, in particular because the definition of equity seems unclear in the case of public (by comparison with private) enterprises. Nevertheless, the requirement to pay dividends is quite defensible as a matter of government policy judgement pertaining to the distribution of public enterprise earnings.

(i) Since dividend payments required of a public enterprise will affect its borrowing and subsequent debt servicing requirement, they are likely (in the medium term, at least) to affect the level of prices charged by a public enterprise.

(j) Economic theory seems of limited assistance in identifying the correct level of dividend payments for public enterprises. Hence a doctrinaire or simplistic view that the level of dividend payments should be guided primarily by a predetermined rate e.g. the Victorian Government's "up to 5 per cent" would be unwarranted. This seems particularly so since the 5 per cent figure was determined on the basis of an arbitrarily chosen risk premium of 2 per cent added on to a questionable estimate of 3 per cent for the long term cost of debt.

(k) Rather, the extent of PAD payments from individual public enterprises should depend, among other things, on the particular circumstances faced by a public enterprise including the requirement to retain earnings to finance a planned investment program, to improve a cash-flow position, the expected return on equity both in the short and longer term, the level of accumulated profits, the actual and desired debt: equity ratio, the constraints on borrowing and so on.

(iii) The Accounting System used for Profit Measurement

(1) The conventional historical cost accounting system is not suitable for measuring a public enterprise's RRR. A Current Cost Accounting system, which takes into account the effects of inflation is more appropriate, particularly when the concern is to estimate real RRR.
There are competing CCA systems which can be differentiated by their choice of a capital maintenance concept necessary to distinguish profit from capital. Two broad approaches to capital maintenance are the "entity" approach, which reflects the profit available for distribution after maintaining intact the operating capability of the enterprise, and the "proprietary" (equity) approach, which reflects the profits available for distribution after maintaining intact the equity of the proprietors under one of a variety of possible approaches. We conclude that information provided on the basis of both approaches is relevant for the different purposes of the various users of an enterprise's financial accounts.

We conclude that a "proprietary" approach to capital maintenance is suitable for the purpose of measuring the Return on Equity for public enterprises.

We conclude that the RRR Reporting method of determining the Return on Equity is internally inconsistent. This is because it requires that the current cost restatements of non-monetary assets to be taken directly to the Current Cost Reserve account. This treatment is not consistent with its "financial equity" capital maintenance conceptual basis which, as it is expressed in nominal terms only, would require such current cost restatements to be taken directly to the Profit and Loss Account. The RRR Reporting method's prescribed treatment of these current cost adjustments is more consistent with the "operating capability" capital maintenance conceptual basis. However, the RRR Reporting method's computation of purchasing power gains on all monetary liabilities by reference to general price level movements is inconsistent with this capital maintenance concept. which requires the measurement of such purchasing power gains by reference to specific price level movements.

The choice between the CCAI and Real CCA methods is one of ascertaining whether it is considered more appropriate to maintain intact the operating capability of that part of the net operating assets of the enterprise provided by its owners (CCA), or to maintain intact the real financial equity of the enterprise (Real CCA).

Where all prices are rising but asset specific prices are rising at a slower rate than the general price level the rank order of profit, in terms of magnitude, for enterprises with a significant level of gearing, will usually be:

1. RRR Reporting
2. CCAI
3. Real CCA
4. SAP1

Conversely, when asset specific prices are rising faster than the general level of prices the rank order will become:

1. Real CCA
2. CCAI
3. RRR Reporting
4. SAP1
The unavoidable subjectiveness of estimating current replacement cost is amplified for enterprises with complex asset structures subject to significant technological change. This problem is common to all CCA methods. However, it is only under the CCA1 and Real CCA methods that debt related holding gains, calculated by reference to asset specific price changes, are included in the measure of Profit to Equityholders. Although it may be convenient to use the more objective and monitorable CPI to calculate these debt financed gains, as done under the RRR Reporting method, such a procedure can significantly overstate the measure of profit and the dividend paying capacity of the enterprise. This is evident in the case of Telecom and OTC where payment of dividends equal to the RRR Reporting profits would have eroded ability to maintain intact the operating capability provided by equityholders (CCA1) or decreased the real financial equity of equityholders (Real CCA).

The contentious basis for estimating holding gains on debt and the dramatically different impacts such estimates can have (depending on the level of debt held) has prompted the United Kingdom ED 35, CCA system (which replaced SSAP16) to allow firms to use one of a number of different approaches. Thus, a firm may opt to base its gearing adjustment on (for instance) either the CCA1 approach or the approach taken by RRR Reporting. A similarly flexible system might be considered for Australia as an alternative to the mandatory approach prescribed by RRR Reporting).

Finally, in demonstrating how different accounting systems based on different concepts, assumptions and practices can generate significantly different profit results, we conclude emphatically that a judicious approach to selecting a CCA system appropriate for GBEs is necessary. In a situation of borrowing and pricing constraints, an accounting system used to legitimise excessive dividend payments by GBEs could well, in the long term, threaten the efficiency and financial integrity of these enterprises.
APPENDIX 1: NOTES TO TABLE 7.1 (TELECOM)

Notes:

(a) The specific purchasing power loss on monetary assets of $35.3m has been deducted as per RRR guidelines. Calculated as average holding of monetary assets ($979.8m) multiplied by the increase in the Telecom Tariff Index of 3.6% for the year ended 30 June 1986; viz. $979.8m x 0.036 = $35.3m.

(b) Current Cost Depreciation estimated at 5% of June 30, 1985, estimate of the gross current cost of fixed assets (after deducting assets under construction) of $24,561m.

(c) Loss on Monetary Items (excl. Loan Capital) was calculated as the sum of:

Loss on Monetary Assets - refer note (a) $35.3m
Gain on Monetary Liabilities (average creditors and prepaid revenue of $698.9m) calculated by reference to the increase in Telecom's Capital Works Index (CWI) of 4.0% for the year ended 30 June, 1986

$28.0m
$7.3m

The CCAl method requires an adjustment to monetary working capital items only, but to simplify the presentation the CCAl computation was performed in the same manner as for SAP1 method.

(d) Finance Charges under RRR Reporting are equal to the reported interest expense less the purchasing power gains on monetary liabilities.

Interest Expense $927.5m
Less:
Gain on Monetary Liabilities (excl. Loan Capital) as per note (c) above $28.0m
Gain on average Loan Capital of $7279.9m calculated by reference to the increase in the CPI for the year ended 30 June, 1986 of 8.4%.

$611.5m $639.5m $28.0m

(e) Gearing Adjustment for CCAl calculated as:

\[
\text{Gearing Adjustment} = \frac{\text{Average Net Borrowings}^1}{\text{Average Written Down Current Cost of Net Operating Assets}^2} \times \text{Increase in Current Cost Reserve for the year}^3
\]

\[
= \frac{7,280}{16,270} \times $763m = $341.4m
\]

1. Net Borrowings: the aggregate of all liabilities and provisions fixed in monetary terms other than those included in monetary working capital.

2. Average Written Down Current Cost of Net Operating Assets is the aggregate of: Loan Capital.

Net Fixed Assets (ave.) $15,692m
Inventory (ave.) $97m
Monetary Items (exc. Loan Capital) $28m
NOTES TO TABLE 7.1 (Cont'd)

3. The increase in the Current Cost Reserve for the year ending 30 June, 1986 is the sum of
   Depreciation: Current Cost ($1,228) less Historic Cost ($816) $412m
   Loss on Monetary Items (exc. Loan Capital) $7m
   Fixed Assets: Increase in Net Current Cost less Net Historic Cost $376m $763m

(f) Real Holding Gains for Real CCA calculated as:

   Holding Gains on Non-Monetary Assets:
   Depreciation Expense Adjustment $412.0m
   Fixed Assets Adjustment $344.0m
   Less Adjustment to estimated Opening Equity of $6,958m for Consumer Price Index increase of 8.4% $584.4m
   $171.6m

(g) Average Written Down Current Cost of Total Assets
   Deduct: Average Assets Under Construction $16,209m
   $17,030m

(h) The Opening Equity balance for the CCA methods was derived as follows:
   Total Assets: Estimated Current Cost, 30/6/85 $16,174m
   Deduct: Total Liabilities, 30/6/85 $9,216m
   $6,958m
Notes:

(a) **Holding losses (gains) on monetary assets** have been deducted (added) from (to) **interest revenue** as per **RRR Reporting guidelines**:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Revenue</td>
<td>$23.9m</td>
</tr>
<tr>
<td>Holding Loss on Bank Balances and Investments¹</td>
<td>$2.1m</td>
</tr>
<tr>
<td>Holding Loss (Gain) on Debtors²</td>
<td></td>
</tr>
<tr>
<td>Real Interest Revenue</td>
<td>$21.8m</td>
</tr>
</tbody>
</table>

1. **Holding loss** calculated by applying Consumer Price Index increase of 9.4% for the year to 31 March, 1987 to the average holdings of bank balance and investments of $22.8m.

2. The price index for telephone calls from the USA to Australia is considered a representative index for calculating **gains/losses on holding trade debtors**. The index average for the year was the same as the index at the start of the year indicating no material purchasing power gain or loss over the period.

(b) **Current Cost Depreciation** was estimated using the average 8.25% relationship that the historic cost depreciation bears to Fixed Assets less Land and Site Improvements for the years 1986 and 1987. The estimated **Current Cost of Fixed Assets less Land and Site Improvements at March 1987** was $760.2m giving an estimated depreciation charge of $62.7m.

(c) **Gain (Loss) on Monetary Items (excl. Loan Capital)** calculated as:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding Loss on Monetary Assets: as per note (a)</td>
<td>$(2.1)m</td>
</tr>
<tr>
<td>Holding Loss on Trade Creditors: calculated by reference to weighted average change in the price index for calls from Australia to U.S.A.</td>
<td>$(2.9)m</td>
</tr>
<tr>
<td>Holding Gain on Other Monetary Liabilities (excl. Loan Capital): calculated by reference to the change in the Consumer Price Index to March, 1987</td>
<td>$0.9m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense</td>
<td>$22.9m</td>
</tr>
<tr>
<td>Add: Holding Loss on Trade Creditors: note (c)</td>
<td>2.9m</td>
</tr>
<tr>
<td>Deduct: Holding Gains on:</td>
<td></td>
</tr>
<tr>
<td>Other Monetary Liabilities: note (c)</td>
<td>$5.9m</td>
</tr>
<tr>
<td>Loan Capital ($253.2m) multiplied by Consumer Price Index increase of 9.4%</td>
<td>$23.8m</td>
</tr>
<tr>
<td>Real Interest Expense</td>
<td>$(3.9)m</td>
</tr>
</tbody>
</table>

The **CCA1 method** requires an adjustment to monetary working capital items only, but to simplify the presentation the CCA1 computation was performed in the same manner as for **SAP1 method**.

(d) **Finance Charges under RRR Reporting** are equal to the reported interest expense less the holding gains on holdings of monetary liabilities calculated by reference to appropriate price indices.
(e) Gearing Adjustment for CCA1 method calculated as:

\[
\frac{316.4}{1070.4m} \times (75.5)m = (22.3)m
\]

1. Net Borrowings: the aggregate of all liabilities and provisions fixed in monetary terms other than those included in monetary working capital.

2. Average Written Down Current Cost of Net Operating Assets is the aggregate of fixed assets (per OTC estimates), inventory and monetary working capital as calculated in note (c).

<table>
<thead>
<tr>
<th></th>
<th>1986</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Assets (net)</td>
<td>$715.4m</td>
<td>$780.5m</td>
</tr>
<tr>
<td>Other Assets</td>
<td>$341.3m</td>
<td>$303.6m</td>
</tr>
<tr>
<td>Total Assets</td>
<td>$1056.7m</td>
<td>$1084.1m</td>
</tr>
<tr>
<td>Average Assets, 1986/87</td>
<td>$1070.4m</td>
<td></td>
</tr>
</tbody>
</table>

3. The decrease in the Current Cost Reserve for the year ending March 31, 1987, is the sum of:

- Depreciation Adjustment: $(19.2)m
- Gain on Monetary Items (excl. Loan Capital): $0.9m
- Net Decrease in the excess of the Current Cost over the Historic Cost of Fixed Assets: $75.5m

(f) Real Holding Gains (Losses) for the Real CCA method calculated as follows:

Holding Gains (Losses) on Non Monetary Assets
- Depreciation Adjustment: $19.2m
- Fixed Assets Adjustment: $(93.8)m

Less: Adjustment to Opening Equity of $557.6m for the Consumer
- Price Index increase of 9.4%: $52.4m
- Real Holding Loss: $(127.0)m

(g) Average Current Cost of Assets as per note (e): $1070.4m

Less: Average Work in Progress:
- Average Written Down Current Cost of Assets in Service: $972.3m

(h) Written Down Current Cost of Assets. March 31, 1986: $1056.7m
Total Liabilities. March 31, 1986: $499.1m
Opening Equity. March 31, 1985: $557.6m
APPENDIX 3: NOTES TO TABLE 7.3 (AUSTRALIA POST)

Notes:

(a) Holding gains on monetary assets of $14.5m has been deducted as per RRR Reporting guidelines. Computed as the average holding of monetary assets ($173.1m) multiplied by the increase in the Consumer Price Index for Australia of 8.4% for the year ended 30 June 1986; viz. $173.1m x .084 = $14.5m.

(b) Current Cost Depreciation was estimated using the same average depreciation rate on fixed assets (excluding land) in the historical cost accounts of 4.78%. The Current Cost of Fixed Assets has been determined using internal Australia Post estimates based upon comprehensive valuations in 1983 and 1984 with subsequent indexed adjustments.

(c) Loss on Monetary Items (excl. Loan Capital) calculated as the sum of the average monetary assets of $173.1m, as per note (a), less the average level of monetary liabilities, excluding loan capital of $120.7m, multiplied by the increase in the Consumer Price Index for the year ended 30 June, 1986 of 8.4%:

\[ ($173.1m - $120.7m) \times .084 = $4.4m. \]

The CCAI method requires an adjustment to monetary working capital items only, but to simplify the presentation the CCAI computation was performed in the same manner as for the SAP1 method.

(d) Real Finance Charges under the RRR Reporting guidelines are equal to the reported interest expense less the holding gains on the average level of all monetary liabilities here calculated by reference to the 8.4% increase in the Consumer Price Index for the year ended 30 June 1986; viz. $6.2m - $167.6m x .084 = -$7.4m.

(e) Gearing Adjustment for CCAI method calculated as:

\[ \frac{\text{Average Net Borrowings}^1}{\text{Average Written Down Current Cost of Net Operating Assets}^2} \times \text{Increase in Current Cost Reserve for the year}^3 \]

\[ \frac{$46.9m}{849.0m} \times $84.6m = $4.7m \]

1. Net Borrowings: the aggregate of all liabilities and provisions fixed in monetary terms other than those included in monetary working capital.

2. Average Written Down Current Cost of Net Operating Assets: the aggregate of fixed assets (per Australia Post estimates), inventory (nil) and monetary working capital as calculated in note (c).

3. The increase in the Current Cost Reserve for 1985-86 is the sum of:

\begin{align*}
\text{Depreciation Adjustment} & \quad $7.7m \\
\text{Loss on Monetary Items (excl. Loan Capital)} & \quad $4.4m \\
\text{Net Change in the Current Cost of Fixed Assets} & \quad $72.5m \\
\text{Net Change in the Current Cost of Net Operating Assets} & \quad $84.6m \\
\end{align*}
NOTES TO TABLE 7.3 (Cont'd)

(f) Real Holding Gains for Real CCA method are calculated as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding Gains on Non-Monetary Assets</td>
<td>$7.7m</td>
</tr>
<tr>
<td>Depreciation Adjustment</td>
<td>$72.5m</td>
</tr>
<tr>
<td>Fixed Assets Adjustment</td>
<td></td>
</tr>
<tr>
<td><strong>Less:</strong> Adjustment to Opening Equity</td>
<td></td>
</tr>
<tr>
<td>at June 30, 1985 of $500.1m</td>
<td>$42.0m</td>
</tr>
<tr>
<td>for increase in CPI of 8.4%</td>
<td>$38.2m</td>
</tr>
</tbody>
</table>

(g) Average Written **Down** Current Cost of Assets as per note (e)

- $969.7m
- Deduct: Average balance of Assets Under Construction etc. $27.4m
- Average Written **Down** Current Cost of Assets in Service $942.3m

(h) The Opening Equity balance at 30 June, 1985 was derived as follows:

- Total Assets on Current Cost Basis, 30/6/85 $889.7m
- Deduct: Total Liabilities, 30/6/85 389.6
- **Opening Equity** balance, 30/6/85 $500.1m
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