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NHS capital charging after five years

David Heald and David A Scott

Many public services have a cost structure in which facilities and/or labour costs feature prominently. Governments have traditionally used cash accounting, under which assets are expensed – i.e. treated as a cost – in the year of acquisition and therefore do not appear in balance sheets, even when these are prepared. Such practices have been widely criticised as a potential source of inefficiency. Under capital charging, public service providers must explicitly pay for their capital through the mechanism of an annual charge, based upon the value of assets used in service provision. The rationale is that ending the treatment of capital as a 'free good' will lead to improvements in productive efficiency, thereby securing genuine cost reductions for given output levels.

It is possible to identify two distinct problems in public services like the NHS, which capital charging is intended to address. First, viewed as economic units, the delivery organisations responsible for public services have sometimes suffered from capital starvation. Budgetary limits have denied them access to the resources required, for example, to reconfigure their asset bases in line with contemporary requirements. In the medium term, this must compromise productive efficiency. Even though the aggregate amount of capital for new buildings has been tightly constrained, the incentive for individual units was always to bid for too much capital. For a variety of reasons, there have been some bad investment decisions when the full set of costs relevant to the acquisition of new assets was not properly taken into account. In the case of equipment assets, the annuality rule of government accounting on a cash basis provided incentives for wasteful end-of-year spending sprees.

Second, such economic units have been hoarders of assets because of poor incentive structures – once assets were acquired they became free goods, costless to the asset holder. The unglamorous task of asset maintenance was often neglected, partly due to the pressure of annual budgetary limits. The overall conclusion has been that managers who neither account for, nor remunerate, their asset bases tend to be neglectful of asset management.

Proposals for some form of charging for capital in the NHS designed to address these problems first surfaced in the 1970s. A proposal for capital charging can be found in the research commissioned by the Royal Commission on the National Health Service.[1] 'Notional rents' were proposed by an official Department of Health

and Social Security committee chaired by Ceri Davies.[2] Although capital charging might have been implemented as a freestanding reform, this did not occur. Instead it was introduced in 1991 as an integral part of the *Working for Patients*[3] reforms.

This article:

- begins by setting out the rationale for capital charging;
- describes the implementation of capital charging within the NHS;
- describes the evidence that is available as to its impact;
- assesses how far the original objectives have been met;
- considers other developments, particularly the Private Finance Initiative;
- sets out a brief conclusion.

The rationale for capital charging

Capital charging can be seen as a means of securing greater alignment between managerial incentives and resource costs. Under cash accounting, the budgetary and resource measures of cost diverge. For example, the *budgetary cost* of health care contains two elements: current expenditure, e.g. medical and nursing salaries, and gross capital expenditure, e.g. new hospitals. However, the *resource cost* measure does not include this year's capital expenditure but instead a capital charge which has an interest component and a depreciation component. Ideally, the latter should embrace not only the wear and tear associated with use, but also the functional obsolescence associated with changing output requirements and changing technology. In general, the disposal of assets which are not fully depreciated is not treated as part of the resource cost in that year, but as an indication that there has been an underestimate of resource costs in previous years.

Capital charging should also be set within a macroeconomic context. There are many sources of fiscal stress on governments, independent of changed ideological stances on the role of the state. Many industrialised countries have experienced severe budget deficits and have confronted a growing problem of indebtedness. For those European countries which have signed the Maastricht Treaty, the convergence criteria specifying ceilings on budget deficits and on public debt/Gross Domestic Product ratios have become major constraints on fiscal policy. These macroeconomic constraints have intensified the search for means of reducing the costs of government, whether by squeezing more outputs from the same inputs or by withdrawing from certain traditional areas of service provision. A mechanism such as capital charging can readily be seen as relevant to the more efficient utilisation of the governmental capital stock. The same fiscal pressures can, however, lead to less desirable responses, including the adoption of techniques which disguise the current fiscal position by shifting costs to the future.

A powerful case can clearly be made for capital charging. Nevertheless, it is important not to lose sight of the condition for a policy improvement: the benefits of capital charging such as greater cost consciousness about assets, must be greater than the sum of the direct costs such as staff and computing, and the indirect costs such as dysfunctional behaviour. Capital charging should make decision makers choose, e.g. between buildings and nurses, whilst containing the costs of operating such a system well below the benefits.

Implementation

In our review of the implementation of NHS capital charging in Scotland, we[4] concluded that failures, notably in the areas of software and staff training, substantially increased the cost of implementation and delayed the generation of benefits. The tasks involved were more complex

and time-consuming than was appreciated by policy makers. At crucial stages, capital charging attracted insufficient senior management time, in part because it seemed a technical and unglamorous component of the 1991 package of reforms which also included purchaser/provider separation and the corporatisation of providers as NHS trusts. However, the discussion here concentrates upon problems revealed during the implementation process which have continuing relevance.

Dilemmas of asset valuation

Capital charges consist of two components: interest on the average capital stock – the opportunity cost of committing capital to health care; and depreciation on the opening capital stock. The implementation of capital charging therefore requires opening and closing valuations of the asset base and a measure of the 'wearing out' of assets during the period. Capital charging is thus dependent upon asset valuation. In sectors such as health care with long-lived, highly specific assets, historical cost is not only irrelevant but probably impossible to establish reliably, as records of the original cost of acquisition typically do not exist. Because the NHS dominates health care provision, there is almost no outside market for either hospitals or hospital enterprises, so that open market value in existing use cannot be established.

In the NHS, use has therefore been made of depreciated replacement cost (DRC), a well-established basis in the property valuation literature for dealing with this kind of circumstance. In practice, all valuations of operational assets have proceeded on the basis of DRC, a process involving assessment by the District Valuer of the rebuilding cost of a like-for-like asset. Recourse to DRC encounters three serious difficulties.

First, it may seem practical to value every element of every asset and then to sum the values. However, this approach neglects the aggregation problem: some authors have stressed that the replacement cost of a system will, in the presence of economies of scale and/or economies of scope, be less than the replacement cost of the individual assets.[5] The essential point is that it may well be very much cheaper to build a new hospital than to rebuild all the individual parts. For example, it seems likely that most hospitals, which have typically grown by accretion, could have their capacity replaced with fewer buildings. Valuing all assets separately will often lead to serious overvaluation.

Second, there is an intractable dilemma with DRC: either assets are valued on the entirely implausible basis that the existing configuration of assets – despite functional obsolescence – will be replaced, or they are valued on the readily manipulable basis of what is currently declared by managers to be the relevant Modern Equivalent Asset i.e. the new asset with which the existing asset would be replaced if replacement were to be effected now.

Third, much of what is currently described as capital expenditure 'disappears', in that it does not lead to net asset creation in the sense of increases in DRC. In reality, much NHS capital expenditure is of a conversion nature, whether modifying buildings or changing their use. For example if a nurses' home became a trust headquarters, some of the original asset would be destroyed. This is a problem exposed by DRC valuation rather than caused by it.

In consequence, there has been concern about dysfunctional incentives. Potential difficulties arise when decisions have to be made on new hospitals and on make-buy decisions, e.g. the use of existing NHS accommodation with high DRC values versus contracting with the private sector. Purchasers may divert business to other providers, including those operating outside the capital charging net, even when this is not the least resource cost option. The valuation system for capital charging has produced balance sheets which greatly exaggerate the value to the owner of existing assets. The balance sheets of several NHS trusts, particularly those providing community and psychiatric health care, contain assets whose disposal value can be as low as 10-20% of the DRC valuation. The architectural listing of aesthetically pleasing but functionally

obsolete hospital buildings is a major problem for NHS managers because this probably limits alternative use and hence disposal value.[6] Many of these balance sheet values are unrealistic – unrelated to potential earning power – but have to be serviced through interest and dividend payments. The fact that re-provision will necessitate write-offs may distort replacement decisions, possibly delaying them. Moreover, there is an obvious danger that such write-offs will discredit the financial regime.

The age and often poor condition of the NHS estate, coupled with fashions in hospital building design and recent changes in modes of health care delivery, mean that an NHS trust's asset base is frequently badly adapted to its present needs. Instead of a Victorian psychiatric hospital or 1960s tower block – both of which incur operating cost penalties – having low valuations, the DRC methodology attaches large valuations to them because of their construction materials and/or type.[7] Naturally, the less the hospital of the future[8] looks like hospitals constructed in the past, the greater are the problems inherent in DRC valuation. The reason for the rejection of the Modern Equivalent Asset approach is undoubtedly that it was considered too judgemental.

Furthermore, the intended level playing field within the NHS has been threatened with disruption. First, accidents of timing have had important consequences: some hospital valuations have been written down before being taken into trust balance sheets due to there being defined closure timetables. Second, capital charging will encourage the search for donations because donated assets do not incur capital charges. At present, donated assets constitute such a small proportion of the NHS capital stock that they are insignificant. The exception to this is paediatrics, where the remarkable fund-raising capacity of specialist children's hospitals can seriously affect the financial viability of paediatric services to other NHS providers, sometimes over large geographical areas. Third, there will be inconsistent treatment as between publicly financed NHS assets and privately financed assets, which are not capital charged and not subjected to periodic revaluation. The level playing field between the NHS and the private sector is also threatened by the DRC valuation rule which makes current NHS managers live with the consequences of construction mistakes, in circumstances where current private health managers would – post financial reconstruction or takeover – be able to concentrate upon finding the most profitable use of the existing facility. The problems inherent in the DRC approach are undoubtedly accentuated when the NHS ceases to be regarded as a closed system and interacts with private provision and financing, a point we return to below.

The design of purchaser budgets

Once a capital charging system has been implemented for providers, two further matters of system design must be properly addressed. The amounts allocated to purchasers need to be set at a level which allows providers in aggregate to pay capital charges. This originally took the form of directly managed units literally handing over their capital charges but was later transformed into the payment by NHS trusts of interest and dividends and, through the external financing limit system, the funding of capital expenditure. A spectrum can be defined from full reimbursement, whereby each purchaser's budget is set so that it can afford the actual capital charges of its actual providers, to full weighted capitation whereby only the characteristics of the relevant client group affect budgets, not the characteristics of individual providers. The financial pressure encountered by those purchasers currently buying from high-cost providers will be transmitted through to such providers who will be pressurised to bring their costs down into line. However, questions arise as to whether some elements of capital charges differentials are beyond managerial control, e.g. high local property costs, and, if so, whether these should be (partially) compensated.

The internal market introduced in 1991 brought together formula-funded purchasers and providers who must pay capital charges upon their assets, the existing configuration of which

is inevitably heavily conditioned by past decisions. The ultimate goal of funding models is to detach purchaser allocations from the particular circumstances of their existing providers. In the interim, the impact can be softened either by (i) retaining some element of reimbursement of actual capital charges rather than moving to 100% weighted capitation, or by (ii) incorporating elements within the weighted capitation formula which proxy for differences in actual capital charges. For example, if rural areas actually have more hospital beds per head of population than urban areas, the full rigours of formula funding can be attenuated either by partial reimbursement of the higher actual capital charges or by building a population sparsity factor into the weighted capitation formula.

Capital charges money, i.e. those funds distributed to purchasers to enable them to pay capital charges, can either be kept separate or integrated into revenue budgets. Different approaches have been adopted in Scotland and England. Scotland has kept capital charges money separate over a defined transitional period in which the basis of distribution has been switched from reimbursement to weighted capitation in the following proportions: full reimbursement (1991-92); 95:5 (1992-93); 85:15 (1993-94); 60:40 (1994-95); 40:60 (1995-96); 20:80 (1996-97); and full weighted capitation (1997-98).[9] During this transition period, there has been a distinct pool of capital charges funding money which grows as new investment is made and shrinks as assets are disposed of. The actual path of transition has been less smooth than intended due to the disruptive effects of data revisions on provider capital charges, made after capital charges allocations had been notified to purchasers.

In England in contrast, there has been full 'unification' of capital charges money and other revenue funding, with effect from 1995-96. The purchaser faces no differentiation between money available to pay capital charges and money available to pay for other revenue costs. There remain, of course, differences between expenditure targets (the amount a particular purchaser would have available to spend in a particular year if the full rigours of the formula funding model were enforced) and funded expenditure (the cash-limited amount a particular purchaser does have available to spend in that year). The reasons for such differences are that central policy makers may judge that the desired convergence of all purchasers to their expenditure targets, which are themselves shifting due to population and other changes, should be accomplished over a transition period, thereby avoiding both disruptive reductions and unmanageable increases.

The discussion above has been couched in terms of the annual contracting which characterises the NHS internal market where contracts are not legally enforceable documents. The question therefore arises as to how non-marginal adjustments can be made to the capital stock, including major rationalisation schemes whereby several hospitals close and are replaced by a new facility. When many facilities serve localised markets and hospital assets have low, or even negative value in alternative use, the extent of sunk costs will alarm trusts wishing to propose major restructuring on the basis of annual contracts. There is some evidence emerging of provider hesitancy concerning new capital schemes in the face of annual purchasing contracts supplemented only by non-binding declarations of 'purchaser commitment'. If such hesitation were to prove more than a transitional hiatus, this would contrast sharply with the expectation that capital charging would promote efficiency in service delivery by leading to a smaller, more modern and better-managed estate.

Effects of capital charging

Because capital charging schemes are very recent in origin, it is not yet possible to draw firm conclusions as to whether, in practice, they deliver the expected improvements in productive efficiency. At such an early stage, attention is naturally paid to the views of the managers and

accountants who have been responsible for implementation and whose decisions are supposed to have been influenced. Four surveys on the effects of capital charging have been identified, two relating to New Zealand and two relating to the NHS.

In New Zealand, capital charging was introduced for all government departments on 1 July 1991. Surveys were conducted across government departments by a Treasury questionnaire in June 1992 and through structured interviews in mid-1993 by Price Waterhouse and were reported together.[10] The conclusions of the New Zealand Treasury questionnaire were that, though not all departments had devolved the capital charge down to individual managers, most were planning to do so in the near future. Price Waterhouse's study of ten departments concluded:

> *There are sufficient examples of the way in which the charge has influenced behaviour to state unequivocally that the concept has been successful and that it is important to continue the regime and where possible improve upon it.* (p. 27)

Price Waterhouse also reported an increased awareness on the part of managers of the cost of holding on to surplus assets, thereby encouraging their disposal. Nevertheless, there were reservations which echoed those of the earlier Treasury survey, relating to both incentives and valuations. Price Waterhouse concluded that:

> *... unless steps are taken to ensure the charge had real impact on those departmental activities which are fully Crown funded, then there was a real danger of departments losing interest in the regime or finding it irrelevant.* (p. 24)

Moreover, it was found that capital charging encouraged managers to challenge the valuations placed upon their assets.

There have been two large surveys of NHS capital charging, one conducted in England in 1993 by NHS Estates and one conducted in Scotland in 1994 by our research team at the University of Aberdeen. The NHS Estates survey,[11] directed towards trusts' chief executives in England, found that such managers reported that both the acquisition of new assets and the disposal of underused or 'low-value' assets had been influenced by capital charging. Chief executives believed that capital charging would lead to a 'more cost-effective and better maintained estate'. Similarly, the Aberdeen project[12] found strong support for capital charging among NHS managers (accountants and estates/operations managers) in a Scotland-wide survey of providers. Managers reported themselves to be less likely to invest in new facilities and more likely to dispose of existing assets. Most providers intended that budgetary devolution would cover capital charges, but few had accomplished this at the date of the survey. There was strong support for the use of current cost rather than historical cost valuations, though there were complaints of 'ridiculous valuations' arising from the use of DRC. A less encouraging finding was that the effect on providers had been softened by the willingness of most purchasers to use other revenue money to meet shortfalls in capital charges funding; this had largely neutralised the move in Scotland to 40% weighted capitation in 1993-94. These UK surveys offer some support for the Treasury's claim that extending capital charging across central government will sharpen 'the incentives on departments to extract the best value from their use of capital' (p. 9).[13] Definitive conclusions must await the elapse of a considerable period of time, after which it will be possible to do before-and-after studies of the estates of a sample of providers.

The implementation of capital charging has revealed marked variations between hospitals in the level of capital charges, raising the question as to the sources of such variation. Heald and Pryce[14] sought to disaggregate variations in capital charges per average staffed bed into components: that part attributable to the function of the hospital (which should be compensated for by the health care contracting

and teaching/research funding systems); that part outside managerial control (e.g. due to geography); that part which, whilst in principle within managerial control, is outside the control of existing management on a reasonable timescale; and that part which is clearly within the control of existing management. The provisional conclusions of this econometric work are that, whilst a substantial part of the variation can be explained in terms of the functional role of a hospital, much of the remainder is attributable to area per bed and to the average age of hospital facilities which are themselves consequences of hospital history and design, and only partly under the control of existing managements. An understanding of what drives variations in capital charges is highly relevant to the stance taken as to whether purchasers and providers are cushioned from, or left fully exposed to, variations in capital charges. On the basis of these findings, there is a case for partial cushioning of both purchasers and providers, until a clearer picture of the extent of local management control emerges.

Have the objectives been met?

The expectation behind capital charging is that the NHS capital stock would become smaller, though of better quality. There is a profound difference between conscious downsizing of the capital stock through, for example, community care reducing the need for beds, and a situation in which the capital stock is allowed to fall into disrepair and become obsolete. In the short term, higher output can usually be achieved by diverting resources from capital programmes and from maintenance towards pay and drugs, exploiting the gap between budgetary and resource costs. Over time, such neglect will impose serious costs which could have been avoided. Consequently, stimulating managers to think more seriously about asset management is highly desirable.

Five years after first implementation of NHS capital charging, the principal tasks relate to system maintenance, such as regular asset revaluations, and encouraging the use by managers and clinicians of capital charges data. The severe early difficulties in making the software work encouraged the view that capital charges were an external requirement, geared to upwards reporting and to financial statement preparation rather than to internal management use. The NHS has an endemic habit of incurring the set-up costs of financial systems but then experiencing exhaustion and/or disillusionment before the benefits of such systems are reaped. One practical link between accruals accounting and capital charging is that each makes the other cheaper to implement. When asset registers exist for financial accounting on an accruals basis, a heavy preliminary task for capital charging has already been undertaken. Similarly, when there is capital charging, the balance sheet values of assets are readily available for accruals accounting.

This costly phase has been completed. Survey evidence demonstrates that the principle of capital charging commands widespread support among managers in the NHS. Moreover, they recognise that capital charging is an essential component of quasi-market reforms, as otherwise there would be huge historically induced disparities between providers. Within trusts, budget devolution to clinical directorates and to clinicians should incorporate capital charges as well as other costs. The desirability of this step is conventional wisdom among trust directors of finance. Concerns about DRC asset valuation are less relevant at trust level because directors of finance have discretion about the detailed design of budgeting systems. For example, equipment is the best starting point, and buildings might initially be dealt with through a standard-rate charge on measured space. Whereas the initial inhibitor of budget delegation was software limitations, the way in which finance departments have been overwhelmed by other workload and by new initiatives continues to impede progress.

However, managerial mechanisms such as capital charging, intended to make the NHS more 'business-like' in its asset management, expose problems arising from the intensely

political nature of the NHS. A problem in the NHS has always been that, however sophisticated the investment appraisal methodology, the capital facility would later arrive as a free good. This has made the appraisal process vulnerable to the hidden intrusion of political considerations, leading to uneconomic locational decisions and the splitting of investments between competing sites. However much ministers have extolled the need for greater public service efficiency, it is widely understood that they expect to derive electoral benefits from capital expenditure schemes, whether by adding to their own reputations – ministers delight in opening ceremonies – or by securing votes in marginal constituencies for their political party through their control over decisions as to where facilities are sited. Unless such motivations change, attempts to improve managerial accountability by means of financial mechanisms and more high-powered incentives can obscure rather than illuminate the effective domains of managerial and political decision making.

Capital charging may hold managers to account for excessive capital spending when this was politically rather than managerially desired or for insufficient hospital closures when these have been vetoed by ministers. The intensified central control which has accompanied the quasi-market has made it much more difficult for managers to distance themselves from responsibility for political decisions than in the pre-1991 structure. The necessity for control mechanisms to exhibit robustness to political pressure has thereby increased.

The investment choices which will be signalled by capital charging will not necessarily be the same as those chosen under discounted total cost minimisation (by suitably incentivised managers) or on the cost-benefit criterion enunciated in investment appraisal guides. A vital difference is that all relevant cash flows concerning the capital asset would be known in the latter case whereas, under capital charging, the provider is aware that a given new capital facility brings with it an unknown (because of the impact of asset revaluation) stream of capital charges. There is substantial uncertainty as to the future behaviour of property price indexes and even about the methodology used by future valuers for periodic revaluation. For example, the 1995 revaluation in Scotland was contracted out to a consortium of private surveyors whose approach differed from that of the Inland Revenue Valuation Office (which had undertaken earlier Scottish valuations and has conducted all revaluations in England and Wales).

Future developments

The major issue on the horizon is not inherent to capital charging, but originates in the conjunction of capital charging for publicly financed assets and the Private Finance Initiative (PFI) which is designed to promote the use of private finance in public services. Under the PFI umbrella, there is a range of different schemes: (a) traditional public sector responsibilities are transferred to the private sector which secures its remuneration through third-party user charges – there are no significant examples within the NHS so far; (b) private consortia finance, construct and own hospitals which are leased and operated by NHS trusts; (c) private consortia finance, construct and own hospitals in which they provide non-clinical services whilst clinical services remain the responsibility of the relevant NHS trust; and (d) the private sector tenders for contracts to provide services to NHS purchasers, thereby bypassing NHS providers. Although few PFI contracts have yet been signed, a huge amount of effort has been devoted by trust managements to the development of schemes, with the management executives having made exploration of the PFI route mandatory. During this process, there has been a decisive move away from the 'leasing hospitals' model ((b) above) to the 'buying services' model ((c) above). This appears to have been driven, not by considerations as to what NHS trusts should provide themselves, but by professional advice that the accounting standards *SSAP 21* and *FRS 5* would frustrate the paramount objective of taking such assets off-balance sheet.[15]

The PFI is portrayed by the Government as a means of securing greater efficiency in the acquisition and management of public service assets.[16] It is frequently asserted, without evidence, that the introduction of private sector disciplines will lead to savings in both capital investment requirements and in operating costs which more than offset higher financing costs. However, outside commentators have stressed the off-balance sheet character of these assets which provide a way of reducing the level of public expenditure and of the Public Sector Borrowing Requirement. A crucial difference between private and exchequer finance is that exchequer finance is front-loaded – it scores when the asset is built. In the case of PFI-financed assets, the public expenditure is scored either when lease payments are made over the life of the contract or as services are bought from the private sector. Because of the combination of asset specificity, which means that there is a high sunk cost element, and the vulnerability of the private owner to government decisions on the level and distribution of NHS expenditure, it is implausible that such a relationship could be conducted on the basis of annual contracting. Nevertheless, the super-imposition of a policy initiative favouring privately financed assets outside the capital charging net seems likely to undermine the capital charging system for publicly financed assets, by creating strong financial and behavioural incentives to substitute other financing. Moreover, it is possible that public pressure will build up for lottery funds to be used to finance NHS hospital construction, a development which would raise the profile of the treatment of donated assets.

Conclusion

Experience over five years shows that NHS capital charging is a useful but imperfect tool. Some of the imperfections stem from the institutional characteristics of the NHS: for example, near monopoly public provision means there is no real external market for hospitals and hence no externally validated alternative to DRC. There should be no illusion about the possibility of quick results: the history of NHS budgeting reform shows that much patience over the long-term is required to effect changes in managerial attitudes and behaviour. Success in refashioning the NHS estate can only be assessed over the medium term, and capital charging will be only one of the causative factors. Nevertheless, the survey evidence shows that the message that assets must be managed more systematically and effectively is being digested. Capital charging should not be swept away in an anti-commercialisation, anti-bureaucracy backlash – a reaction which current rhetoric suggests might occur after a change of government.

Cautious approval of capital charging is somewhat sapped by a concern that the agenda has indeed run on. The attitudes of the Treasury are instructive. On the one hand, experience with NHS capital charging has encouraged the Treasury to view capital charging across central government as one of the principal mechanisms for generating the efficiency gains which are projected to derive from its Resource Accounting and Budgeting initiative. In this, it can point to the role of New Zealand as leading innovator in the application of accruals accounting to government and the strong endorsement of the Organization for Economic Co-operation and Development which has taken the lead in international dissemination. This strand of the Treasury's activity is genuinely concerned about improving public sector efficiency. On the other hand, it is difficult for reforms in capital accounting and asset management to take hold when there is so much external cynicism about the Treasury's motives. When public sector capital assets – be they armed forces, housing or social security benefit offices – are auctioned against tight deadlines which are seen to be inspired by electoral objectives, the lack of trust in the Treasury's motives and sincerity is further compounded. It becomes more difficult to hold public sector managers accountable for delivering returns from the public assets under their stewardship when the Treasury will so readily deny the relevance of DRC or other current cost valuation to 'privatisable' assets. Credibility affects the efficacy of public sector control systems.

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