
Governmental accounting for heritage assets: economic, social implications

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Purpose

Accounting, “the provision of information relating to economic transactions” (Whittington, 1983, p. 1), is intellectually dependent on “marginalist economics” (Tinker *et al.*, 1982, pp. 184, 193); that is, the neo-classical theory of value. Recently, Australia’s Public Sector Accounting Standards Board (PSASB) has introduced two Accounting Standards, AAS 27 and AAS 29, which require government departments and their agencies at federal, state and local levels to prepare (from 31 December 1996) financial reports in similar vein to corporate financial reports. This applies a theory of market determined prices, based on consumers seeking to maximize their utility and producers seeking to maximize their profits, to the measurement and analysis of the financial performance of all government entities, regardless of whether they operate in non-market settings and have non-profit objectives.

The rationale for such reporting is the provision of information

useful to users for making and evaluating decisions about the allocation of scarce resources and which assist government departments to discharge their accountability obligations (AARF, 1993, preface).

Both decision making and accountability require information which can be used to assess “the economy, efficiency and effectiveness of entity operations” (Parker, 1993, p. 162; PSACE, 1995, p. 13). That information is to be presented in general purpose financial reports, which are to include a statement of financial position (balance sheet) reflecting the financial worth of an entity in terms of prospective cash inflows, and an operating (or income) statement which permits estimation of the return on the investment. The intention is that these reports should enable a more efficient allocation of government resources (Rowles, 1992, p. 18) by providing a “primary source of ‘economic’ information to decision makers” (p. 14).

Although the implications of governmental accounting standards based on accrual accounting and the inclusion of *all* assets under an entity’s control is an area of growing research, there appears to be scant consideration of the role played by the neo-classical theory of value in government accounting. With very little analysis of its suitability, a theory of value, trenchantly criticized in relation to its use in corporate financial reporting, has been extended to provide

the theoretical underpinnings for government financial reporting, including asset valuation, income definition, and governmental financial standard setting.

This study examines critically how the theory of value has been applied to the measurement of a particular category of government assets, heritage assets, defined as “physical assets that a community intends preserving because of cultural, historical or environmental associations” (Rowles, 1992, p. 34; PSACE, 1995, p. 51). While the PSASB seeks to generate information on the stock of government assets, their service potential and consumption, valuation relies on measuring either the value-in-use or the value-in-exchange of an asset. Both concepts are inappropriately applied to the measurement of either the service value or the economic benefits of heritage assets. Consequently, the accounting approach raises questions as to whether the accounting information generated will be consistent with its economic rationale and whether the valuation process may prejudice any assessment of the performance of entities responsible for assets held primarily for their heritage value.

An outline of the accounting requirements which create most problems in applying the neo-classical theory is followed by a summary of the criticisms made by researchers of the direction taken by governmental accounting. The Australian accounting approach to valuing heritage assets is outlined and deficiencies in measuring value-in-use and value-in-exchange are elaborated. The inability of the valuation and recording processes to meet the overt economic objectives of the reporting model, and the potential economic and social consequences, are discussed.

Australian accounting requirements

Government departments and agencies control a vast array of tangible assets, defined as “service potential or future economic benefits controlled by the reporting entity as a result of past transactions or other past events”[1] (AARF, 1992a, para.12). Provided that the service potential or future economic benefits are “probable” and can be “reliably measured”[2], all tangible resources controlled by a department or agency are to be included in monetary terms as assets in their statement of financial position. Where difficulties are encountered in measurement, recognition in the statement is precluded. However, the difficulties of recognition and measurement are not perceived by the PSASB as sufficient to exclude any class of assets from the single reporting model. Consequently, government departments and agencies controlling environmental, cultural and historical assets will need to value and include them, as well as their capital assets, in their financial statements.

They will need to record the “value” of forms of social capital such as local, regional and national public parks, playing fields, gardens, and functional public buildings with conservation value. Also, other assets which do not fit readily into a definition of capital, such as monuments, works of art, historical relics and collections of artistic and cultural works are included (Rowles, 1992, p. xi). All non-freehold lands (Crown Lands), including lands preserved because of their environmental value and lands in common use, are encompassed

(PSACE, 1995). Thus, such diverse assets as ecologically sensitive wetlands, public coastal foreshore, unique landscapes and flora remnants, native forests, not-for-profit sanctuaries protecting endangered species, are all liable to valuation and inclusion in the general purpose financial reports of their controlling entities. Although not explicitly cited, as sovereign title exists over inland and marine waters, these forms of the commons could be included in the valuing and reporting exercises. Inclusion of heritage items rests on the conclusion that, for accounting purposes, they cannot be readily distinguished from other physical assets (Rowles, 1992, p. 44), and they meet the asset definition test contained in *Statement of Accounting Concepts 4* (SAC 4) (Rowles, 1992, p. 49).

The valuation, using market prices, of the assets of government entities which have defined profit objectives may be useful to both internal decision makers and external users of the accounts of such entities. Any benefits flowing from the application of the same standards to the diverse government entities responsible for the management of heritage and other community assets and the allocation of services generated by such assets, are more difficult to perceive. Whether the financial statements of such entities can convey any information consistent with their economic rationale is contestable.

Prior criticism

Although there is a large and growing literature criticizing the direction of governmental accounting standards, it proceeds from an acceptance of neo-classical theory. Criticism of the theory's use in accounting has mainly come from the corporate financial accounting area. Three areas of accounting criticism are particularly relevant to this study:

- criticism of accounting's dependence on the neo-classical theory;
- discussion on how governmental accounting should treat governmental assets; and
- an analysis of the accounting problems and possible impacts flowing from the introduction of accrual accounting to the government sector.

Dependence on neo-classical theory

Neo-classical economic theory has provided the framework for general purpose financial reports used in corporate financial accounting. Demonstrating the logical inconsistencies of the neo-classical theory raised by the Cambridge Controversies, Tinker, both alone (1980) and with Merino and Neimark (1982), concluded that the theory is either indeterminate or tautological. Tinker (1984, p. 61) also has criticized the theory's reductionist approach and its assumption of political voluntarism. Adoption of the neo-classical theory has resulted in accounting considering only market "appearances" (Cooper and Sherer, 1984, p. 214; Tinker, 1984) to the neglect of the social "essence" beneath its surface (Tinker, 1984, p. 61; 1980, p. 158). The focus on markets means that factors which shape preferences and motivate market demands, and demands not

supported by resources or not expressed in a market (Cooper and Sherer, 1984, p. 214) are neglected. The notion of rational choice assumed by economic theory also has been questioned (Cooper and Sherer, 1984, p. 215).

On these bases, accounting's reliance on the neo-classical theory has been criticized (Cooper and Sherer, 1984; Tinker *et al.*, 1982). Tinker (1980) demonstrated that political and social conditions predicate economic analysis so that accounting results are only as good as their political and social precepts. The neo-classical theory, and thereby accounting, by ignoring the institutional context in which decisions are made, bolsters particular interest groups in society (Tinker *et al.*, 1982) and ignores issues of social welfare (Cooper and Sherer, 1984). These researchers argued the need for accounting to adopt a wider, more socially oriented approach.

Cooper (1980) conjectured that accountants took for granted that existing legal and social institutions, such as markets and private property, existed and would continue to exist. Accountants would continue to use the neo-classical framework because it was only a small, additional step to assume the appropriateness of this particular social, economic and political arrangement as the basis for accounting (p. 164). Because acceptance reflects both the desirability of the *status quo* to accounting and a reluctance to consider alternative institutional forms, Cooper described accounting theories based on neo-classical economics as a form of ideology. In this view, the neo-classical framework is used as a form of mystification, obscuring questions about social issues.

Suitability for governmental accounting

The accounting literature addressing the suitability of public sector or government accounting frameworks addresses the general thrust of the reporting model and is not asset specific. As early as 1981, Mautz (1981, p. 53) argued, in relation to American governmental reporting, that both the entity and intended users of government reports were so demonstrably different from businesses in the private sector that

forcing financial accounting and reporting into the business balance sheet and income statement models will fail to meet the needs of most of the interests to be served and will also strain the reporting model so drastically that the resulting figures will be of little use to anyone (p. 60).

Eleven years later, Mayston (1992) expressed a similar view of developments in the UK. At a content level, Aiken (1994), focusing on a particular Australian Exposure Draft, *Financial Reporting by Government Departments* (the forerunner of the standard requiring government departments and agencies to prepare general purpose financial statements), attacked its business-type, accruals basis because it could distort the resource allocation process and reduce parliamentary sovereignty. Additionally, the implementation of private sector accounting in the government sector attributes autonomy to government managers, who are there to implement what is decided by the government of the

day (Aiken, 1994, p. 19); decisions that may be social and not necessarily economic. What is being imposed is a notion of government reporting accountability at odds with the traditional notion of accountability applying to Parliament, the law, the government executive and public managers. Mayston (1993) argued that justifying government sector accounting reforms on the basis of increased accountability proves difficult to sustain.

Support for the application of corporate financial accounting principles to the government sector is based on the supposition that governmental resources are not unique because they are physically similar to business assets (Glazer and Jaenicke, 1991; Rowles, 1992). However, many governmental assets, particularly heritage assets, are used in situations in which the common private sector relationship between production, sale of product or service leading to a receivable, and the receipt of cash may not exist (Glazer and Jaenicke 1991; Mautz, 1981, 1988, 1989). Many of these assets are not used as inputs, but provide an output that is given away free or at a price less than the cost of resources (Glazer and Jaenicke, 1991). Despite these physical assets looking like private sector counterparts, they do not generate net cash inflows (Mautz, 1989, p. 61). Instead, they generate costs which exceed the cash receipts derived from them – net cash outflows, the expectation from pursuing the organization's objectives.

Further, because of the additional differences of longevity, joint consumption and intergenerational equity issues, Pallot (1987) has argued for a differing treatment for these assets, particularly their separate classification as "community" assets. Because they result in benefits rather than cash flows, Pallot (1990, 1992) argued that accounting should look to non-financial measures of performance in the accounts of organizations controlling community assets (1990, p. 81).

Pallot also examined an implicit assumption in government sector accounting that public property is equivalent to private property; that governmental entities own property in the same sense that private firms or even individuals do (Pallot, 1992). She explored whether the property dimension of assets – a set of legally sanctioned rights over things and between persons with respect to things – would justify the inclusion of community assets in government financial statements. Because the property dimension is grounded in the law, ownership implies exclusion, equating legal title with ownership. Pallot (1990, pp. 82-3; 1992, p. 42) argued that ownership is wider than exclusion. Two features of community resources complicate the ownership dimension within the government sector: there are restrictions on their sale, and on pledging them as collateral for a loan (Glazer and Jaenicke, 1991); and members of the public have the right not to be excluded from their use. Because governmental entities do not own certain government resources of an infrastructural, cultural or environmental nature in the same sense that private entities do, these resources fall outside conventional accounting definitions of assets.

From a different angle, Lewis (1995, pp. 19-20) noted the transitory nature of the control element for many governmental entities. In Australia, government

departments are treated as the principal reporting entity by AAS 29, whereas they are only agencies of the executive government, an administrative arrangement of parliament which reflects the government's current perception of appropriate mechanisms. Administrative arrangements can, and do, change. Such changes have implications for the accounting concept of depreciation which is based on the notion that the entity will exist indefinitely.

Potential impacts

Lewis' (1995, pp. 19-20) comment on depreciation reflects an expanding analysis of the potential impacts some of the reporting procedures, especially accrual accounting, may have on assessments of a reporting entity's performance, and its subsequent performance. Depreciation, a device intended to allow consistent profit determination and to maintain capital, is a management decision in private business. Currie's (1987, pp. 7-10) examination of infrastructure assets revealed that they do not have the essential characteristics needed for a meaningful calculation of depreciation. Because infrastructure assets usually have very long lives, and are unlikely to be replaced at any one foreseeable time, he argued that traditional accounting for infrastructure assets was inappropriate, an argument which can be extended to various forms of heritage assets.

Lewis (1995, p. 21) and Aiken (1994, p. 20) expressed the fear that depreciation may become a device within the government sector for averaging costs over some estimated period which is supposedly the resource's "useful life". Aiken (1994, p. 20) argued that the use of depreciation can lead to indirect taxation unsanctioned by the government of the day. Lewis (1995, p. 21) stressed that the misstatement of depreciation has detrimental implications for equity between generations of consumers and between current consumers and management, and for the rankings or priorities given to programmes or activities distorted by depreciation allowances.

The scope of government accounting standards and the application of business based accrual accounting to the government sector are the subject of criticism by researchers, but the starting point is an acceptance of the neo-classical theory of value. Criticism of the use of neo-classical theory in corporate financial reporting has not been extended to the potential biases this theory of value may introduce into government accounting.

Valuing heritage assets: the accounting approach

In the neo-classical framework, value is "the amount of desirability obtainable or obtained from an event or condition experienced, a service rendered, or a product consumed ... not very clearly distinct from utility" (Price, 1993, p. 1). While value depends on utility, it is not the total utility of a good which determines its exchange value but its marginal utility (Zamagni, 1987, p. 33). For accountants, valuing assets is a "process of translating assets into monetary units" (Whittington, 1983, p. 29) and for Australian governmental accounting this requires that the "utility" or "service potential" of an asset be

measured inclusive of its “economic” and “social” value (PSACE, 1995, p. 18). Acceptance that value represents “worth estimated in money” (Churchill, 1992, p. 36) is tied to ascertaining a “market price” (not necessarily a market determined price (Rowles, 1992, p. 63)) as the basis for translation. This approach has been described by Tinker, *et al.* (1982, p. 188) as an “attempt to preserve objectivity by shunning ‘subjective’ questions of value by confining accounting data to ‘objective’ market prices”.

Use of the neo-classical framework for valuing all government assets is justified on the grounds that “governments acquire, invest, dispose and allocate resources by interacting with the market” (Rowles, 1992, p. 14). Government financial statements are viewed as providing “summary information about price signals”, which will be used as a “primary source of ‘economic’ information to decision makers” (Rowles, 1992, p. 14). The neo-classical framework has been implicitly accepted and defended, chiefly through a case-by-case rejection (Rowles, 1992, Ch. 4) of the grounds advanced for treating, for accounting purposes, government owned assets differently from private sector assets:

Whatever meanings are attached to the terms “infrastructure assets” and “heritage assets” in general usage, or in other disciplines, for accounting purposes, the term does not denote a group of assets that can be readily distinguished from other physical assets (Rowles, 1992, p. 44).

While this may be so, if the aim of the measurement and reporting of heritage assets under government control is to place “a value on the service potential generated” (PSACE, 1995, p. 32) presumably to a community, then it is also a matter of establishing whether this value can be measured reliably and consistently.

The aim of Australian governmental accounting is to measure the capacity of the tangible resources available to a government entity to provide service potential (PSACE, 1995, p. 34). Presumably, service potential must devolve from the service objectives of the entity. However, valuation relies on “measuring the value of the physical resource and not the benefits ... from the resource (unless an identifiable cash flow [is] present)” (PSACE, 1995, p. 32). The use of identifiable cash flows where possible means, essentially, that two approaches are used to measure governmental assets:

- (1) for an asset which does not generate a cash flow but provides value in use, such as a city park, the value of the service potential is estimated in terms of the opportunity cost of the parkland; and
- (2) for an asset which has a cash flow, a market price for the asset is used.

Both are incomplete measures of the community or social value of an asset when that asset is unique and the market for the asset operates imperfectly.

This twofold process of measuring the value of government assets according to whether they are held for their value-in-use or to provide services which are sold (value-in-exchange) is justified as generating accurate information on all assets.

Economic calculation requires *accurate information* ... on all assets and expenses. If entities are to be financially accountable for all the assets they control, then all assets must be recognised ... assets, including infrastructure and heritage type assets, should be measured to reflect their current economic cost, that is, their scarcity value ... Because infrastructure and heritage assets are, generally, held for their *value-in-use* rather than their *value-in-exchange*, ... their economic value is best indicated by their replacement or replication costs (Rowles, 1992, p. xii, emphases added).

Value-in-use is defined by Rowles (1992, p. 63) as the inherent service potential of an asset. His concept is similar to Adam Smith's use of the term as the utility derived from some particular object (Smith, 1970, p. 24). Value-in-exchange is the price an alternative user would be prepared to pay if the asset were sold (Rowles, 1992, p. 63), again similar to Smith's use of the term as the value deriving from the power to purchase other goods (Smith, 1970, p. 25), and this valuation is used when an asset generates services sold in markets. Value-in-use and value-in-exchange will differ unless a perfectly competitive equilibrium outcome of value-in-use equal to value-in-exchange is postulated; that is, observed market prices are assumed to reflect an optimal resource allocation. The problem with this approach has been discussed by Aaheim and Nyborg (1995, p. 59) in an analogous case of how to measure and adjust the national product for environmental deterioration. They argued that there is a general problem in using a theoretical optimization model as a background for practical policy decisions because assuming the economy is on an optimal path contradicts the starting point that resource allocation is not optimal. Similarly, the government accounting approach seeks to provide information useful for decision makers to assess resource misallocation, but the information is generated assuming an optimal resource allocation.

Whether the neo-classical theory can generate "accurate information" on the value-in-use of many heritage assets controlled by governments and their agencies needs to be addressed. In accounting practice, while value-in-use is measured by the opportunity cost of holding the asset in its particular use, "for practical purposes" (Rowles, 1992, p. 63) this devolves to an estimated market price as "if" the asset was to be offered for sale.

Deficiencies elaborated: value-in-use

Opportunity cost plays an important role in government accounting because, while many heritage assets are held for the non-market services they provide, the values of these non-market services are assessed by reference to the opportunity cost of providing them. Opportunity cost furnishes a rationale for how lost opportunities might be financially quantified but practical difficulties of measurement intervene. In respect of heritage assets held for their value-in-use, such as national parks and works of art, their opportunity cost is said to be indicated by their possible market prices because this is assumed to indicate the scarcity of their unique service potential (Rowles, 1992, p. 64).

The neo-classical, and thereby the accounting, approach treats costs as objectively measurable outlays, approximated by the value of the next best alternative (Buchanan, 1969, pp. 28, 46). However, this is a presumption to

objectivity, resting on the claim that a decision to use an asset in one particular use can be costed by someone other than the decision-maker (Buchanan, 1969, p. 25). This may be a reasonable presumption when the decision-maker operates in a competitive market environment and the objective function for that decision maker is to maximize profits. It is less reasonable when extended to a governmental entity with poorly specified objectives, not operating in a market environment. When this “objective” perception of value is applied to all forms of government assets the longstanding and unresolved issue of subjective versus objective costs is inevitably reopened.

Cost is inherently linked to choice. It would be difficult to find an economics text that would disagree with Robbins’ definition (1934, p. 21) that

the conception of costs in modern economic theory is a conception of displaced alternatives: the cost of obtaining anything is what must be surrendered in order to get it. The process of valuation is essentially a process of choice, and costs are the negative aspect of this process.

Similarly, in governmental accounting for heritage assets, economic decision making is concerned with making choices between alternative uses of scarce resources, thus requiring an evaluation of the opportunity cost of an intended action (Rowles, 1992, p. 62).

Assessing the opportunity cost of an asset requires a valuation of its other possible uses, provided that it can be transferred to another use (as opposed to a change of ownership) (Robbins, 1934, fn.6), a property difficult to establish in unique assets such as monuments and works of art. As Robbins went on to show, any theory of cost must explain the *actual* resistances (p. 25, his emphasis) which production encounters. Valuation of opportunity cost requires both a knowledge of technical displacement (whether the asset has another use) as well as the inherently subjective evaluations by the decision maker. Robbins concluded that “to make the cost concept purely technical is to deprive it of important analytical functions and to run the risk of misunderstanding” (p. 27).

Thirlby (1946, pp. 138-9) was explicitly critical of the application of this concept in accounting:

To the subjectivist, cost would be understood to refer to the prospective opportunity displaced by the administrative decision to take one course of action rather than another. Cost is inevitably related to the behaviour of a person ... By deciding to take a preferred course he displaces the alternative opportunity. The cost is not the things, e.g., money which flows along certain channels. It is the loss, prospective or realized, to the person making the decision, of the opportunity of using those things in the alternative course of action. *A fortiori*, this cost cannot be discovered by another person who eventually watches and records the flow of those things along those channels.

The relevance of these criticisms is illustrated in the shortcomings of the approach recommended by Rowles (1992, p. 71) to measuring governmental heritage assets which lack a cash flow:

[T]he economic cost of an asset will be determined by reference to alternative uses indicated in the market. For example, the existence of legislative restrictions on the use of mineral deposits in a national park does not alter the economic scarcity of the mineral deposits and hence the economic value of the park.

While the value of the park is seen in terms of the value of services it is expected to provide in that use, measurement of that value is based on a possible market price for the land, without consideration for the market conditions relating to this particular parcel and for the existence of restrictions on its use. While opportunity cost requires the consideration of a range of possible alternatives by the decision maker as to what is the next best alternative use (which need not be the highest monetary return), choice is effectively removed by the need to select the highest possible price in the absence of any use constraints.

The argument that the legislative restriction will not influence choice is invalid because the restriction excludes an evaluation of one possibility. Private assets are commonly exchanged with restrictions on their use, which affect their value. The example assumes that all legal restrictions on alternative land uses can and will be removed, and that the controlling government entity has a property right over the park. Only when these “actual resistances” are removed is there a basis for considering mining as one of many possible alternatives. Rowles’ example also shows the “subjectiveness” of any estimate of a possible market price as measure of the park’s public service potential. At any point in time, scarcity is a relative concept, depending on supply and demand conditions. The deposits do not constitute a supply. They have an uncertain projected value based on discount rates of decision makers, future world prices, quantities and costs, including transaction costs which may be incurred in removing the legislative restrictions. The irreversibility of any action also will be considered in public decision making. A monetary calculation of the expected market value of deposits in the ground by someone other than the owner has no meaning in relation to the value of the land in its current use and what the owner might assess as the next best alternative use.

Choice among alternatives is influenced also by social constraints. Rowles (1992, p. 68) cites the example of a “historic building”. Its opportunity cost would be measured in terms of the highest return from a commercial use of the building. The subjectiveness of this approach was shown by a recent proposal by an Australian state government to change the use of a historic Sydney building, Government House, from a regal residential to non-residential uses. Although not involving a change in ownership, presentation, or entry charges, the proposal to alter the uses of the building and its surrounding grounds was substantially modified because of community opposition (*Sydney Morning Herald*, 17 January 1996, p. 1).

Prior to current developments in governmental accounting, Buchanan (1969; 1973) anticipated that extending the opportunity cost approach from private to government policy decision making would confuse the understanding and measurement of cost:

So long as the object for discussion, and for theorizing, is either the individual decision maker or the interactions of separate decision makers *in markets*, no harm is done and perhaps some good is added by conceptual objectification. Confusion arises only when the properties of equilibrium, as defined for markets, are transferred as criteria for optimisation in *non-market* or political settings (1973, p. 5, emphasis in original).

Buchanan (1969, p. 15) succinctly summarized the properties of a “choice-bound definition of opportunity cost”. Opportunity cost exists only in the mind of the decision maker, is borne exclusively by that person, and cannot be measured by someone other than the chooser. It is an *ex ante* concept, dated only at the moment of final choice as the alternative which is rejected and, therefore, cannot be enjoyed. He (1969, pp. 98-102) demonstrated that costs in bureaucratic choice are influenced by institutional structure such that non-market choice cannot be made to duplicate market choice unless institutional differences, presumably based on property rights (p. 100), are eliminated between the two. This conclusion was restated cogently in 1973:

The cost faced by the utility maximizing owner of a firm, the value that he anticipates having to forgo in choosing to produce an increment to current output, is not the cost faced by the utility-maximizing bureaucrat who manages a publicly owned firm, even if the physical aspects of the two firms are in all respects identical (1973, p. 15).

The use of the neo-classical economic framework in valuing government heritage assets is justified in accounting by reference to the physical similarity of assets under both government and private control (Rowles, 1992, p. 44); by a presumption that institutional and social relations do not impact on opportunity cost; and by a belief that someone other than the decision maker can ascertain and value the next best alternative for a community asset held for its preservation or its value in use. Based on these premisses, the derived monetary valuation of heritage assets appears to have no relationship to their service potential.

Deficiencies elaborated: value-in-exchange

Accounting's approach to valuation requires that the service potential or future economic benefits embodied in an asset will probably eventuate; and that the asset possesses a cost or other value that can be measured reliably (AARF, 1993, para. 53). For heritage assets and others which possess unique service potential, opportunity cost is indicated by the price obtainable in the market *if* the asset were sold (Rowles, 1992, p. 64, emphasis added). If this is too difficult to obtain, no estimate is made. As used in accounting, this price or “market value” only requires “a willing buyer and a willing seller in an arm's length transaction” (PSACE, 1995, p. 46). But this ignores how well a market functions, ignores non-use values, and is not evidence of the value of these assets to a society.

Measuring the value-in-use of a heritage asset devolves into measuring its *possible* value-in-exchange: if an asset can generate any kind of services which can be sold, the discounted net present value of that income stream will determine the asset's value. Basing the valuation of government heritage assets on either value-in-use or value-in-exchange ignores the option and other non-use values which often explain the basis for community rather than private control of these assets. Value can be obtained from the consumption of priced commodities and services, as well as unpriced services provided by a whole

range of community assets. The economic concept of value is not restricted to benefits from the actual use of an asset. Anything from which an individual gains satisfaction has value, as long as the individual is willing to give up scarce resources for it. The total value of a service is equivalent to the maximum amount that individuals are willing to pay to avoid going without it. Total value, which equals economic value, includes not only amounts actually paid but also the consumer surplus – the excess amount each consumer is prepared to pay for the service over the amount actually paid.

Heritage assets include environmental assets and approaches developed for the valuation of environmental amenities are relevant to governmental accounting. In relation to valuing environmental amenities, Pearce and Turner (1990, Ch. 9) expressed total economic value as an identity composed of actual use value, potential use values relating to option value, and non-use values or existence value. Non-use values are described also as intrinsic values (Rogers, 1991, p. 144). As economic value is reflected in the amount of money a person is willing to pay to obtain a service, or the amount of money a person requires as compensation for the loss of a service, surrogate observed measures of value are usually inferred from individual preferences revealed through exchange. Because it tends to reflect use values, exchange value only provides an initial guide to the benefits derived from an asset. Use values, such as visiting a park for walking, or visiting a museum to appreciate a painting, are not necessarily reflected in market activities. As value depends on willingness to pay, derived monetary values do not depend on whether people actually pay for the benefits received. Measurement of economic value is consistent with the neo-classical approach, as demonstrated by Johansson (1987), who provides a coherent exposition building from an individual's utility function through to the valuation of such assets.

In discussing the different kinds of services generated by an environmental asset and their relationship to the asset's price, Johansson (1987, pp. 183-4) distinguishes unrationed and rationed services, and public goods. A market price captures all kinds of unrationed consumption, non-consumption and indirect uses of an asset, when that asset is traded in perfect markets. Rationed services (and an associated ration price) may be generated by an asset as a result of government pricing the service below the market price. Existence value and other public good characteristics are not captured in the market price. Similar to environmental assets, other heritage assets such as cultural artefacts, art collections, historical buildings and monuments, can lay claim to uniqueness in supply, and a provision of different types of services beyond that reflected in an imperfect market or exchange price.

Although classifications of non-use benefits may differ, common reference is made to option value as the value obtained by retaining the opportunity to use a resource at some future date. Willingness to pay may derive from ensuring future value-in-use by a particular individual for himself, his family and descendants, or simply, from ensuring value-in-use by others (vicarious value to the individual). Vicarious value, the value obtained from the indirect

consumption of an amenity through the media (for example, experience of the Grand Canyon through a three-dimensional, large screen film), is distinguished from existence value, the value obtained from the knowledge that a resource exists. Existence value is unrelated to any actual or potential use of a resource (Pearce and Turner, 1990, p. 135). A further category, quasi-option value, is recognized as the value of the opportunity of obtaining better information by delaying a decision that may result in irreversible loss or damage to an asset (Johansson, 1987, p. 194). The thrust is to value each non-market resource, such as environmental assets, in terms of the expected stream of benefits generated by them. While the aim appears similar to that espoused in government accounting, accounting's reliance on value-in-exchange and value-in-use ensures a different outcome.

Although there is a growing awareness by accounting researchers in environmental accounting of non-use values and techniques for valuing environmental resource values in the corporate area (Milne, 1991), PSACE (1995, p. 38) dismisses techniques such as contingent valuation and the travel cost method for measuring the value of Crown Land. While "useful for pricing decisions", they were deemed "inappropriate for financial reporting purposes" and involved "prohibitive costs ... in collecting the data". Why information relating to the willingness of the public to pay for the services of an environmental asset is "inappropriate" for valuing that asset is difficult to understand. Because they capture use and non-use values, a technique such as contingent valuation is likely to yield values greater than those indicated by an improbable value-in-exchange and will contribute to more accurate information on the balance sheet. Widening the concept of value and using these techniques would increase the costs of measurement, resulting in less assets being reported in the statements of financial position of many government entities. Nevertheless, no measurement and non-inclusion may be less distorting than inaccurate or partial measurement and inclusion.

Potential economic and social consequences

The economic and social consequences arising from the introduction of corporate-based accounting to all government departments and their agencies can only be speculated. While the intention is to provide information useful to internal decision makers and external users of government financial reports, the actual and potential users, and the uses they might seek to apply this information to, are unknown. If users are not naive, then the information generated may be selectively used according to its perceived accuracy. This still leaves a problem. As Kuznets, the Nobel Laureate in Economics, observed

no economic measure is *neutral*, that is, unaffected by economic theories of production, value, and welfare, and the broader social philosophy encompassing them (Kuznets, 1972, p. 18).

The implications of non-neutrality need to be considered. Through its dependence on the neo-classical theory of value, governmental accounting carries a bias in measurement which may adversely portray the performance of

departments and agencies controlling heritage assets. There is no reason to believe that the measurement approach will capture either the potential service value or economic benefits of heritage assets.

Valuation is one step in developing information to assess the operations of government entities (Parker, 1993) and, thereby, a step towards developing performance indicators for those entities. Indicators derived from a particular theory of value will impact differentially on government entities. Whittington (1988, p. 263) observed the emphasis on the accounting rate of return as a measure of economic performance for regulated and government owned utilities:

A particular consequence ... is the articulation of the bottom line measure of returns (total investment returns, the numerator of the rate of return) with the net assets measure in the balance sheet (the denominator of the rate of return). If this articulation did not occur, ... the rate of return would not be consistent with that required by a rational investor.

Valuation of assets is a prerequisite for deriving the denominator and in state owned and state regulated profit maximizing firms, which was Whittington's focus (1988, p. 261), asset prices are more likely to measure their potential income earning capacity; that is, their service potential. If the accounting rate of return approach is extended to government entities in non-market settings, the consequence for those controlling heritage assets will be poor performance indicators as compared with government entities with an asset mix not as constrained in their revenue earning potential and measurability.

Consider a hypothetical case where an environmental management agency controls several hundred hectares of Crown land wetlands on the boundaries of a large city. The agency is charged with multiple objectives such as restoring, maintaining and managing the wetlands as well as educating the community to the importance of preserving this particular land use. The wetlands are a major fish nursery, a nursery for migratory birds, and a home for endangered species of water birds. They are used also for a restricted range of passive and active recreational uses. Income derives from government funding, admission fees, and monetary donations.

Which of the many parts of the wetlands will pass accounting's definition test? Is it a case of valuing the entirety or the individual parts? The wetlands can be said to be composed of three differing parts: the habitat, the flora, and the fauna. The habitat, the actual wetlands, would pass the asset test as it will generate service potential and is under control of a government agency. Whether the flora hosted by the wetlands is a separate asset is debateable. Higginbottom and Fidock (1995), when valuing Adelaide city parkland, separately valued trees contained in the park boundaries. As the wetlands provide a habitat for a bird population that is largely migratory, management does not have "control" over them and, therefore, on a piecemeal approach they are not an asset to be accounted for, despite being a major attraction in drawing visitors to the wetlands.

Assuming that the habitat, flora and fish stock prevented from leaving the wetlands by a weir built to control flooding of the surrounding urban areas,

have passed the asset definition test, they then become subject to the recognition test. While these assets will probably provide service potential, reliable measurement is more problematic. Following Rowles (1992), PSACE (1995) and Higginbottom and Fidock (1995), the habitat would be recorded at the value of the surrounding urban land. Although these wetlands, like Adelaide City Council parklands “are neither available for sale nor available for redeployment” (Higginbottom and Fidock, 1995, p. 41), their value is determined by reference to the current market value of adjacent land.

While reference to adjacent current market values captures some of the rents generated by the presence of limited open space within a city area, it ignores non-use values of people not living near the open space. Also ignored is the effect of an additional large parcel of land on market prices; the non-transferability condition; and the institutional constraints in ascertaining the next best alternative. In these examples, as well as for other heritage assets, property rights can be assigned and enforced. Enforcement may restrict usage, but it does not prevent non-use benefits. Individuals may benefit from a park or wetlands, not from using that park but from its existence and option value.

As the wetlands in their entirety generate cash flows in the form of government funding, admission fees and monetary donations, this income could be used to ascertain a net present value for the wetlands, which could be greater or smaller than the estimate derived using opportunity costs. The value of the land as wetlands is reflected in the stream of use and non-use benefits that it generates. Measurement of this value is feasible, as shown in a wide range of studies concerned with willingness to pay for wetlands (see Pearce and Turner, 1990, Ch. 21). Such measurement could generate values possibly exceeding either of the accounting approaches.

If financial performance indicators are required, then the wetlands are likely to be assessed as a poor performer. If the value of the land is recorded at the value of the surrounding urban land, accounting would require that the value be recorded in the statement of financial position with its complementary entry as revenue in the operating statement. A return-on-assets-employed indicator in the initial year of accounting would give a higher return than in subsequent years, when the return on the values in the balance sheet would depend on limited income sources. Performance, in terms of rate of return on net worth, will be poor. Whether the agency’s financial report provides useful or accurate information is contestable. Fish stocks and migratory birds may have increased, water quality improved, flora regenerated and educational objectives achieved. The agency’s objectives may have been met, excepting for its apparently poor financial performance.

Governmental accounting developments may be driven by a strong desire by managers in government for simple performance indicators (Aiken, 1994). Certainly, there appears to be a belief that

once we have the bookkeeping right and out in the open the most exciting phase of government will happen ... setting specific standards of service delivery in each portfolio of General Government activity, and publicly monitoring whether the agencies match their

obligations. Such an approach wedds financing with performance, since funding is conditional on meeting contracted servicing levels and standards (Allan, 1993, p. 83).

Although the bookkeeping is in place, there is no reason to believe that the bookkeeping is “right” in providing information which can be used to help make better resource allocation decisions.

Conclusions

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Australian governmental accounting relies on neo-classical economic theory without an awareness of the consequences of this reliance. Zamagni (1987, p. 35) described the neo-classical legacy:

The eternal nature of the economic problem – the problem of scarcity – justified the universal validity of economic statements. However, in order for this to be true it was necessary to ignore social relationships in the study of economics as they were irrelevant to this new science. It was the marginalist revolution which gave life to the reductionist attitude in economic discussion which has distinguished all successive neoclassical thought and has confined economics to the study of purely technical relations.

Australian standards for government accounting embody these defects as well as adding new ones via the process of measurement. Value is a use concept, opportunity costs are treated as objectively determined either directly or indirectly by market exchanges. Institutional and social relationships are ignored. These are problems which necessarily undermine the accurate valuation and accounting for heritage assets.

Tinker *et al.* (1982), while critical of the reliance on neo-classical theory (p. 167), recognized it was “impossible for accounting to avoid aligning itself with one brand of Value Theory or another” (p. 174). In similar vein, Whittington (1988) pointed out that

all known methods of valuation have problems of implementation, and it would be unreasonable to reject a particular method on these grounds alone, unless it could be demonstrated that the problems were greater than those of alternative methods and that the alternative methods led to accounting measures with equally desirable economic properties (p. 263).

If the current approach to government accounting is maintained, there is a strong case for either widening the concept of value in assessing the value of assets used in non-market settings or abandoning the measurement of heritage assets.

The rationale for the imposition of accrual accounting on government departments and agencies is that it will provide information that will improve both resource allocation and accountability. To this end, accounting authorities have argued that this requires accurate information on all assets under the control of an entity. But all assets, under accounting rules, are not recognized, only those which can be “reliably measured” – this is meant to imply objective measurement. In the search for means of valuing the service potential of (heritage) assets, the surrogates chosen are hardly objective and sometimes are only partial measures of service potential. Non-use values are dismissed. Consequently, accounting for heritage assets is distinguished by partial

inclusion and measurement. Accurate information on all assets is more likely to be achieved by a non-financial focus. An asset register listing all assets is less distorting than a financial statement which includes only some of these assets, especially if the monetary values indicate little about the service potential of those assets recognized and nothing about those that fail accounting's definition or recognition tests.

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Notes

1. This is referred to as the asset definition test of SAC 4.
2. These criteria are referred to as a recognition test. "Probable" is defined as "more likely than less likely" and "reliable" as reporting what it purports to represent. Refer to SAC 3, *Qualitative Characteristics of Financial Information* (AARF, 1990b)