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# Accrual Accounting in the Public Sector: its usefulness in economic decision making

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Tom Rowles  
School of Accounting and Law,  
University of Melbourne

**Abstract**

Though accrual accounting has been adopted by the public sector in many jurisdictions objections continue to be raised to its employment in that setting. This is so particularly at a conceptual or intellectual level. This paper examines a set of arguments that hold that accrual accounting is unsuited to the public sector because the character of economic decision-making differs between the private and public sectors. The idea in these arguments is that accrual accounting evolved in the private sector as a consequence of the particular characteristics of private sector economic activity and that those circumstances are not transferable. The alternative idea that accrual accounting is a malleable model adaptable to various circumstances provides the basis for the argument made here. Arguments investigated are that recognition of public assets is unnecessary because they are 'public goods', and their provision is determined as a matter of public policy, rather than a matter of economics, that in the public sector the relevant costs are marginal rather than average costs and that the relevant measurement model is NRV rather than CCA. These arguments are examined from the position that accrual accounting provides information with which to address the problem of scarcity; a matter generic to entities of all types in both sectors of the economy.

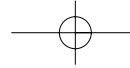
**Introduction**

Use of accrual accounting in place of cash accounting in the public sector, both in the 'inner', budget dependant, and 'outer', commercial, segments, is becoming general throughout the world. It is now the norm in New Zealand, Australia, the United Kingdom, (and other European jurisdictions), and jurisdictions at various levels in the United States. It is presently in the process of introduction in France, Singapore and Hong Kong (Awty, 2002) and the intention to adopt accrual accounting has been signalled elsewhere. The International Federation of Accountants (IFAC) has indicated a project to develop a set of 'core' international public sector accounting standards (IPSAS), based on accrual accounting, somewhat akin, and related to, International Financial Accounting Standards (IFAS) (Sutcliffe, 2001), and conversation occurs between technical staff of both IFAC and the International Accounting Standards Board (IASB). At this level, the move to accrual accounting in the public sector seems one of general acceptance, a matter of commonality of thought.

**The Purpose of this Paper**

While the transition from 'old to new' is proceeding as a practical matter, there is still considerable resistance to the idea that accrual accounting ought to be introduced into the public sector. This view has been particularly apparent in the Australian academic literature. The purpose of this paper is to examine the reasoning behind a particular set of arguments that have appeared in that literature that hold accrual accounting is unsuitable, or irrelevant, to the public sector because of a number of fundamental differences in the nature of economic decision-making between the two sectors that make accrual type information irrelevant. The particular arguments considered here are, firstly, that many public assets, particularly heritage type assets, are examples of 'public', rather than 'private' goods (Barton, 2000, 2002) and, secondly, that full cost, and hence full accrual accounting, are irrelevant to assessment of the efficiency of 'core' public sector activities and, thirdly, that the current cost measurement model (CCA) is not the current cost model appropriate to public sector decision making (Marc Robinson, 1998).

The arguments concerned are very powerful because they represent a 'first principles' attack on the relevance, or legitimacy, of the application of accrual accounting to public sector entities. If accrual accounting can be shown to be specific to the private sector because, inherently, the nature of economic reasoning in that sector is quite distinctive to that in the public sector, then it might legitimately be regarded as irrelevant and unnecessary. Such attacks are intellectually sophisticated and if left unchallenged undermine the logical basis for the adoption of accrual accounting in the public sector. The intention in this paper is to test the logical validity of these arguments in a first



principles analysis of the propositions put forward. The analysis advanced is based on the view that use of the accrual accounting in private sector, or 'commercial', accounting is a particular, but not the only, application of the method. Rather, the view here is that accrual accounting is a malleable method of generic relevance to entities of all types; whether profit-seeking or not-for-profit in either the private or public sectors, and that it is a superior method to the cash method hitherto followed in the public sector.

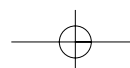
**The General Usefulness of Accrual Accounting**

The basis for the adoption of accrual accounting in the public sector is that it provides information about financial position and performance relevant to the management of public resources not provided by the earlier cash form of government accounting. Information about financial position, that is, the stock of wealth, and performance, or change in the stock of wealth, is necessary if judgments are to be made about efficiency, effectiveness and economy, or 'value for money', in the use of scarce public resources. Adoption of the accrual accounting technique to achieve these objectives is part of what is sometimes referred to as 'the new financial management' of the public sector. Whilst the use of accrual accounting information in the public sector for these purposes has potentially significant consequences in respect of resource use, its adoption is unremarkable in that it represents, with other techniques, application to the public sector of an aspect of the general economic calculus taught in business schools everywhere.

Accrual accounting is, in itself, an economic good, the social function of which is best understood in the analogy drawn by Faulhaber and Baumol (1988), in respect of economic concepts, as a conceptual tool, or technology, with a potential to increase the productivity of economic behaviour akin to the potential contained in physical tools. Potentially, accrual accounting serves this function. As with many modern technologies, accrual accounting is a tool of complexity and sophistication, and how it might be best employed in the public sector is one of the important tasks of accounting thought in the early part of the twenty-first century. In this respect, Faulhaber and Baumol's analogy may be extended. With the innovation of new, complex, physical tools, perhaps the telephone, jet airliner or the computer, at any point in time it has been difficult to understand their eventual economic role, to appreciate the economic bounty inherent in their potential and to understand the effect they will have on the economic organisation of society.

Generally, availability of accrual accounting information permits economic calculation that improves decision making and results in superior outcomes in the use of scarce resources. Existence of that capacity imposes an increased rigor on standards of accountability. Conversely, the absence of accrual accounting imposes a cost on entities that diminishes available economic opportunities. Its absence implies misinformed decision making and a consequent misdirection of resources that result in lesser outcomes. Absence of accrual accounting permits the evasion of accountability for economic consequences.

Possession of accrual accounting information, therefore, provides a comparative advantage to entities that possess and employ it, whether in the private, or the public, sectors. In the private sector, a capacity to make superior economic calculation increases returns to capital and, more broadly, contributes macroeconomic benefits in the form of better directed resources, lower costs and consequentially results in higher levels of output and employment. In the public sector, the possibilities are similar. Accrual based accounting information offers the possibility of better decision making which will lower the cost of government and free public resources for employment elsewhere, or return to taxpayers. Lowering the cost and availability of government goods and services also has the effect of improving the economic competitiveness of a society, indirectly advantaging private economic enterprises and contributes to their comparative advantage in the international market place. In this way, adoption of accrual accounting in the public sector offers the possibility of directly improving the economic welfare generally of citizens.



### An Alternative View

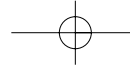
Such a view of the generic usefulness of accrual accounting to the management of public sector finance is not without criticism. This has been especially so at an intellectual level where persistent objections have been made to the relevance, on conceptual grounds, of accrual accounting to the organisation of public sector economic activity. For example, Carnegie and Wolnizer (1995, 1996, 1997, 1999 and 2002) argue at length that accrual accounting is irrelevant to the management of 'arts' type assets, Barton, (1999, 1999a, 2000, 2002) has argued, on a variety of grounds, that accrual accounting should not be applied to inner budget entities, Robinson (1998) has questioned the relevance of full accrual accounting and the use of current cost accounting in the public sector and Newberry (2001 and 2002) has rejected the relevance of applying the present conceptual framework, which she regards as 'commercial', to public sector accounting.

Generally, a starting point of such criticisms is that accrual accounting is not relevant to the economic management of the public sector because of underlying, or 'natural', differences in the character of the two sectors. In particular, the argument is that the nature of the 'basic economic problem' differs between private and public sectors. In the private sector, decision-making is concerned with the allocation of scarce resources to meet consumer demand for goods and services indicated in the market place by sales and profitability. That is, the allocation of resources in the commercial sector is determined by relative profitability, or opportunity cost. By contrast, economic activity in the public sector flows from the operation of public policy which, in a democratic society, is derived from the political process in which the electorate collectively decides on the employment of collectively contributed scarce inputs obtained by taxation in its various forms.

Since resources in the public sector are acquired and allocated according to politically, rather than market, determined preferences, it is reasoned that the need to determine financial position, and a consequent need to recognise all assets and liabilities, is irrelevant since that information has no bearing on decision making about the use of resources. In such an analysis, accrual accounting is associated with, and limited to, the mechanism of resource allocation in the 'private' or 'commercial' sector. Accrual accounting is frequently referred to as 'commercial accounting'. Such a view implies that the operation of public policy about the use of public resources occurs without consideration of the economic implications of decisions.

Outside Australia, concern about accounting for heritage assets of various types might seem a quixotic matter; that it is concerned with unimportant, marginal, cases. However, the debate is in fact significant in two respects. Firstly, within the argument lies a debate about the general extendibility of the accrual accounting model to all public sector entities and assets of all types. If entities or assets are, for whatever reason, excluded from an accrual accounting regime, determination of financial position becomes qualified and financial statements of doubtful value. The underlying question in such circumstances being, 'what is the financial significance of what has been omitted?' Where entities and assets are excluded the exercise of financial accountability is not possible. Secondly, investment by communities in heritage assets of various types is frequently significant and arguably ought to be subject to financial accountability. This would be so, for example, in European countries. In addition, by implication, decision-making about these assets has been undertaken without financial information or evaluation of the implicit opportunity cost. Hence, while the arguments considered here arise in the Australian literature, and consider Australian circumstances, the implications are general, and the debate may be of interest to those outside of Australia concerned with the application of accrual accounting in the public sector.

By contrast to the critical view, the theme followed here is that accrual accounting is generically relevant to both the private and public sector entities and that its usefulness derives from the generic nature of the problem of economic scarcity. The argument follows that information about financial position, changes in financial position and cash are relevant to the management of



opportunity cost in all types of entities, irrespective which sector they are located in, or whether or not they have a profit objective, since the problem of scarcity is independent of such considerations. A robust defense of the use of full accounting by all public sector entities, and the necessity of recognising all assets, including all types of heritage assets, has been made along these lines by Micallef and Peirson (1997), Horne (1997) and McGregor (1999).

### A Generic Model of Accrual Accounting

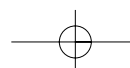
In Australia, the requirement that entities in the public sector adopt accrual accounting derives from the application of three Australian accounting standards, namely AAS 27 *Financial Reporting by Local Governments*, AAS 29 *Financial Reporting by Government Departments* and AAS 31 *Financial Reporting by Governments*. These Standards are directly relevant to the public sector and, in their totality, cover public entities of all types. They require public sector entities to prepare accrual based, general purpose financial reports (GPFRs) in the form of statements of financial position (balance sheet), and financial performance (operating, or profit and loss, statement) and cash flow statements. Amongst other things, they require recognition of all assets and liabilities meeting the relevant definitions, the measurement of capital assets, such as infrastructure and heritage assets, at written down current cost (CCA) and, where relevant, the preparation of consolidated financial statements prepared on the basis of control. In these matters, there is no distinction between the requirements of each of the three standards.

In the requirements specified, the standards closely follow the reasoning contained in the Australian Conceptual Framework for General Purpose Financial Reporting, as expressed in Statements of Accounting Concepts (SACs), about the desirable characteristic of financial reporting. The principles contained in this Framework are broadly consistent with those of other jurisdictions, a fact that makes the following observations generally extensible. (The present! Australian Framework differs from others in one interesting respect. In this Framework the definition of an asset refers to the existence of 'economic benefits', which are defined as 'service potentials', in turn service potentials are defined as 'the scarce capacity to provide benefits to entities that use them'. This conception of economic benefit is broader than cash flows and goes to the utility of an asset to meet the ends of the entity irrespective of the objective or purpose of the entity. Whether an entity is concerned with the generation of profits or cash inflows in meeting its objective is an irrelevant matter (SAC 4, paras. 14-23). In this respect, the Australian definition differs from the usual definition of an asset contained in conceptual frameworks. For example, the present definition contained in the IASB Framework refers to 'economic benefit' as 'the potential to contribute, directly or indirectly, to the flow of cash and cash equivalents' (ISAB Framework, para.53)).

Like similar frameworks employed in other jurisdictions around the world, the Australian Conceptual Framework is a deductively derived construct. It reflects an intention by standard setters to establish a logical basis so that setting accounting standards and the resolution of contentious issues can be accomplished in a consistent, and predictable way. Like other conceptual frameworks, the Australian Conceptual Framework specifies an objective of financial reporting (SAC 2), and specifies qualitative characteristics and definitions of the elements of financial statements that are consistent with the identified objective (SAC 3).

The logical propositions, of which conceptual frameworks consist, are based on a 'contingent assumption', or a 'value judgment', about the purpose of general purpose financial reporting. In

<sup>1</sup> At the time of writing it is anticipated, but not determined, that Australia will adopt the IASB Framework. In turn it is anticipated that the IASB Framework will be revised, though details of any revision are unclear. The effect of IFAC'S Public Sector Project on these matters is also unclear. Generally, while it is possible to be definitive about the present situation the effects of various impending changes are very unclear. However, it is unlikely that the essential feature of Australian public sector financial reporting, namely that items meeting the present definition of an asset must be recognised, would be altered in substance.



the case of the Australian Conceptual Framework, as with the frameworks of other jurisdictions, the assumed objective of general purpose financial statements is the provision of information useful for decision making about the use of scarce resources, that is economic decision making (SAC 2, para. 43, IASB Framework, para.12). As a general proposition, general purpose financial reporting might be conceived to serve another objective, in which case the content of financial statements would be varied accordingly. But, it is the economic objective that has been selected by standard setters, in Australia and elsewhere. As with all value judgments, this objective is beyond demonstration, its selection is a matter of choice.

Implicit in accounting standards and government regulations requiring the preparation of general-purpose financial reports on an accrual basis, is the need to restructure the ledgers of public sector entities so as to produce the necessary accrual information about financial position, performance and cash. Valid representation of these features is only possible if the total economic picture of the entity is captured. Technically, this requires the recognition of all assets and all liabilities. This permits understanding of the extent of resources controlled, the source of those resources and a financial measure of their consumption in pursuit of the objectives of the entity. Inherently, accrual ledgers contain, or can be organised to obtain, information about average cost, and marginal cost and, where relevant in the public sector, information about average revenue and marginal revenue. Financial information recognising less than all assets and liabilities (and with no indication of what has been omitted) is a prescription for systemically flawed decision making. Without this information, decision makers cannot be held accountable for the totality of their actions, and no information exists on which to base consideration of a better arrangement of resources.

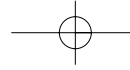
#### Acknowledging Scarcity in the Public Sector

Of its nature, scarcity implies that it is rational to minimise inputs and maximise outputs, savings thereby made being employable elsewhere to improve economic welfare. Where inputs (assets) are scarce, the possibility exists that economic welfare might be improved by adjustment in the relationship between inputs and outputs. This proposition holds true wherever assets have alternative uses and is irrespective of how inputs are owned or controlled, in particular, it is irrelevant whether an entity is in the private or the public sector. This is not generally disputed, as such. Rather, arguments against the use of accrual accounting in the public sector arise from a view that the character of public sector activity is distinctively different to activity in the private sector, and that this distinctiveness is such as to make economic calculation about the use of resources unnecessary or unhelpful. It is that choice in the use of resources in the public sector is guided by political assessment of variables, rather than of a desire to maximize outcomes from limited resources.

Carnegie and Wolnizer (1995), for example, argue that collections of 'arts' assets are held because of their artistic merit, beyond the 'vulgarity' of financial considerations. Pondering the relevance of economic calculation about such assets they ask;

'What is the commercial meaning of any such financial quantum ... in what demonstrable way or ways is such a financial quantum useful for enhancing and judging the accountability of those who manage not-for-profit public arts institutions having non-commercial objectives?' (p.44).

In response to this view, Hone (1997) argues that, artistic and cultural collections require a system of 'coherent public resource management', pointing out that effective management of assets rests on three important requirements, namely; allocation of funds between competing uses; evaluation of the performance of public managers; and monitoring of public expenditure (p.39). In respect of these matters, Hone's argument is that artistic and cultural assets can be regarded as no different to assets generally, a view supported here.



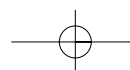
#### Public Sector Assets as Public Goods

As outlined above, the purpose of this paper is to examine arguments that use of accrual accounting in the public sector is unnecessary because of the distinctiveness of decision-making in that sector. Barton (2000 and 2002) has suggested that recognition of heritage type assets is unnecessary since they are examples of 'public goods', or 'mixed public goods', and that governments make decisions to provide these facilities because it can do so more efficiently and effectively than can private markets. (The scope of the argument might readily be extended to other public assets, for example, infrastructure assets. These assets are the more usual subject of discussion about the nature and provision of public goods). Barton notes that economists distinguish between private (commercial) and public (social) goods as the basis for justifying why some goods should be provided by government, rather than by business firms. The basis for this distinction, Barton indicates, lies in the existence, in respect of public goods, of 'externalities', which preclude the matching of the costs with the benefits of production. This precludes decision making about the use of scarce resources on economic grounds, and it follows that financial measurement and recognition in financial statements serves no purpose, and is unnecessary.

In the private sector, economic decision-making requires identification of all costs, including fixed costs, if decision-making is to maximise outcomes. The technical conditions<sup>2</sup> for the efficient employment of inputs by a private sector entity are well known, but are summarised here. Producers seeking to satisfy the wants of consumers, for example, for product A, will seek to combine necessary inputs, for example M, standing for fixed inputs such as machinery and buildings, and L, standing for variable inputs, say labour, such that for any given level of cost no higher level of output of A can be obtained. Analytically, this level of output will be determined by tangency of the relevant isocost function showing various combinations of M and L available, given some cost constraint, with the relevant isoquant, IA1. This isoquant indicates the technical substitutability of L for M necessary to produce level A1 of A. Isoquant IA1 is but one of many isoquants, IA0 – IAn. The particular characteristic of the point of tangency is that IA1 represents the highest possible level of output of A obtainable, subject to the quantity of M and L available give the cost constraint. It can be shown that, given the cost constraint, any other combination of available inputs, M and L, will result in the production of a smaller quantity of A.

In the short run, the fixed factor of production, M, cannot be readily adjusted, and adaptation to meet variations in consumer demand will be met by adjusting the use of the variable input, here L, such that the marginal cost of additional inputs of L will be covered by marginal revenues from incremental sales of A. It is marginal costs that must be covered and investment 'sunk' into fixed capital is irrelevant and correctly ignored, famously 'bygones are bygones'. But, in the longer run, the entrepreneur must have regard for his survival and continuance of his enterprise which involves judgment about the protection of his capital by recovery of investment 'sunk' into fixed plant as well as a concern for liquidity. In the long run, average revenue must cover average costs, or, as any text on price theory points out, in the long run all costs are marginal and the cost of the fixed factor is relevant. While Keynes observed that 'in the long run we are all dead', the going concern assumption is assumed in the private sector and, in the public sector, the need for government goes on into the long run. It seems reasonable to assume that, as in the private sector, the broad intention is to maintain the public estate. That is, average cost is a relevant consideration and information is required about the stock of assets and the consumption of asset service potential.

<sup>2</sup> These conditions are discussed in all undergraduate texts on price theory. The text followed here is M.J. Brennan, 'The Theory of Economic Statics', (1970), Prentice Hall International. Joe S. Bain, 'Price Theory', (1952), John Wiley and Sons Inc. gives a somewhat more applied rendition. Joan Robinson, 'The Accumulation of Capital', (1969), discusses the static concepts in a dynamic context.



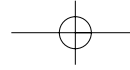
Returning now to the nature of externalities. Implicitly, in the foregoing analysis, production occurs in the private sector because the benefits of production can be directly attributable to the producer and matched against costs incurred by the producer. This is necessary so that the producer may accurately understand both the wishes of consumers, and is forced to confront the opportunity costs implicit in meeting the desires of consumers. (That is, inputs are valued at their 'scarcity' value determined by their value to other potential users.) A condition of market production is the existence of the right to own property. Property rights secure the benefits of production to the producer. So, for instance, property rights permit the building of a wall around a football ground. The wall protects the property rights of the football club, or promoter, thereby permitting collection, or 'capture', of revenue from those prepared to pay. It is in this way that the demand of those prepared to pay is met in the market place by producers.

By contrast, 'public goods', or 'collective goods', are goods that will not be produced by the market due to the existence of externalities. These exist where either costs or benefits do not fall directly on the producer. They involve a mismatch, for some reason, between the incidence of benefits derived by the producer from the sale of production to consumers, and the cost of production falling on the producer. Generally, in the case of public goods, the consumer is able to escape payment and the producer is unable to secure the benefits of production. For example, the absence of the fence around the football ground. Failure of the producer to be able to assert property rights, and collect payment for the consumption of his product, results in disinterest in production by potential producers and a consequent failure of the market mechanism, unaided, to supply the socially desirable, or necessary, level of output as determined by the willingness of consumers to pay the cost of production. The market, unaided, cannot reach an optimal solution in the allocation of inputs to meet consumer demand and is said to have 'failed'. (An alternative form of market failure occurs when production costs are avoided by the producer, due to the nature of the product or the action of the producer. Rather, production costs are born by other citizens, or the community generally. Pollution resulting from an industrial processes is an example of this particular economic phenomenon. In this case, the result is over-production because the producer, and hence the consumer, is not confronted with the full cost of production.)

The standard definition of a 'pure' public good requires the existence of three essential characteristics in the relevant market. These are, 'non rival in consumption', where consumption by one does not deny consumption by another, that additional consumption occurs at zero, or more realistically approaching zero, marginal cost and impossibility of rejection of the good or service (the 'forced rider'). The classic textbook example meeting these requirements is, famously, that of lighthouses<sup>3</sup>. Lighthouses are eminently useful, but consumption by one consumer (ship) does not exclude consumption of another, and the cost of incremental consumption may be reckoned to be nil and, once within the orbit, service is available to all. Consumption of law and order and defense services by citizens provide similar examples meeting the definition of a public good, and, up to some point, roads a further. Though the argument under discussion is about cultural and heritage assets, public goods are usually discussed in terms of law and order and defense services and infrastructure such as main roads and railways, ports and the reticulation of utilities. In the case of such assets, the benefits are widespread and it might not be possible for private producer to capture them.

Existence of the necessary conditions defining a public good is not an absolute matter, but a question of degree in each instance. Effectively, the operative condition is the ability of a private producer to capture benefits sufficient to compensate for production. As it turns out, whether the

<sup>3</sup> Foster (1999) draws our attention to the fact that, paradoxically in the context of the present discussion, lighthouses were originally provided in the United Kingdom by the Trinity House an undertaking (club) in the private sector. See also [www.Trinityhouse.co.uk](http://www.Trinityhouse.co.uk)



necessary conditions exists or not is frequently technologically determined, rather than a matter of innate market structure (for example, the shift from free-to-air to cable TV). Not least of the technical advances being the ability to organise markets in a more sophisticated manner so that private initiative is possible.

More generally, use (or misuse) of the expression 'public good' is somewhat confusing. Frequently, government involvement in the provision of a good or a service because of 'market failure' is mixed up with government involvement in the economy on the grounds of public policy in the promotion of non-economic objectives. For example, government involvement in education of the young might be rationalised as a correction of a particular deficiency in the operation of the market, and education loosely referred to as a public good. In the case of education, the failure being that, since the benefits of education go to the child and the cost is born by the parent, the tendency might be for the parent to under-consume (and no doubt, but as a matter of less consequence, in some cases over-consume) relative to informed decision by the child. Alternatively, the case for state involvement in decision-making about the consumption of education by the young may be argued as a matter of public policy on the grounds of 'equality of access', irrespective of means. Public provision of health services exhibits similar features.

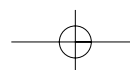
Barton's (2002) argument is that citizens have the right, inherent in the conception of a democratic state, to use national parks, public art galleries and museums as part of a trade off for the compulsory nature of taxation payments by citizens. The question under debate is whether 'heritage assets', and by extension other public assets such as infrastructure, are correctly classified as 'public goods' in pure or quasi sense. If not, the implication is that provision by the market mechanism will provide a more efficient allocation of resources, whether the resources are in private or public control. In this respect, it seems clear that such assets are not examples of public goods, in either sense. Access to museums, art galleries, and public buildings is rival and excludable and hence tollable. It is observable that, to support the objective of availability to all without charge, the state resorts to non-market rationing such as quotas and queuing<sup>4</sup>. (Or alternatively, if consumption of galleries, and so on, is genuinely 'non rival' the suggestion is of over production evidenced by disinterest, empty or under-utilised galleries.)

Many types of heritage assets do not, therefore, meet the technical definition of a 'public good'. Perhaps in the access to vast natural parks the position is somewhat ambiguous. But generally, state provision of heritage assets may be reckoned to derive from other politically determined motives, in particular, the desire to promote equality of access or protection and preservation of sites of national significance, rather than as a matter of market failure. Of course, were heritage assets, and especially arts assets, to be left to the market to provide, the set of resulting heritage assets provided might be different, both in quantity and type, than the set provided by the state, the difference being the distinction between of political preference and consumer demand. Rather than viewing heritage assets as examples of public goods, their provision by the state might, more correctly, be analysed as a matter of cross subsidy with generally levied taxation used to subsidise the tastes of a section of the community without regard to ability to pay.

#### The Public Sector and the Relevance of Full Cost

Robinson (1999) rejects relevance of accrual accounting and current cost accounting to the economic management of public entities while acknowledging the relevance of partial accrual accounting as an indicator of the 'fiscal stance' of government (p.22), and the need to understand matters such as future cash liabilities, superannuation entitlements, leases, contract commitments and bills payable (p. 35). He asserts that, underpinning the claim that full accrual accounting is

<sup>4</sup> For example, in Australia, with all of its space, it is not unusual for access to popular parks to be rationed by 'ticket' price or quota, or both.



necessary in the public sector, is the proposition that 'full cost is the cost concept relevant for decision making'(p.23). This, he asserts, is inconsistent with elementary economics, which holds that the relevant cost concepts for economic decision making are variable and avoidable costs. (Perhaps this is a point that might equally be made about decision making and the use of accrual accounting in the private sector.)

In the private sector, as noted above, it is only in the short run that decision making is concerned with those factors of production that can be adjusted, more broadly the entrepreneur is concerned with the maintenance of his/her capital stock. Average cost is relevant and accrual accounting necessary. Making this point in the most general of ways, Joan Robinson (1969), setting up the basis for her discussion of the dynamics of capital accumulation, makes the point that our attitude to the care of our industrial economic estate must be governed by what she terms 'the morality of the peasant'. Of this she observes,

'The morality of a peasant, who gathers his crops according to the rhythm of seasons .. so as to preserve productive capacity for the future, not only for his life time, or his children's lifetime, but for the future as such ... to be viable over the long run an economy must be impregnated with the peasants morality. This is preeminently true of an industrial economy whose productive capacity consists of largely in a stock of long lived assets which must be maintained by repairs and renewals and which can function only in an environment in which the rules of the game in respect to property, trade and the financial system are accepted and maintained in working order.' (pp. 33-34.)

Earlier, in the same work, she notes the responsibility, in the long run, of the entrepreneur towards his stock of industrial capital.

'The cycle of utilisation of plant is normally very much longer than the cycle of production, to have finance available to renew plant when it reaches the end of its useful life the entrepreneur must accumulate an amortisation fund out of the proceeds while it is working.' (p. 5.)

Appreciation that the 'principle of the peasant' was applicable to complicated 'industrial estates' was apparent to the insightful early in the industrial era. Garcke and Fells, in their seminal work, *'Factory Accounts'*, discussing fixed capital and depreciation, cite J. S. Mill's observations that '...Of fixed capitals, some kinds require to be occasionally or periodically renewed ... In other cases, the capital does not, unless as the consequence of some unusual accident, require renewal; but there is always some outlay needed, either regularly or at least occasionally, to keep it up.' (J. S. Mill, *'Principles ...'*, Book 1, Chapter xi, part 1, in Garcke and Fells, p. 98).

Equally, the 'public steward' must have regard for the survival and protection of the stock of the public 'estate'. Responsibility in public sector financial management is broader than distinguishing between alternatives in decisions of short run consequence, and extends to a regard for position, performance, solvency and liquidity in the long run.

As with the stock of capital in the private sector, investment in public plant, infrastructures and heritage assets might be 'sunk investments', but, as in the private sector, 'sunk' is not the same as 'worthless' or 'irrelevant'. Consideration of the full scheme of things requires judgment about financial ability to continue to provide (renew) the inherent service potential of public assets against other uses of public resources. In the long run, average costs must be covered in both sectors, and full accrual statements, in which all public assets and liabilities are recognised, are equally relevant in both sectors.

Inner budget entities are in possession of substantial stocks of public resources and the question this begs is whether the stock of public assets is appropriate to a community's needs and

preferences. This question extends to heritage assets, land and cultural assets as much as it does to infrastructure of the nature of plant. Judging the appropriateness of a particular stock of assets to circumstances is one use of a statement of financial position in the private sector. Private sector entities with overstocked, or inappropriate, balance sheets do not survive. In the public sector, a mechanism to instill such efficiency has not existed, and the supposition must be that public balance sheets can become over-stocked, or irrelevant, to a communities needs. Examples of excessive holdings of assets in the public sector abound<sup>5</sup>. Requiring recognition of all public assets in general purpose financial reports provides a basis for ensuring accountability for their efficient and effective employment. Yet the measurement and recognition of arts and cultural assets is regarded as an 'affront to artistic sensibilities' (Carnegie, 1995), irrelevant to the management of these assets, which is rightly a matter of only artistic consideration. But scarcity affects consumption of cultural assets as much as any other asset type. Better targeting of resources is an alternative to collections hidden in storage, queuing, or empty galleries, excessive charges and inequitable exclusion of regional consumers. It is also essential to consider whether the utility derived from cultural collections, and by extension all public assets, can be justified in terms of alternative possibilities in the consumption of public resources, whether the rearrangement is organised within the public sector or in the market. The need for cost benefit analysis is not independent of questions of artistic merit, but is as necessary here as anywhere else.

#### Measurement for Economic Decision Making

Developing his view that accrual accounting does not support economic decision making in the public sector, Marc Robinson (p. 23), concludes, following Mayston, (1952, p.235) that Current Cost Accounting (CCA) methodology based on replacement cost, is 'not one which relates sound economic principles to well analysed user need'. Rather, his preference is, variously, Current Purchasing Power (CPP) or Net Realisable Value (NRV) accounting, depending on the function allocated to public sector accounting (pp. 25 and 35). Here it is noted that CPP accounting is generally rejected from use in GPFR in Australia because it involves the adjustment of specific assets by a general price level index to reflect the change in purchasing power of money. The resulting 'current' asset value seldom reflects the current market value of an asset. The general objection to NRV accounting, which requires the adjustment of asset values to reflect their realizable, exit or sale, value, relates to the engineering characteristics of industrial plant. Generally, such assets are specific to a particular situation, or are designed for a unique application and, consequently, have little or no secondary value. NRVs do not reflect inherent economic value where the intention is to enjoy the asset's use value as is implied in the going concern assumption.

Robinson's observations derive from the view that full cost is only relevant ex ante when capital expenditure decisions are under consideration, for example, in the valuation of plant in the particular circumstances of contracting out decisions (p. 25). In these circumstances, the liquidation value of the plant is the relevant cost. Where such information is required it would usual for it to be determined by reference to the market, rather than the ledger at the time of the calculation. That is, such a calculation is of the nature of a 'particular purpose' calculation rather than a matter of 'general purpose' information related to the going concern assumption and the usefulness of information to general-purpose decision making. The argument made above is that full accrual accounting information relates to decision making in the long run and the measurement technique relevant to this objective is CCA.

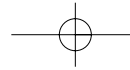
<sup>5</sup> Perhaps one example is useful to illustrate the point. In Australia in the past decade or so the Commonwealth government has divested itself of extensive military reserves of land around Sydney Harbour and at the entrance to Port Phillip Bay in Victoria. Whatever relevance these holding previously held for military purposes they have been irrelevant any to meaningful defensive purpose for decades, and military possession came to assume the nature of 'grace and favour' accommodation of a superior type. Only with the adoption of processes of accountability were steps taken to divert the land to public and private purposes that reflect a more contemporary utility.

It can be shown that CCA represents the economic cost of an asset under the standard 'going concern' assumption of financial reporting. It is for this reason that CCA is the approach to price adjusted financial reporting recommended by the Australian profession in Statement of Accounting Practice, SAP 1 Current Cost Accounting (AARF, 1984), and which provides the basis for the measurement model adopted in Australian public sector accounting standards AAS 27, AAS 29 and AAS 31 for non current assets, in particular, infrastructure and heritage assets (Rowles, 1992, AARF, 1998).

The connection between CCA and replacement cost, and all that these ideas imply in economic decision making, results from a set of propositions originally set forth by Adam Smith in *The Wealth of Nations* (1776). Writing at the start of the industrial revolution, Smith was struggling, amongst other issues, with the nature of 'value'. Famously, Smith opted for a labour theory of value but, in *The Wealth of Nations*, he also saw that value varied between value in use and value in exchange and saw that, logically, an asset would only continue to be held where its use value (or the subjective estimation of that) exceeded the exchange value. In fact, a labour theory of value is inconsistent with the notions of value in use and value in exchange, and Smith is usually accused of having (it is thought, unwittingly), two notions of value. The ideas of value in use and in exchange are akin to the modern understanding of value as a matter of subjective marginal utility, and Smith must be regarded as having just missed the mark in resolving the nature of value.

CCA, based as it is on the replacement cost of assets, is commonly referred to as 'deprival value accounting' (Henderson and Pearson 1998, p. 806) in accounting literature (and especially in Australian literature). This is, in some senses a common sense name since the replacement cost/CCA value represents the amount that would be required to restore an entity's operating capacity to 'going concern' in the event of it being 'deprived' of the utility of the service potential of its assets through mischance. The term derives from the work of Bonbright, an American writer of the 1930s who was concerned to establish the conceptual principles relevant to the settlement of insurance claims where the intention is to restore the economic position of the insured (Henderson, Peirson and Brown, 1992). In deriving these concepts, Bonbright seems to have had recourse to the economist's notion of 'opportunity cost'. The two ideas can be reduced to the one identical notion. Given that the greater value of an asset to an entity lies in its use, rather than exchange, value, access to a stream of economic benefits depends upon possession of an asset that will secure those benefits to the entity. The current replacement cost of the asset indicates the cost necessary to secure those benefits. Since the replacement cost is determined in the market place, the price that must be paid indicates the value of the asset to other users, that is its relative scarcity, and indicates, therefore, the asset's 'economic value' or 'opportunity cost'. Under the going concern assumption, replacement cost, deprival value economic value and opportunity cost operationalise to the same concept.

For this reason, CCA is the relevant concept of measurement for general purpose financial reporting under the going concern assumption, and where the assumed purpose of financial information is connected to usefulness in economic decision making. Its adoption in Australian public sector accounting standards seems appropriate on this basis. Robinson's preference for NRV measurement attaches to measuring 'fiscal sustainability'. As described by him, this would involve broadening the definition of liabilities beyond debt (the present conceptual framework definitions do this), and does not require full accrual accounting. If this scheme were followed it would be necessary to match liabilities with the capacity of assets to service debt. In the case of commercial assets, this would mean measuring their 'economic value' determined by the present value of cash flows (NPVs) and in the case of non commercial assets, their NRV or exit/sale value, a task Robinson agrees is not practical (p.35). But this is a quite different construct to that on which current Australian accounting standards are based.



## Conclusion

The great economic evolution in western economies since the Second World War has been the major extension of the state into economic life in the guise of promoting welfare, equality of outcome or the general well-being. Various forms of welfare, health care, greatly extended involvement in education, a capital intensive military, support for the arts and the preservation of the national estate involve the state massively in taxation, transfer payments and purchases from the supporting economy, and result in possession by the state of almost countless assets of all types. Rational financial management of the resulting establishment requires ongoing evaluation of what is of continuing relevance (on whatever criteria determined by public policy) and what financial provision must be made to ensure that objective. Ongoing provision implies mustering the resources to replace worn assets, including the fabric of heritage assets.

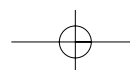
Introduction of accrual accounting into the public sector proceeds from the proposition that it is a technology with the inherent possibility of improving economic outcomes and therefore the general economic welfare by providing information for systematic decision making. Information about financial position, performance and cash flow provide building blocks that enable improved decision making about the use of scarce resources. Cash accounting, by contrast, is concerned with only one form of assets. Accrual accounting provides all the information provided by cash accounting, and more.

Gailbraith (1991, p.1), writing about the origins of economic ideas observes '... economic ideas are always and intimately a product of their own time and place; they cannot be seen apart from the world they interpret. And that world changes ... so economic ideas, if they are to retain their relevance, must also change.' So too, accounting concepts. The body of ideas, which compose accrual accounting, derived from the needs of individual entrepreneurs to manage portfolio investment in the market-industrial economy that developed in nineteenth century Britain. By contrast, not until the middle of the twentieth century did the state possess the responsibilities and consequent mass of physical capital that now drives the present search for tools and approaches to improved public sector management. Accrual accounting in the public sector is, as it is in the private sector, a child of its time.

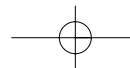
Derivation, in the private sector, of the precepts of accrual accounting relevant to the financial management of an industrial economy during the nineteenth century, lagged, substantially, the ability to develop the processes of industrial production in that century. The present 'commercial' model of accrual accounting is not visible in anything like its modern form until the turn of the twentieth century. 'Commercial' accrual accounting evolved, and continues to evolve, to meet the needs of the finance market, its form was neither given or is now fixed. Similarly, satisfactory adaptation of the accrual accounting model to the circumstances of the public sector seems likely to be an equally lengthy process. This adaptation of the model commenced sometime ago and is not a particularly new matter, its use, for example, having been discussed in concept by Simon (1957) in the 1950's. The present need is for dissemination of the model to replace the inadequacy of the cash model where this has not occurred and much considered attention to the evolution of the model to meet the circumstances of the public sector where these are different to those of the private sector.

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