AN ECONOMIC APPRAISAL OF RECENT
REFORMS IN PUBLIC ENTERPRISE
PRICING POLICY JN VICTORIA

by

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"I ask only that our credo be:
'Relevance with as much rigour as possible,' and not
'Rigour regardless of relevance' ".
(Professor R. A. Gordon, Presidential address delivered
at the eighty-eighth meeting of the American Economics
Association, Dallas, Texas, December 1975).

AN ECONOMIC APPRAISAL OF RECENT REFORMS IN PUBLIC ENTERPRISE PRICING POLICY IN VICTORIA

BY PATRICK XAVIER*

Abstract

Since its election in 1982, the Cain Labour Government has initiated major reforms in pricing policy for Victoria's public enterprises. Surprisingly, in view of the significance of public enterprises in Victoria and in other States, these pricing reforms have thus far not received the close appraisal from economists they warrant. Such an appraisal is particularly required at this time since other State governments are reportedly considering whether to implement similar reforms for public enterprises operating in their States. The purpose of this ⁻ and a following paper ⁻ is to perform the task of such appraisal. The present paper assesses the reforms which impact on the <u>level</u> of public enterprise prices and the following paper focusses on the impact on the <u>structure</u> of prices.

The paper proceeds as follows. Section 1 introduces the subject of the paper. Section 2 discusses the pricing policy reforms which impact on the level of prices charged namely, the Rate of Return Requirement (RRR) of 4 percent and the Public Authority Dividend (PAD) requirement of 5 percent. Section 3 focusses in turn on assessing (i) the justification for imposition of a RRR, (ii) the rationale for an RRR of 4 per cent on total assets, (iii) whether a uniform RRR should be applied or whether the rate should vary among public enterprise, (iv) and (v) the justification and implications of the 5 percent Public Authority Dividend. Particular reference is made to the State Electricity Commission and the Gas and Fuel Corporation of Victoria.

Section 4 presents the conclusions of the paper. In essence these are that (i) in principle, the imposition of a RRR for public enterprises is justifiable on economic and financial grounds, although the RRR should not, however, be regarded as a 'principal performance criterion' (ii) an RRR of 4 per cent cannot be demonstrated to be correct or superior on uncontentious theoretical grounds (iii) the specific RRR might vary in consideration of various circumstances facing a public enterprise (iv) a doctrinaire or simplistic view that the level of PAD payments should be guided primarily by a predetermined 5 per cent is unwarranted (v) the level of dividends as a percentage of net surplus paid by the State Electricity Commission and Gas and Fuel Corporation appear excessive by comparison with private enterprise practice, and this has impeded the ability of these enterprises to achieve improved ratios of borrowing and internal funding of capital expenditure programs.

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AN ECONOMIC APPRAISAL OF RECENT REFORMS IN PUBLIC ENTERPRISE

PRICING POLICY IN VICTORIA (PART I: REFORMS AFFECTING THE LEVEL OF PRICES)

CONTENTS

AN ECONOMIC APPRAISAL OF RECENT REFORMS IN PUBLIC ENTERPRISE PRICING

POLICY IN VICTORIA (PART I: REFORMS AFFECTING THE LEVEL OF PRICES)

1. INTRODUCTION

Since its election in 1982, the Cain Labour Government has initiated major reforms in pricing policy for Victoria's public enterprises.   The broad impact which public enterprise prices have on costs borne by domestic, commercial and industrial consumers and the sheer scale of these public enterprises (also referred to as State enterprises and public or government business authorities) makes the issue of appropriate pricing policy important indeed.   The Melbourne University Institute of Economic and Social Research (IEASR) in a Report (1981) to the Victorian Parliamentary Bodies Review Committee, estimated that at the end of the 1970's the eighteen Victorian public enterprises with which this paper is concerned owned fixed assets worth abbut $10 billion at replacement cost prices, received total revenue of the order of $2 billion per year. invested in new fixed assets at an annual rate in excess of $1 billion, had a total loan liability to the public of over $6 billion and held financial assets of some $400 million.

Surprisingly, in view of their significance, the Victorian Government's pricing and financial policy reforms have thus far not received the close appraisal from economists they warrant. Such an appraisal is particularly required at this time since other State governments are reportedly considering whether to implement similar reforms for public enterprises operating in their States. The purpose of this - and a following paper - is to perform this task.   They follow a recent paper by this author (Xavier, 1986) which surveys the economic literature in an effort to distill the pricing policy principles pertinent to public enterprises. Accordingly, the present paper will be brief on the principles involved and will be concerned rather with the application of the guidelines, criteria and insights those principles suggest for an appraisal of the Victorian Government's pricing policy reforms.

The present paper aims to be relevant to those concerned with public enterprise policies.   This is another reason why it will endeavour not to be preoccupied with, but will minimize and/or simplify, discussion on underlying theoretical issues.   It will also try to present various views on issues (as this is usually of particular interest to policy advisers), often with the (liberal) use of quotations (in order to preserve accuracy and flavour), before drawing conclusions.   If this approach makes the paper less rigourous and elegant in style - then this is the price it is willing to pay for the sake of relevance.

Of course policy pricing reforms are only part of what is required for improved performance by public enterprises.   Other potential sources and incentives of improved performance need to be identified, implemented and monitored,   and this will be the subject of a forthcoming paper.

The structure of this paper is as follows.   Section 1 intrdduces the subject of the paper.   Section 2 discusses the pricing policy reforms which impact on the level of prices charged.   Section 3 focusses in turn on assessing (i)the justification for imposition of a rate of return requirement (RRR), (ii)the rationale for an RRR of 4 per cent on total assets prescribed by the Victorian Government, (iii)whether a uniform RRR should be applied or whether the rate should vary among public

enterprises, (iv) and (v) the justification and implications of the Public Authority Dividend of 5 percent. Particular reference is made to the State Electricity Commission and the Gas and Fuel Corporation of Victoria. Section 4 presents the conclusions and recommendations of the paper.

2. <u>REFORMS IMPACTING ON THE LEVEL OF PRICES</u>

It is convenient to divide discussion and appraisal of the pricing policy reforms within two classifications. Those that influence the <u>level</u> of prices charged and those that impact on the <u>structure</u> of prices. As indicated earlier, this paper will focus on the reforms which impact on the level of prices. A following paper will discuss the reforms which affect the structure of public enterprise prices.

    2(i) <u>The Required Real Rate of Return of 4 per cent</u>

The most significant aspect of the pricing reforms was contained in the Victorian Government's announcement in the State's 1982/83 Budget that 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 recently 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 GFCV (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)

Cost of Equity of 5 per cent. The cost of Government equity in public enterprises was determined as follows. Firstly, the equity that the Governemnt holds in a public enterprise was estimated to be that part of the current value of an individual public enterprise's assets which is not financed by its liabilities. It is acknowledged that the determination of the cost of this equity lacks the quantification and clarification of a market rate. Nevertheless, this cost of equity is considered to be derivable "... from the adaption of private sector principles to the public sector." These principles or characteristics of capital funding were deemed to include the following considerations:

(i)   that the cost of equity is greater than the cost of debt since equity is legally subordinate to debt;

(ii) that a premium above debt is appropriate to reflect this greater risk; and

(iii) that for public enterprises this risk premium will be at the lower end of the spectrum.

Taking these considerations into account, a risk premium of around 2 per cent was estimated to be appropriate, hence determining the real cost of equity to be 5 per cent. (This estimate of 5 per cent underlies the Public Authority Dividend the Victorian Government requires public enterprises to pay on what it considers to be its equity investment in these enterprises). To recapitulate, the cost of debt was determined to be 3 per cent and the cost of equity 5 per cent. In determining the weighted average cost of capital, a debt:equity ratio of 50:50 or 1:1 was adopted. This ratio implied a real cost of capital of 4 per cent which constitutes the target pricing guideline at which public enterprises are required to aim.

2(ii) <u>The Public Authority Dividend</u> (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 <u>although it will reduce the proportion of debt finance for future capital works</u>." (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.

This conclusion received support recently from 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 SEC 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 SEC borrowing more money.

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

3. APPRAISAL

3(i) Should a RRR be Imposed?

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 (Xavier, 1986). There certainly seem some persuasive arguments on economic and financial grounds in favour of an RRR for public enterprises. Notably a RRR might be useful:

1. 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.

2. As an aid to achieving "reasonable balance" between commercial objectives ascribed to public enterprise and the wider objectives of government policy for its sector and the economy at large.

3. As a surrogate for profits, thereby providing a 'discipline' or incentives for managerial or X-efficiency, particularly where constraints on public enterprise price increases exist (e.g. 'price increases would be less than the rate of inflation' as in Victoria).

4. As an observable, monitorable, measure useful in the appraisal and control of public enterprises. The argument here is that to the extent that there are difficulties in obtaining the information required for effective monitoring and control of efficient pricing, we will need to depend on observable measures such as an RRR.

For such reasons, there has been considerable emphasis placed, and, indeed, it appears, undue expecations, upon the RRR to encourage efficiency in public enterprises. For instance, the IAESR in a report (1981) to the Public Bodies Review Committee concluded:

"It is our view that pricing policy should be primarily based on a target rate of return on total assets employed, valued at replacement cost prices, after allowing for depreciation at replacement cost but before interest. That is, major business authorities (i.e. State enterprises) should be required to earn a given rate of return on the current value of total assets, after allowing for their maintenance in real terms, and independently of the way in which those assets are financed. This is the essential requirement to ensure efficient use of resources in the public sector." (p 104) (Emphasis added)

The Office of Management and Budget Task Force set up by the Victorian Government soon after its election to office agreed, arguing that.

> "...There is a need for having guidelines for the performance of public bodies in general, and that the rate of return criteria are the best form of guidelines for such public bodies."
> (Department of Minerals and Energy {1982} para 3.1)

3(ii) Doubts about a Dependence on a RRR?

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

1. An RRR for public enterprises has been objected to on the basis of the "theorem of the second-best." In Aitchison's (1985) view:

> "A single rate of return target for public utilities is only correct under extremely restrictive conditions. These conditions imply a model of the world that is even simpler than that in first best. Apart from all the first best assumptions, you must also assume that all production costs are constant and equal throughout the public sector. Such an assumption is clearly unrealistic and is equivalent to assuming that marginal costs equal average costs, and that these are the same throughout the economy" (p.3 of the non-technical summary).

Aitchison's objection to a RRR on theoretical grounds can be directed to most other economic prescriptions as well. This is why there was considerable concern some twenty years ago, evidenced in the economic literature, about the potential for the theorem of the second-best to render economic policy impotent. However, for many years now, most economists have been prepared to adopt a less destructive view of the second-best theorem. In short, rather than regard the second-best theorem as destroying the theoretical basis of many economic prescriptions, pragmatic economists are prepared to proceed, albeit more cautiously - especially in regard to the effects which policy changes in one sector will have on related sectors - due to the warning sounded by the theorem. Certainly it 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 the pricing policy reforms in Victoria, including the RRR, are being applied widely, the constraint of the second-best theorem seems less binding.

The arguments of economists who, whilst heeding second-best warnings, are in favour of proceeding on the basis of first-best rules where we have inadequate information (including knowledge about conditions in other sectors) have received some theoretical support from Ng (1979). Ng has demonstrated that if informational and administrative costs are taken into account, the 'optimal feasible' policies may be called the 'third-best' which,

> "... are not much different from first-best ones, and certainly not as complicated as second-best ones."

2. An RRR by itself need not necessarily serve to stimulate managerial/cost efficiencies in State 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 State enterprise's behaviour was demonstrated in Xavier (1986) (see also Officer, 1986).

Aitchison (1985) and Albon (1985) sound a similar warning. Albon concludes that,

> "...rate of return targetting and associated financial controls do not appear to be a particularly effective way of disciplining public monopolies. Unless operators of public monopolies are welfare maximisers or regard size as very important, the imposition of a rate-of-return target has an unpredictable qualitative effect on economic efficiency." (p.63)

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. Table 1 shows the increases in public authority charges since 1980/81 compared with the rate of inflation as measured by the implicit price deflator.

TABLE I

VICTORIAN PUBLIC AUTHORITY UNIT CHARGES (a)
(year on year per cent change)

	1980-81	1981-82	1982-83	1983-84	1984-85 (Prelim)	1985-86 (Est)(b)
Nominal -						
SECV	11.8	16.9	17.7	7.9	6.1	4.4
GFCV	10.0	18.9	22.1	17.8	5.5	5.3
MMBW	8.7	6.7	11.7	8.7	4.8	6.6
PMA	5.0	19.9	16.7	7.1	8.0	n.a.
GEB	14.3	29.4	15.9	7.9	6.2	n.a.
Consumption Deflator (c)	9.5	9.5	11.3	8.0	6.5	8.0
Real						
SECV	2.1	6.0	5.8	0.0	-0.4	-3.5
GFCV	0.4	8.6	9.7	9.1	-0.9	-2.5
MMBW	-0.8	2.7	0.4	0.7	-1.6	-1.3
PMA	-4.1	9.5	4.9	-0.8	1.4	n.a.
GEB	4.4	18.2	4.2	-0.1	-0.2	n.a.

Sources: Electricity Supply Association of Australia, The Electricity Supply Industry in Australia, various. Gas and Fuel Corporation, Statistics, various. Annual Reports of the various authorities. Information provided by the authorities and estimates of DMB (Department of Management and Budget).

(a) Unit Charges for the SECV and GFCV are calculated as revenue per unit of output (GFCV charges exclude Energy Consumption Levy). This takes account of compositional changes, which themselves may result from changes in the level and structure of charges.

Increases for the MMBW (Melbourne Metropolitan Board of Works) are based on average rates paid. Increases for the PMA (Port of Melbourne Authority) and GEB (Grain Elevators Board) are based on movements in wharfage and wheat handling rates respectively.

(b) DMB estimates based on announced average increases in charges, allowing for timing effects.

(c) Increase in the implicit price deflator for private final consumption expenditure as published in ABS Catalogue No.5206.0 Quarterly Estimates of National Income and Expenditure. DMB estimate for 1985-86.

Source: 1985-86 Victorian Government Budget Paper No.2, p.181.

As Table I indicates, the average increase in public authority tariffs commonly exceeded increases in the rate of inflation before 1983 but, since then, has been noticeably lower. As the SECV pointed out (SECV, Budget and Pricing Submission 1985-86),

"The [RRR] return can be improved by either increasing revenue through price rises, or through cost containment/cost reduction productivity measures. By holding prices at or below CPI movements, the SEC is clearly committed to this latter policy" p.44)

3. An RRR in itself provides no guarantee of, and may, in fact, obstruct (allocative) economic efficiency if it requires a departure from efficient pricing structures (Xavier, 1986). 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.

4. 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 (e.g. of the Averch-Johnson type). For public enterprises subjected to a minimum RRR as in the United Kingdom, and now in Victoria, Gravelle (1976,1977) has shown that 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. For example. the United Kingdom Price Commission (1978) notes a criticism of the South Scotland Electricity Board for using too short asset lives, and for charging interest on power stations under construction to revenue rather than capitalising it as part of the cost of the asset. The prospect of such distortions led Webb (1976) 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. (See Officer [1986] for a recent review of these issues).

5. 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 (geometric) 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.(3) 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 (1983) 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)

<u>Conclusion</u>   To conclude this section, we summarize the thrust of its argument. While the arguments in favour of an RRR for public enterprises seem persuasive on economic and financial grounds, 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, non-pricing and investment policies. For this reason, it is sometimes argued (e.g. Heald [1980] Aitchison [1985]), that an RRR target should <u>reflect</u> 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. Nevertheless, this argument warns that one must be wary on the claims made in the statements quoted earlier on page 5 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(iii) <u>Is a 4 per cent RRR Appropriate</u>?

A first step in appraising the Victorian Government's use of the weighted average cost of capital approach to determine an RRR of 4 per cent for public enterprises, is to consider arguments favouring the use of other approaches to determining an RRR, namely the Social Opportunity Cost of Capital (SOCC) and the Social Time Preference Rate (STPR) approaches.

<u>The SOCC Approach</u> 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 rather than being reflected in the cost of capital, 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 is 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.(1)

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 <u>consumption now</u> 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 (Department of Management and Budget, 1984).   However, due to the difficulties in making such estimates of the STPR (such as that of ensuring that an appropriate historical period is considered and long term forecasts of their future values are incorporated into the analysis).   In view of these difficulties the 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.

Aitchison (1985), however, argues 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 occuring 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)

Conclusion Regarding the Prescribed RRR of 4 per cent   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 the prescribed RRR of 4 per cent is open to challenge even before the formidable practical problems of estimating the weighted average cost of capital are discussed.(2) Indeed, evidently the Government initially adopted the Office of Management and Budget Task Force's recommendation that the RRR be 5 per cent. (A rate of 5 per cent was incidentally the RRR the 1978 British White Paper required public enterprises to aim at on their new investment program as a whole - including the so-called "essential" but non-revenue-earning, invesment). However, the Government later reduced it to 4 per cent. What all this suggests is that an 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, the rationale behind the imposition of an RRR is sound. And 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 prescribed by the Victorian Government does meet the essential requirement of movement towards a more economically rational system. 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. But as Table II, which presents the AGSM estimates indicates, in the 1970's the average real returns was considerably less than 4 per cent.

<div align="center">

TABLE II

Inflation-Adjusted Rates of Return in the Private Sector, 1961-82

Average Returns

</div>

	Historical Cost	Inflation Adjusted
1961	7.7%	4.7%
1962	8.1	6.4
1963	8.6	5.8
1964	9.0	6.7
1965	9.1	6.4
1966	6.4	3.8
1967	6.6	3.5
1968	6.8	4.4
1969	7.1	4.8
1970	7.5	4.0
1971	7.3	2.3
1972	7.0	2.1
1973	7.5	1.2
1974	6.3	-5.1
1975	6.2	-5.5
1976	6.3	-4.7
1977	6.5	-2.2
1978	6.7	-0.6
1979	8.8	-0.1
1980	9.5	-0.6
1981	10.4	2.5
1982	10.7	1.3
Average 1961-82	7.7	1.9
Average 1973-82	7.9	-1.3

<div align="center">

Source: Ball and Davis (1984) p 43

</div>

Ball and Davis observe, however, that

(i) because of incomplete data, the information in Table 11 are 'best estimates' with an unknown degree of accuracy;

(ii) there has been considerable variation across time in realised rates of return; and

(iii) on an annual basis, there has been considerable variation in real returns across industries and across companies within industries.

As Ball and Davis conclude:

"These observations suggest caution in any use of private sector real returns on a benchmark for public authorities. While there is useful information to be contained in the comparison, it is far from being definitive." (p 41)

3(iv) <u>Should the RRR Vary Among Public Enterprises</u>?

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." (pp 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 (Officer, 1986). A broader view is
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 Streeton (1984) concerning Commonwealth
Government Public Enterprises 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 OTC, high returns from Telecom, moderate returns from Australia Post, and none for the time being from ANR." (pp 34-35)

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 III 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 III

Gross Profit as a Percentage of Average* Total Assets

	1980	1981	1982	1983	1984
Industry Type					
Resource-based manufacturing	16.8	15.0	11.4	10.2	13.3
Other manufacturing	15.0	15.7	14.4	13.4	15.1
Total manufacturing	15.6	15.4	13.2	12.1	14.4
Wholesale trade	13.1	13.9	12.7	12.0	13.9
Retail trade	14.1	14.6	13.4	12.0	14.5
Services	15.1	15.0	14.6	13.0	13.5
All industrials	15.3	15.2	13.4	12.2	14.2
Mining	19.0	11.8	8.1	9.9	9.6
Total non-financial	15.8	14.7	12.5	11.8	13.3

*Average of values at beginning and end of each period

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

The recently released discussion paper on proposed policy guidelines for Commonwealth Statutory Authorities and Government Business Enterprises (Department of Finance, June 1986) also considers that a common RRR would not be appropriate. 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." (p 22)

Potential Misuse of Non-uniform RRR There is a danger, however, that when a different RRR is set for each public enterprise in recognition of such conditions, the scope for the-governmeht 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 responsiblity 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 politicial 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 which is discussed further in a following paper dealing with reforms influencing the structure of public enterprise prices).

A Suggested Approach The arguments in the above discussion suggest that explicit reasons be given where an RRR which diverges from the standard (4 per cent) 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 a specified minimum 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 RRR (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 consistent with the guidelines recently 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 informetion will strengthen the capacity of Ministers and Parliament to weigh such costs in setting and monitoring financial performance." (p. 23)

3(v) <u>Is the PAD Requirement Justifiable</u>? Trengove (1984) suggests that the PAD requirement 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 quarantee 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)

Streeton (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. Streeton 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 comparisions 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 <u>able</u> - 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 politicans 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)

What level of dividends or PAD payments is it appropriate to expect from public enterprises?

Economic theory seems of limited assistance in the case of public enterprises. It is arguable that the PAD 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 the PAD 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. However, Ergas (1986) who considered this issue in the context of the Australian Telecommunications' Industry observed:

> "It is nonetheless difficult, even in theoretical terms, to define the 'correct' level of dividend payments for a public enterprise. 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 PAD 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."

The Department of Finance (1986) paper proposes similar considerations:

"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 in to account" (p.22)

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 on the Victorian Government's PAD requirement of 5 per cent.

Is a 5% PAD requirement appropriate? As Table IV 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 may be argued to be either excessive, appropriate or too low.

TABLE IV

DIVIDENDS AS A PERCENTAGE OF AVERAGE* SHAREHOLDERS' FUNDS

Industry Type	1979/80	1980/81	1981/82	1982/83	1983/84
Resource based manufacturing	4.3	3.6	2.8	2.8	3.0
Other manufacturing	5.6	5.9	5.9	5.5	5.8
Total manufacturing	5.1	5.0	4.6	4.4	4.7
Wholesale trade	5.1	4.7	5.2	4.8	4.5
Retail trade	5.2	5.4	5.8	4.8	6.8
Services	6.7	5.9	5.4	5.5	8.3
All industrials	5.2	5.1	4.8	4.5	5.2
Mining	7.3	4.0	2.1	2.5	3.0
Total non-financial	5.6	4.9	4.3	4.1	4.8

*Average of values at beginning and end of each period

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

<u>Dividends as a Percentage of Net Profits</u> Table V provides information on dividends paid on average for the years 1979-80 to 1983-84 as a percentage of net profit.

<u>TABLE V</u>

PAYOUT RATIO (DIVIDENDS AS A PERCENTAGE OF NET PROFITS),
AVERAGE 1979-80 TO 1983-84

OTC (%)	TELECOM (%)	ALL SYDNEY STOCK EXCHANGE COMPANIES (%)	BHP (%)	TELEGLOBE CANADA (%)	KDD JAPAN (%)
75.9	50.5	39.2	32.8	12.5	11.6

Note: In the case of Telecom, interest on Commonwealth advances is treated as a percentage of operating profit plus that interest.
Source: Ergas, H (1986) <u>Telecommunications and the Australian Economy</u>, Report to the Department of Communications, A.G.P.S., p.72

Table V I 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. Note that these are much higher dividend payouts than the average of 39.2 per cent for all Sydney Stock Exchange companies during 1979/80 to 1983/84 indicated in Table V.

<u>TABLE V I</u>

DIVIDENDS AS A PERCENTAGE OF NET PROFIT

<u>Industry Type</u>	1979/80	1980/81	1981/82	1982/83	1983/84
Resource-based manufacturing	42.0	46.8	71.6	71.1	37.2
Other manufacturing	51.4	49.6	62.2	67.2	50.5
Total manufacturing	48.0	48.8	64.2	68.2	46.0
Wholesale trading	39.6	35.4	53.5	63.8	40.6
Retail trade	51.7	48.8	63.0	60.0	62.1
Services	48.8	44.4	44.4	63.2	84.4
All industrials	47.8	47.4	60.4	66.5	51.1
Mining	47.9	59.7	82.4	58.7	68.9
Total non-financial	47.8	48.9	62.0	67.1	52.7

Source: Reserve Bank of Australia (1986) <u>Bulletin Supplement; Company Finance</u>, (August) p. 6

Some Effects on the SECV and GFCV Tables VII and VIII provide information about dividend payments made by the SECV and GFCV from 1981/82 to 1984/85 and Table IX provides a summary of RRR and PAD estimates and payments (5) for 1984/85 for the five enterprises currently covered under the pricing guidelines.

TABLE VII

SUMMARY OF SECV OPERATING RESULTS

	1981/82 $M	1982/83 $M	1983/84 $M	1984/85 $M
Operating Revenue	1101.2	1288.6	1481.8	1620.8
LESS Operating Expenses	771.4	870.8	1027.8	1045.1
Finance Charges	265.4	311.9	342.5	497.8
Net Surplus before PAD	64.4	105.9	111.5	77.9
ADD Provisions		58.8(1)	4.1(2)	
LESS Extraordinary Items		45.0		
Contribution to Consolidated Fund	58.8			
PAD		82.5(1)	103.9	70.0
PAD as a % of net surplus	91.3	77.9	93.1	89.9
Profit after PAD	5.6	37.2	11.7	7.9

Notes: (1) Public Authority Dividend payment replaced the contribution to the Consolidated Fund of Victoria. From 1982/83, the payment has been made out of profits of the year, no provision being created. The $58.8M is the earlier provision brought forward from 1981/82.

(2) An amount written back to the Profit and Loss Statement in respect of Victorian Brown Coal Royalty.

Source: SECV Annual Reports

TABLE VIII

SUMMARY OF GFCV OPERATING RESULTS

	1981/82 $M	1982/83 $M	1983/84 $M	1984/85 $M
Revenue	392.8	464.1	559.4	611.7
Less				
Cost of Sales	116.7	117.1	133.5	148.9
Operating Expenses	118.7	188.0	201.5	210.2
Interest	29.4	36.4	45.5	52.6
Contribution to Consolidated Funds (includes Pipeline Licence Fee)	49.8	113.0	142.8	164.2
Other (Gain)	(2.9)	(0.7)	(0.3)	(1.4)
Net Surplus before Dividends	11.2	10.3	36.4	37.4
Less				
Shareholder Dividends	0.7	0.7	0.7	0.7
Statutory Dividend Payment (PAD)	-	-	25.0	27.6
PAD as a % of net surplus			70.6	75.7
Surplus after Dividends	10.5	9.6	10.7	9.1

Source: Gas and Fuel Corporation of Victoria, Annual Reports

TABLE I X
SUMMARY OF RATE OF RETURN AND DIVIDEND RESULTS - 1984-85
($ million)

		SECV	GFCV	MMBW	PMA	GEB
1.	Operating Profit before Finance Charges	576.0	90.9	241.7	32.7	21.0
	less					
2.	Real Interest Adjustment (a)					
	Nominal Interest Received	14.3	2.6	45.8	3.3	5.5
	Real Interest Received	(5.6)	8.7 (1.1)1.5(19.3)26.5(1.2) 2.1(2.3) 3.2			
	less					
3.	Current Cost Depreciation Adjustment					
	Current Cost Depreciation	346.0	65.1	114.2	24.8	14.5
	Historical Cost Depreciation	(168.2)	177.8 (37.9)65.8(48.4)65.8(11.8)13.0(5.5)9.0			
4.	Return on Operations before Finance Charges but after Current Cost Depreciation (1-2-3)	389.5	62.2	149.4	17.6	8.8
5.	Real Finance Charges on Operating Liabilities (a)	252.9	14.1	72.4	17.1	3.8
6.	Real Return on Equity (4-5)	136.6	48.1	77.1	0.5	5.0
7.	Current Written down Value of Assets in Service (b)	7523.0	1154.2	5552.2	539.4	225.9
8.	Real Rate of Return on Assets in Service (4 - 7)	5.2%	5.4%	2.7%	3.3%	3.9%
9.	Public Equity at 30 June 1984 (c)	3123.2	551.7	2892.3	256.3	109.9
10.	Real Rate of Return on Equity (6 - 9)	4.4%	8.7%	2.7%	0.2%	4.5%
11.	Public Authority Dividend (PAD)	70.0	27.6	56.8	6.0	5.0
12.	PAD as % of Public Equity (11 - 9)	2.2%	5.0%	2.0%	2.3%	4.5%

(a) Adjusted using the increase in the Melbourne CPI between the June quarters of 1984 and 1985 i.e. 7.1 per cent.

(b) Average for the year.

(c) See 1984-85 Budget Paper No.2, Table 5,2 for details of this estimation.

Source: 1985-86 Victorian Government Budget Paper No.2, Table 10.2 p.183.

The source of Table IX was the **1985-86** Victorian Budget Paper **No.2.**
Unfortunately, the 1986-87 Budget Paper does not continue the practice of
providing the details of RRR and Return on Equity estimates available in
Table IX.   Instead **it** simply provides information about actual receipts
obtained from public enterprises from 1983-84 to 1986-87.   Nevertheless,
the up-to-date information **it** provides is also of interest and is
presented in Table X.

TABLE X

RECEIPTS **FROM** PUBLIC ENTERPRISES
($ million)

	1983-84	1984-85	1985-86	1986-87
Public Authorities Dividend				
SECV	103.9	70.0	80.0	70.0
GFCV	25.0	27.6	31.1	32.7
MMBW	55.0	56.8	60.0	65.0
PMA	6.0	6.0	5.0	4.0
GEB	4.0	5.0	4.5	3.0
TOTAL	193.9	165.4	180.6	174.7
Public Authorities Contribution and other Revenue				
GFCV-PAC	142.8	164.2	177.9	206.4
-Share Dividend	..	..	..	6.0
State Bank **Tax** and Dividend	35.5	41.1	45.0	65.5
TOTAL REVENUE	372.2	370.7	403.5	452.6

Source: 1986-87 Victorian Budget Paper **No.2, p.**18

It appears from the figures shown in Table VII and Table X that the SECV paid PADs of $82.5 million in 1982/83, $103.9 million in 1983/84, $70 million in 1984/85, $80 million in 1985/86 and $70 million in 1986/87. According to the estimates set out in Table IX, the PAD of $70 million paid by the SECV in 1984-85 comprised only 2.2 per cent of the estimate of 'public equity.' (This payment was $56 million less than the $126 million dividend anticipated at the time of the 1984-85 Budget. The reduced dividend was considered necessary due to the impact of higher than expected interest rates and the impact of foreign exchange losses both of which significantly increased finance charges). However, when considered as a percentage of net surplus, these PAD payments comprised 77.9 per cent, 93.1 percent and 89.9 per cent respectively for years 1982/83, 1983/84 and 1984/85. These percentages are clearly much higher than the proportion of net profits private firms paid out in dividends which averaged 51 per cent in 1983/84 (see Table VI).

For the GFCV, as Tables VIII and X indicate, the PAD paid in 1983/84 was $25 million, in 1984/85 was $27.6 million in 1985/86, $31.1 million and in 1986/87, $32.7 million. The payments in 1983/84 and 1984/85 comprised 70.6 per cent and 75.7 per cent of net surplus in those years. Moreover, in addition, the GFCV was required to make an annual payment known as the Public Authority Contribution (PAC) amounting to 33 per cent of GFCV revenue in the preceeding year to the State's Consolidated Revenue(6). This payment "... captures for Victorian taxpayers as a whole, rather than gas consumers in particular, the economic rents which are available between the prices at which gas is obtained from the Bass Strait producers and those at which it is provided to consumers." (1986-87 Victorian Budget Paper, No.2, p.19). In each year from 1983/84 to 1986/87 these payments amounted to $142.8 million, $164.2 million, $177.9 million and $206.4 million respectively.

Reported Profit, the RRR and the Predetermined PAD. The figures shown in Tables VII, VIII and IX do not display a significant problem which could emerge due to the method of estimating the RRR and PAD payments. In principle, it might be true that where a public enterprise achieves a 4 per cent RRR in any given year, sufficient funds should be available to meet the predetermined PAD requirement of 5 per cent. However, the RRR figure which is based on notional values of returns to a replacement cost value of total assets, is not directly comparable to a public enterprise's actual net reported profit - which may be substantially less than the estimated RRR. This could mean that the 5 per cent PAD requirement in fact exceeds the public enterprise's reported profit.

Table XI presents some figures for the SECV which illustrates this concern.

<u>Table XI</u>

COMPARISON OF REPORTED PROFIT AND THE CONCEPTUAL CAPITAL RETURN
1984/85 AND 1985/86

	1984/85		1985/86	
	Actual	Conceptual	Actual	Conceptual
	$M	$M	$M	$M
Revenue	1606	1606	1738	1738
Less Operating Costs				
Depreciation (historic)	(159)		(185)	
Depreciation (replacement)		(368)(a)		(420)(a)
Finance Charges	(483)	(152)(b)	(580)	(175)(b)
Other	(889)	(889)	(927)	(927)
Actual Profit/Capital Return	75	197	45(d)	216
Available to meet PAD	75	197(c)	45	216(c)
Net Assets in Service 30 June	$7569M		$8767M	
RROR	4.6%		4.5%	

NOTES:

a   Includes $5M amortisation of capital contributions.
b   Effectively 2% of net assets at replacement cost, i.e.
        1984/85, 2% of $7596M = $152M
        1985/86, 2% of $8767M = $175M
c   Maximum PAD notionally estimated at 2 percent of the value of net
     assets, would be around $152M in 1984/85 and $175M in 1985/86.
d   Rounding error present

Source: State Electricity Commission of Victoria, (1985) <u>Budget and
         Pricing Submission 1985-86, Part 1. Budget Submission</u> (June) p.44

Although a RRR in excess of 4 per cent for both 1984/85 and 1985/86 is
projected, the SECV apparently would have insufficient actual profit
available in either year to meet the maximum PAD payment predetermined at
5 per cent of equity. The anomaly arises because of a formula compiled by
the Department of Management and Budget for the calculation of the RRR
(SECV, [1985] Budget and Pricing Submission, p.43). This formula
estimates the effective return required on the SECV's assets based on the
following assumptions:

60 per cent of the SECV's assets being financed
from borrowings at a perceived cost in real terms
of 3.3 per cent, and   2.0 per cent

40 per cent being financed by internally generated
funds at a perceived cost in real terms of 5 per cent   2.0 per cent
                                                                        _____

Target RRR   4.0 per cent
                                                                        _____

The RRR is estimated as follows:

$$\text{RRR} = \frac{\text{Capital Return}}{\text{Net Assets in Service Valued at Replacement Cost}}$$

where: Capital Return = Revenue less depreciation at
                      replacement cost and other
                      operating expenses except
                      finance charges.

         Net Assets   = Current assets plus net fixed
                         assets valued at replacement cost.

The formula, however, based on target values, apparently does not adequately reflect the current real cost of embedded debt in the SECV's financial structure, which is well in excess of the target real cost of debt of 3.3 per cent. The impact this makes may be seen from Table XI which shows that the actual level of finance charges the SECV projected for 1985/86, as a reported charge against profits, was $580 million, while the notional amount allowed under the formula was only $175 milion. The shortfall of $405 million is partially offset by the difference between the historic depreciation charge reflected in the SECV's accounts ($185 million for 1985/86) and the depreciation amount to be recovered under the pricing formula which is based on the replacement cost of assets ($420 million for 1985/86). The additional sum available to the SECV in this way is $235 million.

This still leaves a shortfall of some $170 million ($405M-$235M), that would have have to be met by the SECV in 1985/86 (e.g. by further borrowings). The SECV (1985) points out that if this shortfall were to be recognized as an additional operating expense, reflecting the actual expenditures faced by the SECV, then the Capital Return would fall to $221 million ($391M-$170M). The RRR would then be 2.5 per cent (not the 4.5 per cent estimated), which would be a more realistic assessment of the impact of the prescribed pricing formula on the SECV's financial performance.

It is important that the financial integrity of the SECV and other public enterprises be preserved. With high levels of borrowings at historically high real interest rates, the situation (potentially) facing some public enterprises should be a cause for concern. At present real interest rates on new borrowings are around 6 to 7 per cent with no sign yet of significant reductions. Whilst over a 30 year period a target real average cost of debt of 3.3 per cent may not be unrealistic, clearly there are, and will continue to be, short term digressions from this average. In these periods it might be expected that the PAD payment in any year will be flexible and determined primarily on the basis of the SECV's ability to pay - rather than be guided primarily by an arbitrary predetermined figure of 5 per cent - in order to ensure that its financial integrity is not threatened. In particular, it does seem unreasonable to expect a public (or private) enterprise to pay a dividend in excess of the actual net surplus generated by the enterprise in that particular year.

PAD payments by a public enterprise will clearly affect the level of internal funds it can devote to capital expenditure and attention is now turned to this issue.

Internal Funding as a Ratio of Capital Expenditure   While the appropriate
level of internal funding of capital expenditure for public enterprises
remains debatable (see Brain [1986] for an interesting recent paper on
this issue) most commentators would recommend a substantial contribution.
For instance, the New South Wales Auditor-General's Report for 1981,
argued:

> "Considering the ever mounting public debt, there is much to commend
> the financially prudent policy of setting the prices charged for
> public sector services at levels which, in addition to recovering full
> operating costs (which includes depreciation calculated on commercial
> bases), would provide a margin which can be applied to repay earlier
> capital borrowings or to provide funds for current and future capital
> works" (Appendix E, p. 335).

The Institute of Applied Economic and Social Research (1981) suggested a
broad guideline for the level of internal funding:

> "The government should in general require authorities to support new
> investment projects from internally generated funds to the extent
> necessary to maintain the share of equity funds in total wealth.   But
> this requirement may be temporarily eased in the case of authorities
> with particularly large capital investment programmes, while more
> stringent self-financing demands may be made of authorities in which
> the equity component is low" (p.134)

In Australia, Telecom is the only public enterprise with a legislative
obligation to achieve a specified minimum 50 per cent internal funding
level in the financing of new capital expenditure.   In fact as Table XII
indicates, Telecom achieved much higher levels of internal funding ⁻ over
70 per cent between 1981/82 to 1984/85 and 65 per cent in 1984/85.

TABLE XII

INTERNAL FUNDING AS A RATIO OF CAPITAL EXPENDITURE

Year Ended 30 June	1981 %	1982 %	1983 %	1984 %	1985 %
ENERGY					
ELCOM	24.5	6.8	26.9	33.7	36.0
ETSA	55.5	45.6	33.8	46.8	79.7
GFCV	50.9	91.8	63.3	85.8	129.0
HYDRO	15.0	10.2	15.1	15.7	12.0
QLD+	32.6	26.7	19.9	30.5	31.9
SECV	20.3	15.4	18.8	32.5	25.2
SECWA	20.8	25.8	10.3	11.4	24.2
WATER					
MMBW (Melbourne)	40.6	31.9	23.5	34.6	41.5
MWA (Perth)	7.2	9.5	37.8	47.5	49.1
MWSDB (Sydney)	n.a.	n.a.	69.9	76.1	84.4
PORTS					
PBA (Brisbane)	n.a.	65.6	52.9	62.0	65.4
PMA (Melbourne)	n.a.	31.6	0.9	84.8	126.5
MSB (Sydney)	n.a.	n.a.	91.3	283.1	302.4
OTHER STATE UTILITIES					
MWDA (NSW)	n.a.	n.a.	399.7	173.6	254.3
COMMONWEALTH UTILITIES					
ANL	324.1	232.8	228.6	39.9	190.2
OTC	165.2	284.9	80.1	156.4	161.8
QANTAS	25.3	37.4	0.0	89.2	112.8
TAA	16.8	14.6	135.8	562.8	248.0
TELECOM	73.0	74.0	77.0	71.0	65.0
Comparison with Reserve Bank Flow of Funds Estimates for Corporate Trading Enterprises - mean	68.9	39.6	36.4	77.5	n.a
Comparison with Salomon Brothers 100 US Electric Utility Study - median	38.9	42.9	49.5	52.7	*59.0

+ QEGB and 7 Area Boards
* Estimated

Source: Block, R (Ed) (1986) Australian Public Utility Quality Rankings - A Survey of Public Utility Financing Standards, Dominguez Barry Samuel Montagu Ltd, (May), p. 7; Annual Reports

Other Australian public enterprises do not have specific minimum internal funding levels imposed on them. It is interesting to observe, though, that most of Australia's energy supply enterprises, including the SECV, have not been achieving a 50 per cent level of internal funding. (The GFCV and the ETSA are the exceptions). According to the figures presented in Table XII, the level of internal funding by the SECV having been 20.3 per cent in 1980/81 decreased to 15.4 per cent in 1981/82, rose again to 18.8 per cent in 1982/83 and further to 32.5 per cent in 1983/84 but fell back to 25.2 per cent in 1984/85. The decrease in internal funding in 1984/85 is particularly noteworthy since in that year the SECV had a reduced capital expenditure program and accordingly internal funding might have been expected to have contributed an increased proportion of capital expenditure. The level of PAD payments required of the SECV is no doubt the explanation for why it did not.

The recently released Victorian Budget Paper No.2 provides figures which allow internal funding ratios to be estimated for 1985/86 and 1986/87 as shown in Table XIII.

TABLE XIII

SOURCES OF FUNDS FOR PUBLIC ENTERPRISE WORKS PROGRAMS 1985-86 AND 1986-87 ($'000)

Sources of Funds	SECV		GFCV		MMBW	
	1985-86	1986-87	1985-86	1986-87	1985-86	1986-87
Borrowings	662500	525000	33000	43000	184980	215000
Internal Funds	251700	381900	46393	51300	24678	40160
Financed by Private Developers and other	...	...	...	...	11490	22452
Total	914200	906900	79393	94300	221148	277612
Internal Funds as % of Total	27.5	42.1	58.4	54.4	11.2	14.5

(e) Estimate

Source: Compiled from figures provided in the 1986-87 Victorian Government Budget Paper No. 2.

According to the figures in Table XIII, in 1985/86 the level of internal funding for the SECV was 27.5 per cent. Evidently it is estimated that in 1986/87 the internal funding figure will increase substantially to 41.2 per cent (partly as a result of an estimated decrease in capital expenditure in real terms of about 8 per cent).

What level of internal funding might be appropriate for the SECV? The RRR formula (discussed earlier on p.28) is based on a debt:equity ratio of 60:40 suggesting that it is considered appropriate that the SECV aim for a level of internal funding of 40 per cent. According to the figures in Tables XII and XIII, although it has not done so in the past, the SECV will in 1986/87 achieve this level. A source at the SECV has indicated that its internal funding target is now 50 per cent. Prospects of the SECV achieving this level and continuing to do so in the future will depend importantly on the level of tariffs capital expenditure and dividend payments.

There is also another factor affecting public enterprise funds which should be noted. Apparently, the costs incurred by public enterprises have been rising faster than the CPI(7). However, under current government policy the average level of a public enterprise's tariffs is not permitted to increase faster than the CPI (see Table 1). Clearly, this means that unless costs can be sufficiently reduced through productivity improvements and/or capacity and quality deterioration to make up the difference, there will result a further reduction in the ability of public enterprises to increase the level of internal funding. When the constraints on borrowing which a public enterprise faces is also recognized, the implications for the medium term might seem disturbing.

A question raised by the foregoing discussion is whether it would be appropriate that high growth, capital intensive, public enterprises, such as the SECV. be permitted to plough back a greater proportion of the surplus funds rather than pay them out as dividends. It would be interesting to investigate if, as one expects, this is a common practice among high growth private enterprises.

Judging from the figures in Tables XII and XIII, the internal funding situation for the GFCV has been somewhat different. From an internal funding level of 50.9 per cent in 1980/81, the level has risen to 58.4 per cent in 1985/86 and an estimated 54.4 per cent in 1986/87. But similar concerns to those expressed above may well emerge in the medium term.

Effect on Long Term Funding   Table XIV shows the Long Term Debt ratio of utilities measured by long term debt as a ratio of long term capital (long term debt plus capital and reserves).

The comparisons with United States public utilities and with private enterprises in Australia suggest that Australian public enterprises are unduly heavily dependent on debt financing. As Block (1986) points out the low level of "stockholders' equity" in capital and reserves is "a major factor in preventing many public enterprises from developing an adequate profit base, as a result of being too heavily reliant on borrowed funds."   The situation is unlikely to change unless a far more flexible attitude is adopted towards PAD payments by public enterprises.

TABLE XIV

LONG TERM DEBT" AS A RATIO OF LONG TERM DEBT PLUS CAPITAL AND RESERVES

Year ended 30 June	1981 %	1982 %	1983 %	1984 %	1985 %
ENERGY					
ELCOM	94.2	93.2	78.7	74.7	70.9
ETSA	80.4	86.7	50.9	44.5	45.7
GFCV	80.9	79.8	78.4	77.8	77.8
QEGB	78.3	80.2	82.7	84.4	85.7
HYDRO	94.2	93.9	94.8	95.0	92.2
SECV	93.9	93.4	94.9	95.0	95.2
SECWA	92.5	93.7	97.0	97.1	97.3
WATER					
MMBW (Melbourne)	66.3	63.8	64.5	65.3	72.0
MWA (Perth)	70.0	68.9	66.7	63.4	59.6
MWSDB (Sydney)	58.0	57.1	55.6	55.2	60.5
PORTS					
PBA (Brisbane)	58.1	56.0	58.5	55.8	54.3
PMA (Melbourne)	41.3	42.5	82.1	59.2	63.2
MSB (Sydney)	62.0	61.1	61.3	60.6	60.9
OTHER STATE UTILITIES					
MWDA (NSW)	45.5	46.5	41.7	35.1	28.6
FEDERAL UTILITIES					
ANL	88.9	86.7	55.3	109.3	8.4
OTC	2.1	4.0	33.6	44.8	45.8
QANTAS	79.3	62.0	65.0	45.7	28.7
TAA	84.1	87.9	61.3	68.4	61.7
TELECOM	71.2	68.8	67.9	75.8	73.9
Comparison with Salomon Brothers 100 US Electricity Utility Study - Median	n.a.	n.a.	49.0	48.7	48.4
Comparison with Statex Australian Company Sample - Median	15.5	23.0	26.3	19.0	13.0

Source: Annual Reports; Block,R (ed) (1986). Australian Public Utility Quality Rankings - A Survey of Public Utility Financing Standards. Dominquez Barry Samuel Montagu Ltd (May) p.14

Based on the historical cost data set out in Table XIV, the SECV in 1985 had a debt:equity ratio of 95:5 and, it has been reported, a very small proportion of liquid assets to total assets (8). This has led to the charge by, for example, the merchant bank Dominguez Barry Samuel Montague, that the SECV is close to being "technically bankrupt"(9).

The Victorian Government's response to this charge is that the correct ratio is based on assets valued at replacement (not historic) cost, which indicates a 70:30 debt to equity ratio. The government considers this to be quite respectable, given current gearing ratios generally prevailing in private enterprises. In regard to liquid asset ratios, these are considered to be less important now as a measure of adequate liquidity to meet cash flow fluctuations because of the increased sophisticiation of the financial system associated with financial deregulation.

However, as we saw above, for the SECV the notional figures of current cost accounting are different from the actual financial receipts and debt servicing charges which will ultimately affect the level of prices it charges and, in the long run, its financial and overall performance.

4.CONCLUSIONS

(a) The Required Rate of Return (RRR)

(i) 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).

(ii) 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.

(iii) However, there are several questionable aspects concerning the Victorian Government's prescribed RRR. Firstly, to regard the RRR as a 'principal performance criterion' 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.

(iv) Secondly, economic principles advocate that the RRR on marginal investments reflect opportunity costs. The Victorian Government's prescribed RRR of 4 per cent, however, 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 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.

(v) 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 useful indicator of the degree of efficient and effective use of resources by a public enterprise.

(vi)   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.

(vii)   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.

(b)   The Public Authority Dividend (PAD)

(viii)   The legitimacy of the Public Authority Dividend (PAD) requirement
         for public enterprise 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 PAD requirement is quite defensible as a matter of government
         policy judgement pertaining to the distribution of public
         enterprise earnings.

(ix)   Since PAD payments required of a public enterprise will affect
         its borrowing and subsequent debt servicing requirement, they
         will (in the medium term, at least) affect the level of prices
         charged by a public enterprise ‐ contrary to the repeated claim
         by the Victorian Government that they would not.

(x)   Economic theory seems of limited assistance in identifying the
         correct level of PAD for public enterprises.   Hence a doctrinaire
         or simplistic view that the level of PAD payments should be
         guided primarily by a predetermined 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.

(xi) 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.

(c)   The Impact on Public Enterprises

(xii) The level of dividends as a percentage of net surplus paid by the SECV and GFCV appear excessive by comparison with private enterprise practice.

(xiii) The excessive level of PAD payments has impeded the ability of public enterprises to achieve ratios of borrowing and internal funding of capital expenditure comparable with those prevailing in private enterprise.

(xiv) It is important that the financial integrity of public enterprises be preserved. Accordingly, the problem faced by the SECV (and probably other public enterprises) in being required to pay a PAD which, because it is based on a notional RRR, could exceed its actual net surplus, should be recognised and addressed. It seems unreasonable to expect an enterprise to pay dividends in excess of its actual net surplus. This practice would result in a public enterprise having to incur additional borrowings in order to meet its PAD payments and this, in the longer term, could threaten its financial viability.

(xv) As is the practice in private enterprise, in most cases it would be appropriate for an individual enterprise to recommend a dividend. The responsible Minister could then accept the recommended dividend or vary it.

Endnotes

(1) See Clare, R.W. (1982) for a more comprehensive discussion of what is presumably the Treasury view on the discount rate (despite the usual disclaimer).

(2) As examples, two issues deserve brief mention. One, current and expected real rates of interest on debt (approximately 6 per cent) are significantly higher than the level used (3 per cent) to establish the RRR. Two, it might be argued that there is little risk of loss involved in the equity embedded in public enterprise so that the risk premium (of 2 per cent) included in the estimated 5 per cent return to equity payable by public enterprises, might be excessive.

(3) As Fisher (1984) explained,

> "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 is the magnitude that properly relates a stream of profits to the investments that produce it, the accounting rate of return does not. By relating <u>current</u> profits to <u>current</u> capitalization, the accounting rate of return fatally scrambles up the timing." (p.510) (emphasis in original)

(4) Officer (1986) appears to have reached a similar conclusion:

> "In conclusion, there appears to be little doubt that financial targetting in the public sector does induce allocative inefficiencies by encouraging the enterprise to adopt inappropriate input mixes. However, it is not clear how significant (or costly) this problem might be in practice, particularly for bodies like Australia Post, Telecom and similar statutory trading authorities. There may be some compensating benefits in having a discipline such as a target rate of return on the enterprise. The issues will really only be resolved when alternative means of monitoring and controlling the organization are established to allow comparison with financial targetting." (p.15)

(5) Table IX is also of considerable interest in that it provides valuable insights into the way that the real RRR and return on equity are estimated. The first feature of the table is that it indicates the relationship between results on an historical cost basis and the real rate of return against the Government's target 4 per cent real rate of return. The second feature of the table is the explicit allocation of the real return on assets into its two components - the real return to debt holders and the real return to equity. The 1985-86 Budget Paper explains:

"Two adjustments are required to the historical cost profits (before finance charges) in order to derive the real return on assets. The first involves adjusting the depreciation charge to reflect the current replacement cost of the assets in service, rather than their historical cost. This is a fairly widely understood and accepted adjustment. The second adjustment - the Real Interest Adjustment - involves the distinction between the "real" and "inflation" components of nominal interest received. This is necessary because in an inflation-adjusted sense the inflation component of interest received simply compensates for the decline in the real value of the (financial) asset, so that the true return on operations would be overstated by not adjusting for it.

A similar conceptual treatment is involved in deriving the return on equity from the return on assets. That is, an estimate of the real return to debt holders is required, which in turn involves an allocation of total interest payments into an inflation and a real component. For the purpose of this calculation for 1984-85 an inflation rate of 7.1 per cent (the increase in the CPI for Melbourne between the June quarters of 1984 and 1985) has been used throughout."
(p.180)

(6) See Richardson and Wilson (1983) and 1984-85 Victorian Budget Paper No.2 p.132 for a discussion of the rationale of these payments.

(7) For example, Grieg (1986) suggests that this is the experience of the MMBW where "... past MMBW capital investments have been associated with a rising real price trend" (p.4). Discussions with personnel of other public enterprises have indicated that this is a common experience.

(8) 'The Age', 11 September 1986, p.13

(9) 'The Age', 5 September 1986, p.21

REFERENCES

Abrahami, 3.(1984) "Public Authorities as Taxing Mechanisms" Institute of Public Affairs Review (Autumn)

Aitchison, A. (1985) How Appropriate are Rate-of-Return Financial Targets for Public Utilities? Policy Discussion Paper, Energy Authority of New South Wales.

Albon, R.P. (1985) "The Effects of Financial Targets on the Behaviour of Monopoly Public Enterprises'' Economic Record (June)

Ball, R. and Davis, J. (1984) Appropriate Financing and Investment Policies for Telecom Australia, Report prepared by the Centre for Management Research and Development for Telecom Australia and included in a submission to the Prices Surveillance Authority, (March)

Block, R.(ed) 1986 Australian Public Utility Quality Rankings - A Survey of Public Utility Financing Standards Dominguez Barry Samuel Montagu (May)

Brain, P.J. (1986) "Is There an Optimum Capital Structure for Public Enterprises?" National Economic Review (June)

Clare, R.W. (1982) "Discounting in Australian Public Sector Project Analysis" Paper presented to the 11th Conference of Economists (August) Adelaide

Commonwealth Department of Finance (1986) Proposed Policy Guidelines for Statutory Authorities and Government Business Enterprises (June)

Department of Management and Budget (1984) Investment Evaluation Guidelines (December)

Ergas, H. (1986) Telecommunications and the Australian Economy. Report to the Department of Communications, AGPS.

Fisher, F.M. and McGowan, J.J. (1983) "On the Misuse of Accounting Rates of Return to Infer Monopoly Profits" American Economic Review (March)

Fisher, F.M. (1984) "The Misuse of Accounting Rates of Return: Reply" American Economic Review, (June)

Gas and Fuel Corporation of Victoria, Annual Report (Various years)

Government of Victoria (1985) Energy Pricing 1985-86 Information Paper (July)

Gravelle, H.S.E. (1976) "Public Enterprises Under Rate of Return Financial Targets" Manchester School Vol 44

Grieg, P.J. (1986) Accounting and Economic Rates of Retrun - An Ex-Post Comparison Corporate Development Division, MMBW (August)

Heald, D.A. (1980) "The Economic and Financial Control of U.K. Nationalised Industries" Economic Journal (June)

Institute of Applied Economic and Social Research (1981) The Economic Impact of Public Bodies in Victoria, A Report to the Public Bodies Review Committee, Parliament of Victoria (Government Printer:Melbourne)

Kay, J.A. and Mayer, C.P. (1986) "On the Application of Accounting Rates of Return" Economic Journal, (March)

Mills, G. (1985) Public Sector Pricing - Actual and Desired, Paper presented to the Economic Society of Australia's 14th Conference of Economists, Sydney (May)

Ng, Y.K. (1979) Welfare Economics, Macmillan, London.

Officer, R.R., (1986) Financial Targetting for Public Enterprise: The Criterion of a Rate of Return to Capital, Graduate School of Management, University of Melbourne, Working Paper No.10 (May)

Price Commission (1978), South of Scotland Electricity Board - Price Increases in the Supply of Electricity. HC535, HMSO, London

Reserve Bank of Australia, (1986) Bulletin Supplement: Company Finance (August)

Redwood, J. and Hatch, J., (1985) Controlling Public Industries, Basil Blackwell, Oxford

Richardson, C. and Wilson, P., (1983) Pricing and Financing Guidelines for Victorian Public Authorities Including the SECV, Paper presented to the Conference on the Economics of Electric Power Systems, Sydney (July)

Senate Select Committee on Statutory Authority Financing (1983), Report on Statutory Authorities of the Commonwealth:Financing 2 volumes

State Electricity Commission of Victoria, Annual Reports (various years)

Stigler, G.J., (1971) "The Economic Theory of Regulation" Bell Journal of Economics and Management Science 2, 1 (Spring)

Streeton, H. (1984) Directing the Australian Public Sector. A Consultant's Paper Reporting to the Commonwealth Government on the Design and Direction of Commonwealth Business Enterprises.

Trengove, C. (Centre of Policy Studies) (1984) Improving the Performance of State Enterprises, EPAC Discussion Paper 84/07 (November)

U.K. White Paper (1967) The Nationalised Industries:A Review of Financial and Economic Objectives (Cmnd Paper 3437 HMSO)

U. K. White Paper (1978) Nationalised Industries (Cmnd 7131 HMSO)

Victorian Government Budget Papers, various years

Webb, M.G. (1976) Pricing Policies for Public Enterprises (London, Macmillan)

Xavier, P. (1986) Positive Economic Analysis and the Task of State Enterprise Efficiency and Control Faculty of Business Staff Papers, Swinburne Institute of Technology, Serial No. 27 (April)

Swinburne Institute of Technology

Faculty of Business

LIST OF STAFF PAPERS PUBLISHED TO DATE

No. 7 1981   'A Note on Customs Unions Theory: The Viner Controversy
R.I.P.' by D.J. Thomas.

No. 8 1981   'Disequilibrium and the Expectations-Augmented Phillips
Curve' by Max Grant.

No. 9 1981   'A View of Ideological Pressures in the Context of
Managerial Power' by Max Brown.

No. 10 1981   'Short Term Prediction of Student Numbers in the Victorian
Secondary Education System' by Miles G. Nicholls.

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Prognosis for a Case of Champagne' by Bruce Clarke.

No. 12 1984   'Corporate Planning Practice in Major American and
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No. 18 1984   'The Australian Short Run Demand for Money Function.
Further Theoretical Considerations and Empirical Evidence
Using Bayesian Techniques' by Edgar J. Wilson.

Enough has been said above to underline the fact that the prescribed RRR of 4 per cent is open to challenge even before the formidable practical problems of estimating the weighted average cost of capital are discussed.(2)   Indeed, evidently the Government initially adopted the Office of Management and Budget Task Force's recommendation that the RRR be 5 per cent. (A rate of 5 per cent was incidentally the RRR the 1978 British White Paper required public enterprises to aim at on their new investment program as a whole - including the so-called "essential" but non-revenue-earning, invesment). However, the Government later reduced it to 4 per cent.   What all this suggests is that an 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, the rationale behind the imposition of an RRR is sound. And 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 prescribed by the Victorian Government does meet the essential requirement of movement towards a more economically rational system. 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. But as Table II, which presents the AGSM estimates indicates, in the 1970's the average real returns was considerably less than 4 per cent.

TABLE II

Inflation-Adjusted Rates of Return in the Private Sector, 1961–82

Average Returns

	Historical Cost	Inflation Adjusted
1961	7.7%	4.7%
1962	8.1	6.4
1963	8.6	5.8
1964	9.0	6.7
1965	9.1	6.4
1966	6.4	3.8
1967	6.6	3.5
1968	6.8	4.4
1969	7.1	4.8
1970	7.5	4.0
1971	7.3	2.3
1972	7.0	2.1
1973	7.5	1.2
1974	6.3	-5.1
1975	6.2	-5.5
1976	6.3	-4.7
1977	6.5	-2.2
1978	6.7	-0.6
1979	8.8	-0.1
1980	9.5	-0.6
1981	10.4	2.5
1982	10.7	1.3
Average 1961–82	7.7	1.9
Average 1973–82	7.9	-1.3

Source: Ball and Davis (1984) p 43

Ball and Davis observe, however, that

(i) because of incomplete data, the information in Table 11 are 'best estimates' with an unknown degree of accuracy;

(ii) there has been considerable variation across time in realised rates of return; and

(iii) on an annual basis, there has been considerable variation in real returns across industries and across companies within industries.

As Ball and Davis conclude:

"These observations suggest caution in any use of private sector real returns on a benchmark for public authorities. While there is useful information to be contained in the comparison, it is far from being definitive." (p 41)

3(iv) 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." (pp 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 (Officer, 1986). A broader view is 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 Streeton (1984) concerning Commonwealth Government Public Enterprises 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 OTC, high returns from Telecom, moderate returns from Australia Post, and none for the time being from ANR." (pp 34-35)

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 III 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 III

Gross Profit as a Percentage of Average* Total Assets

	1980	1981	1982	1983	1984
Industry Type					
Resource-based manufacturing	16.8	15.0	11.4	10.2	13.3
Other manufacturing	15.0	15.7	14.4	13.4	15.1
Total manufacturing	15.6	15.4	13.2	12.1	14.4
Wholesale trade	13.1	13.9	12.7	12.0	13.9
Retail trade	14.1	14.6	13.4	12.0	14.5
Services	15.1	15.0	14.6	13.0	13.5
All industrials	15.3	15.2	13.4	12.2	14.2
Mining	19.0	11.8	8.1	9.9	9.6
Total non-financial	15.8	14.7	12.5	11.8	13.3

"Average of values at beginning and end of each period

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

The recently released discussion paper on proposed policy guidelines for Commonwealth Statutory Authorities and Government Business Enterprises (Department of Finance, June 1986) also considers that a common RRR would not be appropriate. 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." (p 22)

<u>Potential Misuse of Non-uniform RRR</u> There is a danger, however, that when a different RRR is set for each public enterprise in recognition of such conditions, the scope for the governmeht 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 <u>we could recommend that state enterprises not be given, in the relevant statutes, "general purpose" social objectives</u>. Instead we suggest that parliaments and governments take direct responsiblity 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 politicial 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 which is discussed further in a following paper dealing with reforms influencing the structure of public enterprise prices).

A Suggested Approach The arguments in the above discussion suggest that explicit reasons be given where an RRR which diverges from the standard (4 per cent) 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 a specified minimum 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 RRR (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 consistent with the guidelines recently 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 informetion will strengthen the capacity of Ministers and Parliament to weigh such costs in setting and monitoring financial performance." (p. 23)

3(v) <u>Is the PAD Requirement Justifiable</u>? Trengove (1984) suggests that the PAD requirement 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 quarantee 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)

Streeton (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. Streeton 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 comparisions 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 <u>able</u> - 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 politicans 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)

What level of dividends or PAD payments is it appropriate to expect from public enterprises?

Economic theory seems of limited assistance in the case of public enterprises. It is arguable that the PAD 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 the PAD 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. However, Ergas (1986) who considered this issue in the context of the Australian Telecommunications' Industry observed:

> "It is nonetheless difficult, even in theoretical terms, to define the 'correct' level of dividend payments for a public enterprise. 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 PAD 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."

The Department of Finance (1986) paper proposes similar considerations:

> "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 in to account" (p.22)

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 on the Victorian Government's PAD requirement of 5 per cent.

Is a 5% PAD requirement appropriate? As Table IV 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 may be argued to be either excessive, appropriate or too low.

TABLE IV

DIVIDENDS AS A PERCENTAGE OF AVERAGE* SHAREHOLDERS' FUNDS

Industry Type	1979/80	1980/81	1981/82	1982/83	1983/84
Resource based manufacturing	4.3	3.6	2.8	2.8	3.0
Other manufacturing	5.6	5.9	5.9	5.5	5.8
Total manufacturing	5.1	5.0	4.6	4.4	4.7
Wholesale trade	5.1	4.7	5.2	4.8	4.5
Retail trade	5.2	5.4	5.8	4.8	6.8
Services	6.7	5.9	5.4	5.5	8.3
All industrials	5.2	5.1	4.8	4.5	5.2
Mining	7.3	4.0	2.1	2.5	3.0
Total non-financial	5.6	4.9	4.3	4.1	4.8

"Average of values at beginning and end of each period

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

<u>Dividends as a Percentage of Net Profits</u> Table V provides information on dividends paid on average for the years 1979-80 to 1983-84 as a percentage of net profit.

<u>TABLE V</u>

PAYOUT RATIO (DIVIDENDS AS A PERCENTAGE OF NET PROFITS),
AVERAGE 1979-80 TO 1983-84

OTC (%)	TELECOM (%)	ALL SYDNEY STOCK EXCHANGE COMPANIES (%)	BHP (%)	TELEGLOBE CANADA (%)	KDD JAPAN (%)
75.9	50.5	39.2	32.8	12.5	11.6

Note: In the case of Telecom, interest on Commonwealth advances is treated as a percentage of operating profit plus that interest.

Source: **Ergas,** H (1986) <u>Telecommunications and the Australian Economy</u>, Report to the Department of Communications, A.G.P.S., p.72

Table VI 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. Note that these are much higher dividend payouts than the average of 39.2 per cent for all Sydney Stock Exchange companies during 1979/80 to 1983/84 indicated in Table V.

<u>TABLE VI</u>

DIVIDENDS AS A PERCENTAGE OF NET PROFIT

Industry Type	1979/80	1980/81	1981/82	1982/83	1983/84
Resource-based manufacturing	42.0	46.8	71.6	71.1	37.2
Other manufacturing	51.4	49.6	62.2	67.2	50.5
Total manufacturing	48.0	48.8	64.2	68.2	46.0
Wholesale trading	39.6	35.4	53.5	63.8	40.6
Retail trade	51.7	48.8	63.0	60.0	62.1
Services	48.8	44.4	44.4	63.2	84.4
All industrials	47.8	47.4	60.4	66.5	51.1
Mining	47.9	59.7	82.4	58.7	68.9
Total non-financial	47.8	48.9	62.0	67.1	52.7

Source: Reserve Bank of Australia (1986) <u>Bulletin Supplement; Company Finance</u>, (August) p. 6

Some Effects on the SECV and GFCV Tables VII and VIII provide information about dividend payments made by the SECV and GFCV from 1981/82 to 1984/85 and Table IX provides a summary of RRR and PAD estimates and payments (5) for 1984/85 for the five enterprises currently covered under the pricing guidelines.

TABLE VII

SUMMARY OF SECV OPERATING RESULTS

	1981/82 $M	1982/83 $M	1983/84 $M	1984/85 $M
Operating Revenue	1101.2	1288.6	1481.8	1620.8
LESS Operating Expenses	771.4	870.8	1027.8	1045.1
Finance Charges	265.4	311.9	342.5	497.8
Net Surplus before PAD	64.4	105.9	111.5	77.9
ADD Provisions		58.8(1)	4.1(2)	
LESS Extraordinary Items		45.0		
Contribution to Consolidated Fund	58.8			
PAD		82.5(1)	103.9	70.0
PAD as a % of net surplus	91.3	77.9	93.1	89.9
Profit after PAD	5.6	37.2	11.7	7.9

Notes: (1)   Public Authority Dividend payment replaced the contribution to the Consolidated Fund of Victoria. From 1982/83, the payment has been made out of profits of the year, no provision being created. The $58.8M is the earlier provision brought forward from 1981/82.

(2)   An amount written back to the Profit and Loss Statement in respect of Victorian Brown Coal Royalty.

Source: SECV Annual Reports

TABLE VIII

SUMMARY OF GFCV OPERATING RESULTS

	1981/82 $M	1982/83 $M	1983/84 $M	1984/85 $M
Revenue	392.8	464.1	559.4	611.7
Less				
Cost of Sales	116.7	117.1	133.5	148.9
Operating Expenses	118.7	188.0	201.5	210.2
Interest	29.4	36.4	45.5	52.6
Contribution to Consolidated Funds (includes Pipeline Licence Fee)	49.8	113.0	142.8	164.2
Other (Gain)	(2.9)	(0.7)	(0.3)	(1.4)
Net Surplus before Dividends	11.2	10.3	36.4	37.4
Less				
Shareholder Dividends	0.7	0.7	0.7	0.7
Statutory Dividend Payment (PAD)	-	-	25.0	27.6
PAD as a % of net surplus			70.6	75.7
Surplus after Dividends	10.5	9.6	10.7	9.1

Source: Gas and Fuel Corporation of Victoria, Annual Reports

TABLE I X
SUMMARY OF RATE OF RETURN AND DIVIDEND RESULTS - 1984-85
($ million)

	SECV	GFCV	MMBW	PMA	GEB
1. Operating Profit before Finance Charges	576.0	90.9	241.7	32.7	21.0
less					
2. Real Interest Adjustment (a)					
Nominal Interest Received	14.3	2.6	45.8	3.3	5.5
Real Interest Received	(5.6)	8.7 (1.1)1.5(19.3)26.5(1.2) 2.1(2.3) 3.2			
less					
3. Current Cost Depreciation Adjustment					
Current Cost Depreciation	346.0	65.1	114.2	24.8	14.5
Historical Cost Depreciation	(168.2)	177.8 (37.9)65.8(48.4)65.8(11.8)13.0(5.5)9.0			
4. Return on Operations before Finance Charges but after Current Cost Depreciation (1-2-3)	389.5	62.2	149.4	17.6	8.8
5. Real Finance Charges on Operating Liabilities (a)	252.9	1.1	72.4	17.1	3.8
6. Real Return on Equity (4-5)	136.6	48.1	77.1	0.5	5.0
7. Current Written down Value of Assets in Service (b)	7523.0	1154.2	5552.2	539.4	225.9
8. Real Rate of Return on Assets in Service (4 - 7)	5.2%	5.4%	2.7%	3.3%	3.9%
9. Public Equity at 30 June 1984 (c)	3123.2	551.7	2892.3	256.3	109.9
10. Real Rate of Return on Equity (6 - 9)	4.4%	8.7%	2.7%	0.2%	4.5%
11. Public Authority Dividend (PAD)	70.0	27.6	56.8	6.0	5.0
12. PAD as % of Public Equity (11 - 9)	2.2%	5.0%	2.0%	2.3%	4.5%

(a) Adjusted using the increase in the Melbourne CPI between the June quarters of 1984 and 1985 i.e. 7.1 per cent.
(b) Average for the year.
(c) See 1984-85 Budget Paper No.2, Table 5,2 for details of this estimation.

Source: 1985-86 Victorian Government Budget Paper No.2, Table 10.2 p.183.

The source of Table IX was the 1985-86 Victorian Budget Paper No.2. Unfortunately, the 1986-87 Budget Paper does not continue the practice of providing the details of RRR and Return on Equity estimates available in Table IX. Instead it simply provides information about actual receipts obtained from public enterprises from 1983-84 to 1986-87. Nevertheless, the up-to-date information it provides is also of interest and is presented in Table X.

TABLE X

RECEIPTS FROM PUBLIC ENTERPRISES
($ million)

	1983-84	1984-85	1985-86	1986-87
Public Authorities Dividend				
SECV	103.9	70.0	80.0	70.0
GFCV	25.0	27.6	31.1	32.7
MMBW	55.0	56.8	60.0	65.0
PMA	6.0	6.0	5.0	4.0
GEB	4.0	5.0	4.5	3.0
TOTAL	193.9	165.4	180.6	174.7
Public Authorities Contribution and other Revenue				
GFCV-PAC	142.8	164.2	177.9	206.4
-Share Dividend	..	..	..	6.0
State Bank Tax and Dividend	35.5	41.1	45.0	65.5
TOTAL REVENUE	372.2	370.7	403.5	452.6

Source: 1986-87 Victorian Budget Paper No.2, p.18

It appears from the figures shown in Table VII and Table X that the SECV paid PADs of $82.5 million in 1982/83, $103.9 million in 1983/84, $70 million in 1984/85, $80 million in 1985/86 and $70 million in 1986/87. According to the estimates set out in Table IX, the PAD of $70 million paid by the SECV in 1984-85 comprised only 2.2 per cent of the estimate of 'public equity.'   (This payment was $56 million less than the $126 million dividend anticipated at the time of the 1984-85 Budget.   The reduced dividend was considered necessary due to the impact of higher than expected interest rates and the impact of foreign exchange losses both of which significantly increased finance charges).   However, when considered as a percentage of net surplus, these PAD payments comprised 77.9 per cent, 93.1 percent and 89.9 per cent respectively for years 1982/83, 1983/84 and 1984/85.   These percentages are clearly much higher than the proportion of net profits private firms paid out in dividends which averaged 51 per cent in 1983/84 (see Table VI).

For the GFCV, as Tables VIII and X indicate, the PAD paid in 1983/84 was $25 million, in 1984/85 was $27.6 million in 1985/86, $31.1 million and in 1986/87, $32.7 million.   The payments in 1983/84 and 1984/85 comprised 70.6 per cent and 75.7 per cent of net surplus in those years.   Moreover, in addition, the GFCV was required to make an annual payment known as the Public Authority Contribution (PAC) amounting to 33 per cent of GFCV revenue in the preceeding year to the State's Consolidated Revenue(6). This payment "... captures for Victorian taxpayers as a whole, rather than gas consumers in particular, the economic rents which are available between the prices at which gas is obtained from the Bass Strait producers and those at which it is provided to consumers." (1986-87 Victorian Budget Paper, No. 2, p. 19).   In each year from 1983/84 to 1986/87 these payments amounted to $142.8 million, $164.2 million, $177.9 million and $206.4 million respectively.

Reported Profit, the RRR and the Predetermined PAD.   The figures shown in Tables VII, VIII and IX do not display a significant problem which could emerge due to the method of estimating the RRR and PAD payments.   In principle, it might be true that where a public enterprise achieves a 4 per cent RRR in any given year, sufficient funds should be available to meet the predetermined PAD requirement of 5 per cent.   However, the RRR figure which is based on notional values of returns to a replacement cost value of total assets, is not directly comparable to a public enterprise's actual net reported profit - which may be substantially less than the estimated RRR.   This could mean that the 5 per cent PAD requirement in fact exceeds the public enterprise's reported profit.

Table XI presents some figures for the SECV which illustrates this concern.

<u>Table XI</u>

COMPARISON OF REPORTED PROFIT AND THE CONCEPTUAL CAPITAL RETURN
1984/85 'AND 1985/86

	1984/85		1985/86	
	Actual	Conceptual	Actual	Conceptual
	$M	$M	$M	$M
Revenue	1606	1606	1738	1738
Less Operating Costs				
Depreciation (historic)	(159)		(185)	
Depreciation (replacement)		(368)(a)		(420)(a)
Finance Charges	(483)	(152)(b)	(580)	(175)(b)
Other	1889)	(889)	(927)	(927)
Actual Profit/Capital Return	75	197	45(d)	216
Available to meet PAD	75	197(c)	45	216(c)
Net Assets in Service 30 June	$7569M		$8767M	
RROR	4.6%		4.5%	

NOTES:

a   Includes $5M amortisation of capital contributions.

b   Effectively 2% of net assets at replacement cost, i.e.
         1984/85, 2% of $7596M = $152M
         1985/86, 2% of $8767M = $175M

c   Maximum PAD notionally estimated at 2 percent of the value of net
     assets, would be around $152M in 1984/85 and $175M in 1985/86.

d   Rounding error present

Source: State Electricity Commission of Victoria, (1985) <u>Budget and</u>
         <u>Pricing Submission 1985-86</u>, Part 1. <u>Budget Submission</u> (June) p.44

Although a RRR in excess of 4 per cent for both 1984/85 and 1985/86 is
projected, the SECV apparently would have insufficient actual profit
available in either year to meet the maximum PAD payment predetermined at
5 per cent of equity.   The anomaly arises because of a formula compiled by
the Department of Management and Budget for the calculation of the RRR
(SECV, [1985] Budget and Pricing Submission, p.43).   This formula
estimates the effective return required on the SECV's assets based on the
following assumptions:

60 per cent of the SECV's assets being financed from borrowings at a perceived cost in real terms of 3.3 per cent, and	2.0 per cent
40 per cent being financed by internally generated funds at a perceived cost in real terms of 5 per cent	2.0 per cent
Target RRR	4.0 per cent

The RRR is estimated as follows:

$$\text{RRR} = \frac{\text{Capital Return}}{\substack{\text{Net Assets in Service} \\ \text{Valued at Replacement Cost}}}$$

where: Capital Return = Revenue less depreciation at
replacement cost and other
operating expenses except
finance charges.

Net Assets = Current assets plus net fixed
assets valued at replacement cost.

The formula, however, based on target values, apparently does not adequately reflect the current real cost of embedded debt in the SECV's financial structure, which is well in excess of the target real cost of debt of 3.3 per cent. The impact this makes may be seen from Table XI which shows that the actual level of finance charges the SECV projected for 1985/86, as a reported charge against profits, was $580 million, while the notional amount allowed under the formula was only $175 milion. The shortfall of $405 million is partially offset by the difference between the historic depreciation charge reflected in the SECV's accounts ($185 million for 1985/86) and the depreciation amount to be recovered under the pricing formula which is based on the replacement cost of assets ($420 million for 1985/86). The additional sum available to the SECV in this way is $235 million.

This still leaves a shortfall of some $170 million ($405M-$235M), that would have have to be met by the SECV in 1985/86 (e.g. by further borrowings). The SECV (1985) points out that if this shortfall were to be recognized as an additional operating expense, reflecting the actual expenditures faced by the SECV, then the Capital Return would fall to $221 million ($391M-$170M). The RRR would then be 2.5 per cent (not the 4.5 per cent estimated), which would be a more realistic assessment of the impact of the prescribed pricing formula on the SECV's financial performance.

It is important that the financial integrity of the SECV and other public enterprises be preserved. With high levels of borrowings at historically high real interest rates, the situation (potentially) facing some public enterprises should be a cause for concern. At present real interest rates on new borrowings are around 6 to 7 per cent with no sign yet of significant reductions. Whilst over a 30 year period a target real average cost of debt of 3.3 per cent may not be unrealistic, clearly there are, and will continue to be, short term digressions from this average. In these periods it might be expected that the PAD payment in any year will be flexible and determined primarily on the basis of the SECV's ability to pay - rather than be guided primarily by an arbitrary predetermined figure of 5 per cent - in order to ensure that its financial integrity is not threatened. In particular, it does seem unreasonable to expect a public (or private) enterprise to pay a dividend in excess of the actual net surplus generated by the enterprise in that particular year.

PAD payments by a public enterprise will clearly affect the level of internal funds it can devote to capital expenditure and attention is now turned to this issue.

Internal Funding as a Ratio of Capital Expenditure While the appropriate
level of internal funding of capital expenditure for public enterprises
remains debatable (see Brain [1986] for an interesting recent paper on
this issue) most commentators would recommend a substantial contribution.
For instance, the New South Wales Auditor-General's Report for 1981,
argued:

> "Considering the ever mounting public debt, there is much to commend
> the financially prudent policy of setting the prices charged for
> public sector services at levels which, in addition to recovering full
> operating costs (which includes depreciation calculated on commercial
> bases). would provide a margin which can be applied to repay earlier
> capital borrowings or to provide funds for current and future capital
> works" (Appendix E, p. 335).

The Institute of Applied Economic and Social Research (1981) suggested a
broad guideline for the level of internal funding:

> "The government should in general require authorities to support new
> investment projects from internally generated funds to the extent
> necessary to maintain the share of equity funds in total wealth. But
> this requirement may be temporarily eased in the case of authorities
> with particularly large capital investment programmes, while more
> stringent self-financing demands may be made of authorities in which
> the equity component is low" (p.134)

In Australia, Telecom is the only public enterprise with a legislative
obligation to achieve a specified minimum 50 per cent internal funding
level in the financing of new capital expenditure. In fact as Table XII
indicates, Telecom achieved much higher levels of internal funding ‾ over
70 per cent between 1981/82 to 1984/85 and 65 per cent in 1984/85.

TABLE XII

INTERNAL FUNDING AS A RATIO OF CAPITAL EXPENDITURE

Year Ended 30 June	1981 %	1982 %	1983 %	1984 %	1985 %
ENERGY					
ELCOM	24.5	6.8	26.9	33.7	36.0
ETSA	55.5	45.6	33.8	46.8	79.7
GFCV	50.9	91.8	63.3	85.8	129.0
HYDRO	15.0	10.2	15.1	15.7	12.0
QLD+	32.6	26.7	19.9	30.5	31.9
SECV	20.3	15.4	18.8	32.5	25.2
SECWA	20.8	25.8	10.3	11.4	24.2
WATER					
MMBW (Melbourne)	40.6	31.9	23.5	34.6	41.5
MWA (Perth)	7.2	9.5	37.8	47.5	49.1
MWSDB (Sydney)	n.a.	n.a.	69.9	76.1	84.4
PORTS					
PBA (Brisbane)	n.a.	65.6	52.9	62.0	65.4
PMA (Melbourne)	n.a.	31.6	0.9	84.8	126.5
MSB (Sydney)	n.a.	n.a.	91.3	283.1	302.4
OTHER STATE UTILITIES					
MWDA (NSW)	n.a.	n.a.	399.7	173.6	254.3
COMMONWEALTH UTILITIES					
ANL	324.1	232.8	228.6	39.9	190.2
OTC	165.2	284.9	80.1	156.4	161.8
QANTAS	25.3	37.4	0.0	89.2	112.8
TAA	16.8	14.6	135.8	562.8	248.0
TELECOM	73.0	74.0	77.0	71.0	65.0
Comparison with Reserve Bank Flow of Funds Estimates for Corporate Trading Enterprises - mean	68.9	39.6	36.4	77.5	n.a
Comparison with Salomon Brothers 100 US Electric Utility Study - median	38.9	42.9	49.5	52.7	*59.0

+ QEGB and 7 Area Boards
* Estimated

Source: Block, R (Ed) (1986) Australian Public Utility Quality Rankings - A Survey of Public Utility Financing Standards, Dominguez Barry Samuel Montagu Ltd, (May), p. 7; Annual Reports

Other Australian public enterprises do not have specific minimum internal funding levels imposed on them. It is interesting to observe, though, that most of Australia's energy supply enterprises, including the SECV, have not been achieving a 50 per cent level of internal funding. (The GFCV and the ETSA are the exceptions). According to the figures presented in Table XII, the level of internal funding by the SECV having been 20.3 per cent in 1980/81 decreased to 15.4 per cent in 1981/82, rose again to 18.8 per cent in 1982/83 and further to 32.5 per cent in 1983/84 but fell back to 25.2 per cent in 1984/85. The decrease in internal funding in 1984/85 is particularly noteworthy since in that year the SECV had a reduced capital expenditure program and accordingly internal funding might have been expected to have contributed an increased proportion of capital expenditure. The level of PAD payments required of the SECV is no doubt the explanation for why it did not.

The recently released Victorian Budget Paper No.2 provides figures which allow internal funding ratios to be estimated for 1985/86 and 1986/87 as shown in Table XIII.

TABLE XIII

SOURCES OF FUNDS FOR PUBLIC ENTERPRISE WORKS PROGRAMS 1985-86 AND 1986-87
($'000)

Sources of Funds	SECV		GFCV		MMBW	
	1985-86	1986-87	1985-86	1986-87	1985-86	1986-87
Borrowings	662500	525000	33000	43000	184980	215000
Internal Funds	251700	381900	46393	51300	24678	40160
Financed by Private Developers and other	...	...	...	...	11490	22452
Total	914200	906900	79393	94300	221148	277612
Internal Funds as % of Total	27.5	42.1	58.4	54.4	11.2	14.5

(e) Estimate

Source: Compiled from figures provided in the 1986-87 Victorian Government Budget Paper No. 2.

According to the figures in Table XIII, in 1985/86 the level of internal funding for the SECV was 27.5 per cent. Evidently it is estimated that in 1986/87 the internal funding figure will increase substantially to 41.2 per cent (partly as a result of an estimated decrease in capital expenditure in real terms of about 8 per cent).

What level of internal funding might be appropriate for the SECV? The RRR formula (discussed earlier on p.28) is based on a debt:equity ratio of 60:40 suggesting that it is considered appropriate that the SECV aim for a level of internal funding of 40 per cent. According to the figures in Tables XII and XIII, although it has not done so in the past, the SECV will in 1986/87 achieve this level. A source at the SECV has indicated that its internal funding target is now 50 per cent. Prospects of the SECV achieving this level and continuing to do so in the future will depend importantly on the level of tariffs capital expenditure and dividend payments.

There is also another factor affecting public enterprise funds which should be noted. Apparently, the costs incurred by public enterprises have been rising faster than the CPI(7). However, under current government policy the average level of a public enterprise's tariffs is not permitted to increase faster than the CPI (see Table 1). Clearly, this means that unless costs can be sufficiently reduced through productivity improvements and/or capacity and quality deterioration to make up the difference, there will result a further reduction in the ability of public enterprises to increase the level of internal funding. When the constraints on borrowing which a public enterprise faces is also recognized, the implications for the medium term might seem disturbing.

A question raised by the foregoing discussion is whether it would be appropriate that high growth, capital intensive, public enterprises, such as the SECV, be permitted to plough back a greater proportion of the surplus funds rather than pay them out as dividends. It would be interesting to investigate if, as one expects, this is a common practice among high growth private enterprises.

Judging from the figures in Tables XII and XIII, the internal funding situation for the GFCV has been somewhat different. From an internal funding level of 50.9 per cent in 1980/81, the level has risen to 58.4 per cent in 1985/86 and an estimated 54.4 per cent in 1986/87. But similar concerns to those expressed above may well emerge in the medium term.

Effect on Long Term Funding   Table XIV shows the Long Term Debt ratio of utilities measured by long term debt as a ratio of long term capital (long term debt plus capital and reserves).

The comparisons with United States public utilities and with private enterprises in Australia suggest that Australian public enterprises are unduly heavily dependent on debt financing. As Block (1986) points out the low level of "stockholders' equity" in capital and reserves is "a major factor in preventing many public enterprises from developing an adequate profit base, as a result of being too heavily reliant on borrowed funds."   The situation is unlikely to change unless a far more flexible attitude is adopted towards PAD payments by public enterprises.

TABLE XIV

LONG TERM DEBT* AS A RATIO OF LONG TERM DEBT PLUS CAPITAL AND RESERVES

Year ended 30 June	1981 %	1982 %	1983 %	1984 %	1985 %
ENERGY					
ELCOM	94.2	93.2	78.7	74.7	70.9
ETSA	80.4	86.7	50.9	44.5	45.7
GFCV	80.9	79.8	78.4	77.8	77.8
QEGB	78.3	80.2	82.7	84.4	85.7
HYDRO	94.2	93.9	94.8	95.0	92.2
SECV	93.9	93.4	94.9	95.0	95.2
SECWA	92.5	93.7	97.0	97.1	97.3
WATER					
MMBW (Melbourne)	66.3	63.8	64.5	65.3	72.0
MWA (Perth)	70.0	68.9	66.7	63.4	59.6
MWSDB (Sydney)	58.0	57.1	55.6	55.2	60.5
PORTS					
PBA (Brisbane)	58.1	56.0	58.5	55.8	54.3
PMA (Melbourne)	41.3	42.5	82.1	59.2	63.2
MSB (Sydney)	62.0	61.1	61.3	60.6	60.9
OTHER STATE UTILITIES					
MWDA (NSW)	45.5	46.5	41.7	35.1	28.6
FEDERAL UTILITIES					
ANL	88.9	86.7	55.3	109.3	8.4
OTC	2.1	4.0	33.6	44.8	45.8
QANTAS	79.3	62.0	65.0	45.7	28.7
TAA	84.1	87.9	61.3	68.4	61.7
TELECOM	71.2	68.8	67.9	75.8	73.9
Comparison with Salomon Brothers 100 US Electricity Utility Study - Median	n.a.	n.a.	49.0	48.7	48.4
Comparison with Statex Australian Company Sample - Median	15.5	23.0	26.3	19.0	13.0

Source: Annual Reports; Block,R (ed) (1986), Australian Public Utility Quality Rankings - A Survey of Public Utility Financing Standards, Dominquez Barry Samuel Montagu Ltd (May) p.14

Based on the historical cost data set out in Table XIV, the SECV in 1985 had a **debt:equity** ratio of 95:5 and, it has been reported, a very small proportion of liquid assets to total assets (8). This has led to the charge by, for example, the merchant bank Dominguez Barry Samuel Montague, that the SECV is close to being "technically **bankrupt**"(9).

The Victorian Government's response to this charge is that the correct ratio is based on assets valued at replacement (not historic) cost, which indicates a 70:30 debt to equity ratio. The government considers this to be quite respectable, given current gearing ratios generally prevailing in private enterprises. In regard to liquid asset ratios, these are considered to be less important now as a measure of adequate liquidity to meet cash flow fluctuations because of the increased sophisticiation of the financial system associated with financial deregulation.

However, as we saw above, for the SECV the notional figures of current cost accounting are different from the actual financial receipts and debt servicing charges which will ultimately affect the level of prices it charges and, in the long run, its financial and overall performance.

4.CONCLUSIONS

(a) The Required Rate of Return (RRR)

(i) 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).

(ii) 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.

(iii) However, there are several questionable aspects concerning the Victorian Government's prescribed RRR. Firstly, to regard the RRR as a 'principal performance criterion' 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.

(iv) Secondly, economic principles advocate that the RRR on marginal investments reflect opportunity costs. The Victorian Government's prescribed RRR of 4 per cent, however, 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 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.

(v) 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 useful indicator of the degree of efficient and effective use of resources by a public enterprise.

(vi)   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.

(vii)   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.

(b)   The Public Authority Dividend (PAD)

(viii)   The legitimacy of the Public Authority Dividend (PAD) requirement for public enterprise 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 PAD requirement is quite defensible as a matter of government policy judgement pertaining to the distribution of public enterprise earnings.

(ix)   Since PAD payments required of a public enterprise will affect its borrowing and subsequent debt servicing requirement, they will (in the medium term, at least) affect the level of prices charged by a public enterprise - contrary to the repeated claim by the Victorian Government that they would not.

(x)   Economic theory seems of limited assistance in identifying the correct level of PAD for public enterprises. Hence a doctrinaire or simplistic view that the level of PAD payments should be guided primarily by a predetermined 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.

(xi) 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.

(c)   The Impact on Public Enterprises

(xii) The level of dividends as a percentage of net surplus paid by the SECV and GFCV appear excessive by comparison with private enterprise practice.

(xiii) The excessive level of PAD payments has impeded the ability of public enterprises to achieve ratios of borrowing and internal funding of capital expenditure comparable with those prevailing in private enterprise.

(xiv) It is important that the financial integrity of public enterprises be preserved. Accordingly, the problem faced by the SECV (and probably other public enterprises) in being required to pay a PAD which, because it is based on a notional RRR, could exceed its actual net surplus, should be recognised and addressed. It seems unreasonable to expect an enterprise to pay dividends in excess of its actual net surplus. This practice would result in a public enterprise having to incur additional borrowings in order to meet its PAD payments and this, in the longer term, could threaten its financial viability.

(xv) As is the practice in private enterprise, in most cases it would be appropriate for an individual enterprise to recommend a dividend. The responsible Minister could then accept the recommended dividend or vary it.

Endnotes

(1) See Clare, **R.W.** (1982) for a more comprehensive discussion of what is presumably the Treasury view on the discount rate (despite the usual disclaimer).

(2) As examples, two issues deserve brief mention. One, current and expected real rates of interest on debt (approximately 6 per cent) are significantly higher than the level used (3 per cent) to establish the RRR. Two, it might be argued that there is little risk of loss involved in the equity embedded in public enterprise so that the risk premium (of 2 per cent) included in the estimated 5 per cent return to equity payable by public enterprises, might be excessive.

(3) As Fisher (1984) explained,

> "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 is 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)

(4) Officer (1986) appears to have reached a similar conclusion:

> "In conclusion, there appears to be little doubt that financial targetting in the public sector does induce allocative inefficiencies by encouraging the enterprise to adopt inappropriate input mixes. However, it is not clear how significant (or costly) this problem might be in practice, particularly for bodies like Australia Post, Telecom and similar statutory trading authorities. There may be some compensating benefits in having a discipline such as a target rate of return on the enterprise. The issues will really only be resolved when alternative means of monitoring and controlling the organization are established to allow comparison with financial targetting." (p.15)

(5) Table IX is also of considerable interest in that it provides valuable insights into the way that the real RRR and return on equity are estimated. The first feature of the table is that it indicates the relationship between results on an historical cost basis and the real rate of return against the Government's target 4 per cent real rate of return. The second feature of the table is the explicit allocation of the real return on assets into its two components - the real return to debt holders and the real return to equity. The 1985-86 Budget Paper explains:

"Two adjustments are required to the historical cost profits (before finance charges) in order to derive the real return on assets. The first involves adjusting the depreciation charge to reflect the current replacement cost of the assets in service, rather than their historical cost. This is a fairly widely understood and accepted adjustment. The second adjustment - the Real Interest Adjustment - involves the distinction between the "real" and "inflation" components of nominal interest received. This is necessary because in an inflation-adjusted sense the inflation component of interest received simply compensates for the decline in the real value of the (financial) asset, so that the true return on operations would be overstated by not adjusting for it.

A similar conceptual treatment is involved in deriving the return on equity from the return on assets. That is, an estimate of the real return to debt holders is required, which in turn involves an allocation of total interest payments into an inflation and a real component. For the purpose of this calculation for 1984-85 an inflation rate of 7.1 per cent (the increase in the CPI for Melbourne between the June quarters of 1984 and 1985) has been used throughout." (p.180)

(6) See Richardson and Wilson (1983) and 1984-85 Victorian Budget Paper No.2 p.132 for a discussion of the rationale of these payments.

(7) For example, Grieg (1986) suggests that this is the experience of the MMBW where "... past MMBW capital investments have been associated with a rising real price trend" (p.4). Discussions with personnel of other public enterprises have indicated that this is a common experience.

(8) 'The Age', 11 September 1986, p.13

(9) 'The Age', 5 September 1986, p.21

REFERENCES

Abrahami, J. (1984) "Public Authorities as Taxing Mechanisms" Institute of Public Affairs Review (Autumn)

Aitchison, A. (1985) How Appropriate are Rate-of-Return Financial Targets for Public Utilities? Policy Discussion Paper, Energy Authority of New South Wales.

Albon, R.P. (1985) "The Effects of Financial Targets on the Behaviour of Monopoly Public Enterprises" Economic Record (June)

Ball, R. and Davis, J. (1984) Appropriate Financing and Investment Policies for Telecom Australia, Report prepared by the Centre for Management Research and Development for Telecom Australia and included in a submission to the Prices Surveillance Authority, (March)

Block, R.(ed) 1986 Australian Public Utility Quality Rankings - A Survey of Public Utility Financing Standards Dominguez Barry Samuel Montagu (May)

Brain, P.J. (1986) "Is There an Optimum Capital Structure for Public Enterprises?" National Economic Review (June)

Clare, R.W. (1982) "Discounting in Australian Public Sector Project Analysis" Paper presented to the 11th Conference of Economists (August) Adelaide

Commonwealth Department of Finance (1986) Proposed Policy Guidelines for Statutory Authorities and Government Business Enterprises (June)

Department of Management and Budget (1984) Investment Evaluation Guidelines (December)

Ergas, H. (1986) Telecommunications and the Australian Economy. Report to the Department of Communications, AGPS.

Fisher, F.M. and McGowan, J.J. (1983) "On the Misuse of Accounting Rates of Return to Infer Monopoly Profits" American Economic Review (March)

Fisher, F.M. (1984) "The Misuse of Accounting Rates of Return: Reply" American Economic Review, (June)

Gas and Fuel Corporation of Victoria, Annual Report (Various years)

Government of Victoria (1985) <u>Energy Pricing 1985-86</u> Information Paper (July)

Gravelle, H.S.E. (1976) "Public Enterprises Under Rate of Return Financial Targets" <u>Manchester School</u> Vol 44

Grieg, P.J. (1986) <u>Accounting and Economic Rates of Retrun - An Ex-Post Comparison</u> Corporate Development Division, MMBW (August)

Heald, D.A. (1980) "The Economic and Financial Control of U.K. Nationalised Industries" <u>Economic Journal</u> (June)

Institute of Applied Economic and Social Research (1981) <u>The Economic Impact of Public Bodies in Victoria</u>, A Report to the Public Bodies Review Committee, Parliament of Victoria (Government Printer:Melbourne)

Kay, J.A. and Mayer, C.P. (1986) "On the Application of Accounting Rates of Return" <u>Economic Journal</u>, (March)

Mills, G. (1985) <u>Public Sector Pricing - Actual and Desired</u>, Paper presented to the Economic Society of Australia's 14th Conference of Economists, Sydney (May)

Ng, Y.K. (1979) <u>Welfare Economics</u>, Macmillan, London.

Officer, R.R., (1986) <u>Financial Targetting for Public Enterprise: The Criterion of a Rate of Return to Capital</u>, Graduate School of Management, University of Melbourne, Working Paper No.10 (May)

Price Commission (1978), <u>South of Scotland Electricity Board - Price Increases in the Supply of Electricity</u>, HC535, HMSO, London

Reserve Bank of Australia, (1986) <u>Bulletin Supplement: Company Finance</u> (August)

Redwood, J. and Hatch, J., (1985) <u>Controlling Public Industries</u>, Basil Blackwell, Oxford

Richardson, C. and Wilson, P., (1983) <u>Pricing and Financing Guidelines for Victorian Public Authorities Including the SECV</u>, Paper presented to the Conference on the Economics of Electric Power Systems, Sydney (July)

Senate Select Committee on Statutory Authority Financing (1983), Report on Statutory Authorities of the Commonwealth:Financing 2 volumes

State Electricity Commission of Victoria, Annual Reports (various years)

Stigler, G.J., (1971) "The Economic Theory of Regulation" Bell Journal of Economics and Management Science 2, 1 (Spring)

Streeton, H. (1984) Directing the Australian Public Sector. A Consultant's Paper Reporting to the Commonwealth Government on the Design and Direction of Commonwealth Business Enterprises.

Trengove, C. (Centre of Policy Studies) (1984) Improving the Performance of State Enterprises, EPAC Discussion Paper 84/07 (November)

U.K. White Paper (1967) The Nationalised Industries:A Review of Financial and Economic Objectives (Cmnd Paper 3437 HMSO)

U. K. White Paper (1978) Nationalised Industries (Cmnd 7131 HMSO)

Victorian Government Budget Papers, various years

Webb, M.G. (1976) Pricing Policies for Public Enterprises (London. Macmillan)

Xavier, P. (1986) Positive Economic Analysis and the Task of State Enterprise Efficiency and Control Faculty of Business Staff Papers, Swinburne Institute of Technology, Serial No. 27 (April)

Swinburne Institute of Technology

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