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Modern Financial Management Practices

by

Ian Ball*

* Ian Ball is Chief Executive, International Federation of Accountants (IFAC) and former Central Financial Controller, New Zealand Treasury.

1. Executive summary

The paper highlights two incentive regimes which have been used by governments to improve their financial management systems: the capital charge regime to improve asset management and the interest rate regime to improve cash management.

Capital charge regime. The capital charge regime is designed to capture the financing cost associated with government assets. In the private sector, firms obtain their funds either by borrowing or from owners' equity (including returned earnings). The firm must provide a return on both sources of finance: lenders require interest and owners require a return on capital (either as dividends or as an increase in share price). Although governments do not provide an explicit return to taxpayers, they do pay interest on borrowed funds. Whenever funds from borrowing or from taxation are tied up in assets or held in the form of surplus cash balances, there is a cost.

Although borrowing costs are significant costs to the government as a whole, they may not be obvious to individual government agencies and may have no impact upon agency financial statements. For example, public sector borrowing is usually undertaken by a central borrowing agency and then allocated to agencies at no cost. This prevents agencies from seeing the true cost of their financing and also makes it less likely that they will be motivated to manage assets efficiently.

A capital charge is levied on an agency and is designed to be a substitute for interest costs and a return on capital. At a minimum, the charge should cover the government's cost of borrowing. This is the bottom line cost of government. However, the activities conducted by governments are not without risk, and it is possible to argue that some form of risk premium in addition to the government's borrowing cost is also appropriate. If the government contracted a private sector firm to provide goods and services on its behalf, then firms would be financed by a mix of debt and equity. The holders of both debt and equity would expect a return on their investment, commensurate with the risk of investing in the firm. Although the risk of bankruptcy will not normally be relevant for a government, the other operational risks faced by a private sector firm would also be faced by the government.

A capital charge usually consists of a rate levied on an asset base. The rate will vary depending upon the way in which it is calculated and the countries in which it is operating, but will normally be in the region of 5-15%. The asset base upon which the charge is levied could be: total assets, fixed assets, total assets less current liabilities, or total assets less all liabilities. Before a charge can be introduced it is necessary to have complete information on assets held and the values of those assets.

A number of issues arise from the introduction of a capital charge regime.

When a capital charge regime is first introduced, lack of requisite information or skills may mean that a *uniform charge* is applied to all agencies. Over time, agencies which consider that a uniform rate is too high may be able to obtain information regarding the cost of capital for comparable private sector activities and present a case for a lower rate. Similarly, the Ministry of Finance might make a case for a higher rate if the investment risk warrants it.

The issue of *asset valuation* is likely to be a recurrent theme. It is important that initial valuations are established in a manner which enables them to be accepted by all parties. It is also necessary to consider the impact of future revaluations as a capital charge may prove a disincentive to revalue assets where revaluations are accepted accounting practice. When a charge is levied on net book values, the amount of the charge will increase solely because of a change in recorded asset values. However, the revalued asset does more accurately reflect the opportunity cost of the investment.

One of the main incentives associated with a capital charge regime is that agencies may *retain savings* that they make by reducing the amount of the charge. The impact of this incentive will depend upon the extent to which agencies actually realise the benefits of such savings. In some OECD member countries, the system of legislative appropriations may mean that any additional spending has to be formally approved. Administrative mechanisms may need to be developed to address this issue, and reduce the transaction costs associated with the operation of the incentive.

Another issue which need to be considered is whether the charge will be *fully funded* in its first year of application. If it is fully funded, then agencies' financial positions do not immediately alter. However, there is an incentive to reduce asset holdings because that will reduce the capital charge in subsequent periods.

Finally, administrative charges would normally be *reviewed* each year. If the capital charge is increased, then agencies may be expected to meet the increase out of existing resources. It follows that when the rate is decreased, agencies should be allowed to retain the benefit of the decrease. This may have wider fiscal implications.

Interest rate regime. As discussed above, there is a cost associated with the use of borrowed funds. However, to the extent that the government is able to invest surplus balances held by agencies, a government is able to recoup some of this cost. Within a centralised system, a government is also able to offset the cash requirements of agencies against each other. The need for funds by one agency may be offset by the existence of surplus funds within another agency.

The capital charge regime provides an agency with an incentive to reduce its overall requirement for borrowed funds, but they still do not provide an incentive for the accurate forecasting of day-to-day cash requirements and the identification of short-term surplus cash balances. Capital charges need to be accompanied by incentives for accurate forecasting and the identification of short-term surpluses. These incentives may be provided through an interest rate regime.

An effective interest rate regime should encourage agencies to forecast cash receipts and cash payments accurately, identify any balances which will be held for a period long enough to justify their placement on term deposit, take advantage of any interest-free opportunities for deferred payment, review payment schedules and mechanisms for payments, and actively monitor accounts receivable and review collection mechanisms.

Agencies can be given incentives to maximise the funds available for short-term deposit by the payment of interest on these balances. Despite the fact that a government can recoup some borrowing costs by reinvesting surplus cash balances, it is usually not efficient to borrow funds and then reinvest those same funds. Agencies therefore need to realise that *accurate forecasting is the prime goal*.

This can be achieved by paying the highest interest rate on cash balances which are the same as (or within agreed limits of) forecast cash balances. In order to make agencies aware of the cost of borrowing and reinvesting, a lower rate could be paid on balances in excess of those forecast. Agencies could also face a penalty to the extent that cash balances are less than the forecast balance.

If an agency has surplus funds available for more than, say, six months, it is possible to argue that the agency is holding cash in excess of its requirements. To discourage agencies from consistently holding cash balances in excess of their needs, the interest rate regime and the capital charge regime need to be linked. If the capital charge rate is higher than the interest rate paid on cash balances, then agencies have an incentive to minimise cash balance (*e.g.* the capital charge rate could be 10% and the interest paid on cash balances may be 6%).

It must be noted that the risk of agencies manipulating cash forecasts to obtain maximum interest revenue needs to be considered in light of the benefits

to be obtained from such regimes. While the risk exists, it can be reduced by the careful scrutiny of cash forecasts at the beginning of the period.

Finally, and as with the capital charge regime, the system of legislative appropriations in some OECD member countries may mean that any additional spending financed by interest revenue earned by agencies has to be formally approved. Administrative mechanisms may need to be developed to address these issues, and reduce the transaction costs associated with the operation of the incentive.

The purpose of this paper is to outline developments over the last decade in financial management practices of national governments, particularly developments in the management of cash.

This paper has five sections. The first section describes an accountability framework for management issues generally, and explains the application of this framework to cash management. The second section describes the issues which need to be addressed in the design and operation of cash management systems. The third and fourth sections outline two incentive regimes which have been used by governments to improve their cash management systems: the capital charge regime and the interest rate regime. The fifth and final section provides conclusions as to the success of the incentives described in the paper and considers possible future developments in cash management practices.

The paper does not address the issues associated with the detailed management of internal and external debt at a whole-of-government level.

2. Cash management in context

Governments in a mixed economy are required to make decisions concerning the mix of private and publicly provided goods, the nature and level of goods and services to be delivered by the government (or purchased from private providers) and the nature and amount of social assistance to be provided to citizens. Having made policy decisions on these matters, governments need mechanisms for ensuring that the appropriate services are delivered to citizens in an efficient fashion. This is a key function of government agencies.

Governments may be seen to have two principal interests in the performance of their agencies, a purchase interest and an ownership interest. The purchase interest relates to the production and delivery of goods and services to citizens, meeting agreed standards of quantity, quality, timeliness, location and cost. The ownership interest is concerned with the efficient use of resources by the agency. The government naturally wishes to minimise the resources invested in an agency, as those resources could be put to an

alternative use. Alternative uses include the reduction of debt and the purchase of additional goods and services.

The two types of interest are linked, in that if a government agency cannot produce goods and services as efficiently as another government agency or a private sector provider, the government may choose to purchase goods and services from the alternative source.

As the owner of an agency, a government will wish an agency to use its assets as efficiently as possible, in order to minimise the investment required. Agencies normally have some system for the management of fixed assets and working capital, of which cash is one component. However, for some government agencies, and in some countries, cash may be one of the principal assets held, and in many countries it may be the only asset formally accounted for.

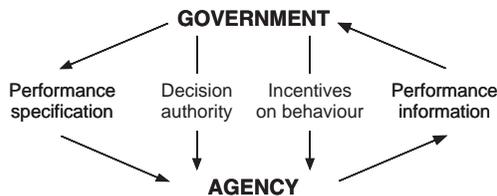
The following section outlines a framework which describes the features required in any effective accountability relationship and then explains how this framework may be applied to the management of cash.

2.1. Accountability structure for management issues

When a government operates through its agencies, it is delegating authority for the use of resources to agency managers. In return for this delegation of authority, managers should expect to be held accountable for their performance. However, in order to perform well, they must have appropriately specified levels of decision-making authority, know what is expected of them, and know how their performance will be measured. Governments can enhance the likelihood of managers meeting or exceeding performance specification by the use of appropriate incentives, both in terms of how performance is measured and assessed, and the methods used to reward good performance. Regular reporting of performance is integral to this process.

Figure 1 illustrates this accountability relationship.

Figure 1. **Government management**



2.1.1. Specification of performance

As owner, a government wants to know that the funds it has invested in each agency are being utilised efficiently. These funds have an opportunity

cost and governments therefore need to make agency managers aware of the cost of capital and their expectations regarding the efficient use of capital.

One way of highlighting a government's ownership expectations is to incorporate cash balance targets and working capital targets in formal accountability documents. In some jurisdictions these documents may be referred to as *statements of corporate intent* while elsewhere they may be elements of budget documentation. Such documents would be drawn up at the beginning of the year and contain targets for the year. The process of identifying targets in a formal document is likely to lead to better performance in cash and working capital management for the following reasons:

- it forces the government to identify clearly its performance expectations with regard to these items;
- clear expectations make it easier for managers to focus on these items; and
- the prospect of being assessed against publicly stated targets provides management with an incentive to perform well in achieving the targets.

Although public scrutiny of performance provides some incentive for managers, other forms of incentives should also be considered. Other types of incentives are discussed below.

2.1.2. *Delegation of decision-making authority*

In order for a cash management system to work well, managers with cash management responsibilities must also have appropriate delegated authority over the collection, disbursement and investment of cash. Without such authority, they will not be able to deliver the desired performance and their absence of authority will provide an excuse for the level of performance. If a manager has broad cash management responsibilities, then he may also need authority over the methods of generating and collecting cash receipts, the timing and method of cash payments and the investment of surplus cash balances.

2.1.3. *Incentives*

Incentives are a fundamental component of any accountability relationship in that they motivate management to achieve performance targets. Performance targets may be clearly specified, but if managers receive no recognition for good performance, or face no penalty for poor performance, there is little incentive for them to achieve targets.

Incentives may operate on an individual level (*e.g.* payment of bonuses and other recognition-based awards) or at an agency level (*e.g.* agency-wide bonuses, or the allocation of "efficiency savings" generated by an agency for the provision of additional goods and services by that agency). Incentives may be a

reward which is offered at the time of annual assessment, or they may be an integral part of an agency's management systems and encourage good performance by linking to the agency's financial or other results (*e.g.* incentives may be structured so as to highlight and encourage specific cost savings). The public reporting of an agency's performance is a general incentive which, although it has no direct impact upon personal performance, does provide an incentive for improved performance. The reporting of debtors by agencies in the United States is one example of public performance reporting.

Good management of cash is one element of a manager's performance and could in some circumstances be directly linked to the personal remuneration of the manager. Although this linkage is possible, it is not always desirable, as cash management is only one component of performance, and other components such as the manager's responsibilities for the production of outputs may be more important. However, in some circumstances, the inclusion of cash performance targets in a manager's personal contract may be appropriate. It is most likely to be appropriate where the manager has more responsibility for the ownership interest than the purchase interest, or where large amounts of cash are involved.

Despite the suggestion that direct links between a managers' cash management performance and personal remuneration may not be appropriate, cash management targets may still be incorporated in the general performance expectations of an agency, and a manager may be assessed and rewarded in relation to overall performance across a number of areas.

2.1.4. Reporting of performance information

The accountability system for cash management cannot operate effectively unless actual performance is compared with, and reported against, forecast performance. Performance reporting may include the reporting of detailed information on cash flows and balances. However, it should focus on the specific cash management targets upon which performance is assessed.

2.2. Consistency amongst elements of the accountability relationship

As with any accountability relationship, accountability for cash management will only be effective if there is an appropriate balance between the elements of the relationship. Performance expectations must be consistent with the delegated decision-making authority, reporting must mirror the agreed performance expectations, and there must be incentives sufficiently powerful to generate the necessary motivation. To the extent that any one element of the relationship is either missing, weak or poorly specified, it is less likely that the manager will perform as expected.

2.3. Conclusion

Governments in mixed economies have significant resources invested in the agencies through which they deliver services and give effect to their policies. This investment, of which cash is commonly a significant component, must be well managed if the government is to perform well.

The general accountability framework described above, which is designed to encourage enhanced managerial performance, can be applied to cash management as to any other element of management performance. Similarly, an effective accountability relationship for cash management requires clear specification of performance, the appropriate delegation of authority, incentives to encourage good cash management and the development of innovative methods, and formal reporting systems.

3. Cash management systems

This section describes the main elements of cash management systems, under the following headings:

- cash budgeting and forecasting;
- collection of cash receipts;
- disbursement of funds/payment mechanisms;
- identification and investment of surplus funds;
- obtaining short-term funds; and
- management of foreign currency.

Policies, procedures and administrative mechanisms may be required for each of these elements of a cash management system.

This section also considers three inter-related factors which should be considered in the design of a cash management system. These factors are:

- the degree of centralisation in the system;
- the structure of bank accounts; and
- the extent to which electronic funds transfer mechanisms may be used.

3.1. Elements of cash management systems

3.1.1. Cash budgeting and forecasting

The main task of most governmental cash management systems is to ensure that the right amount of cash is available, at the right time, for the lowest possible cost. Cash management systems at the whole-of-government level need to consolidate a range of information relating to taxation receipts, loan repayment schedules, asset sales, transfer payments and individual government agency operating flows and capital requirements. Cash

management systems also need to interface with debt management systems to ensure that current interest and principal obligations can be met.

Accurate forecasting of cash flows ensures that a government has sufficient cash to satisfy its obligations at any point in time. This avoids unanticipated shortfalls in the amount of cash and the high interest cost associated with emergency borrowing. Although governments usually have reliable overdraft facilities with a central bank, these overdraft facilities may be relatively expensive.

Accurate forecasting also enables the cash flows of individual agencies to be offset against each other, thus reducing the overall amount of borrowing required to meet cash requirements. Where overall surplus balances are identified, accurate forecasting enables the investment of larger amounts for longer terms than would otherwise be possible.

3.1.2. *Collection of cash receipts*

Most governments have the authority to raise taxes, levy rates, or, where there is a higher level of government, obtain funds through revenue sharing or the allocation of grants. These non-reciprocal receipts are often the primary source of funds for a government. The efficient collection and prompt investment of such receipts can therefore generate substantial amounts of additional receipts collected, lower processing costs, and additional interest revenue. An example is the United States federal Government's requirement that certain tax payments be remitted electronically. This requirement is designed to improve the timely collection of tax receipts and to reduce administrative collection costs.

Although the management of taxation receipts may be a priority for individual agencies charged with the collection of this revenue, these comments also apply to all types of receipts collected by government agencies.

Agencies need to have policies and procedures relating to the collection and recording of cash. These would include:

- internal controls over the procedures for receiving and depositing cash;
- credit policies which seek to limit the level of doubtful or non-recoverable debts; and
- efficient procedures for the collection, recording and monitoring of receivables.

The safe custody of cash requires that agencies have internal control systems over the receipt, deposit and disbursement of cash.

As discussed in Sections 4 and 5 below, agencies may be inclined to develop better policies and procedures and perform the cash collection function more efficiently in the presence of incentive regimes.

3.1.3. Disbursement of funds/payment mechanisms

Efficient management of cash requires that it be kept in safe custody, and is disbursed only with proper authorisation. Proper authorisation will vary across jurisdictions but may include parliamentary approval, government approval, and agency approval for the release of cash associated with a particular transaction.

Cash management systems also include the design and operation of efficient and effective payment mechanisms. Types of payments may range from the purchase of supplies to the payment of beneficiary entitlements and other grants. The payment of accounts is an important part of a cash management system. Payments should be made on time, neither early nor late. Early payments deprive the government of the opportunity to earn interest on those funds. Late payments may result in the government incurring penalties or loss of “goodwill”. Efficient payment mechanisms may lead to considerable savings.

3.1.4. Identification and investment of surplus funds

Cash forecasts will desirably indicate expected cash surpluses on a daily, weekly and monthly basis. As mentioned above, the overall objective of a cash management system is to ensure that sufficient funds are available when required and at minimum cost. Ideally a government would seek to manage its cash flows to have minimum surplus cash on-hand. However, for short periods during the year cash balances may be in excess of immediate requirements, and there may be an opportunity to invest these surplus funds.

The amount of surplus funds available for investment will depend upon the government’s liquidity policy. Maximum returns can be obtained by investing all surplus funds, but a government may choose to ensure that there is always sufficient cash on-hand to meet immediate cash needs by maintaining high cash balances in demand deposit facilities. Such a strategy carries little risk but is relatively expensive. Part of the cash management process involves governments making clear decisions about the amount and nature of risks they are prepared to accept. These decisions involve trade-offs between safety, liquidity and risk.

In addition, it requires that the government, and any agency with the authority to invest funds, have policies regarding appropriate investments for its investment portfolio and the weight to be given to risk *versus* return.

Investment policies may specify:

- the criteria for determining the amount of surplus funds;
- the conditions under which surplus funds should be used to repay debt;
- the types of investments which may be made;

- the institutions in which investments may be made; and
- reporting requirements.

The amount of interest which may be earned on surplus balances can be considerable. The United States Treasury Investment Account has a \$16 billion average balance. This account is held by about 2 000 financial institutions and is used by the Treasury to earn interest on cash balances in excess of those needed for current expenditures. The Treasury Investment Program, on an average day, lends \$16 billion to depositories (banks, credit unions, and savings and loans). The interest earned on these investments totalled \$949 million in fiscal year 1997.

3.1.5. *Obtaining short-term funds*

Short-term cash requirements will usually be met by short-term borrowing or through the realisation of short-term cash investments. Short-term borrowing is often raised by way of Treasury Bills or other forms of domestic borrowing. Short-term borrowing should be subject to policies regarding the nature of the instruments which may be used.

However, there is another source of funds which should not be ignored. There may be significant potential for agencies to release funds which have been tied up in working capital or fixed assets. These funds may be released through more efficient management of working capital, or the sale of fixed assets. Agencies usually need some form of incentive to generate cash from their internal operations. Incentives are discussed further in Sections 4 and 5.

3.1.6. *Management of foreign currency*

Agencies range from having few needs for foreign currency to having complex contracts involving foreign currency commitments over a number of years. Asset acquisitions for defence purposes are often an example of the latter. A cash management system will need to accommodate the differing nature of foreign currency transactions and foreign currency exposures of various agencies when determining the authority of each agency to operate foreign currency bank accounts, and the preferred method of managing foreign currency exposures. For example, hedging of foreign currency exposures may be conducted at a central level, or individual agencies may have the authority to enter into such arrangements.

3.2. *Design of cash management systems*

Traditionally, many governments have operated centralised cash accounting systems with a small number of central bank accounts. All receipts and payments from central government agencies were paid into, or disbursed from, these accounts. The main benefit of such systems was their

simplicity. By allowing fewer people access to bank accounts, these systems limited the extent of internal controls required. The use of only one or two main bank accounts allowed the automatic offsetting of the cash flow requirements of individual agencies. If the bank accounts were held with the central bank, they may have also been used by the central bank to implement the government's monetary policy.

In theory, a central bank account, controlled by a central agency, should lead to more efficient cash management. However, one of the fundamental requirements of any cash management system is the need for accurate cash forecasts. This in turn means that agencies must produce good information on their cash requirements and be prepared to manage cash flows to ensure that they are in accordance with those forecasts. This is much less likely to occur under a traditional, centralised system, than under a decentralised system.

In practice, centralised systems may distance agencies from their cash flows and lead to them not accepting responsibility for the management of their cash flows. Although agencies may have dutifully collected and disbursed cash, they had no incentive to provide accurate forecasts, reduce their overall cash requirement or devise more efficient ways of managing cash.

The premise underlying this paper is that in general agencies need to have delegated authority to manage their cash flows and should be held responsible for their cash management performance. This suggests that agencies should operate their own bank accounts. Even if this point is accepted, there are still a number of other matters to consider in the design of a cash management system.

The design of a specific system will depend upon the number and type of transactions which the system needs to handle, the number of agencies which will be operating within the system, the manner in which bank accounts are to be linked and the degree of autonomy which individual agencies will have over their bank accounts.

The following headings are used to give an outline of some issues associated with the design of cash management systems:

- degree of centralisation;
- structure of bank accounts; and
- electronic funds transfer.

3.2.1. *Degree of centralisation*

It is necessary to establish the extent to which centralisation is appropriate. At one extreme a centralised system may mean that all cash is held with one bank (or in bank accounts controlled by one central agency) and all payments may be made by a central agency on behalf of other government

agencies. At the other extreme, each government agency could operate its own account(s) at the bank of its choice. Within a jurisdiction there may be a range of cash management systems, with some agencies having more autonomy over their cash management than others.

The benefits of centralisation are that larger sums may be held within fewer bank accounts, greater specialisation of knowledge is possible, peaks and troughs from individual agencies offset each other to some extent, and it is easier to combine balances electronically between sub-accounts. When large sums are available in a single bank account, overnight investment of surplus funds is easier, and rates are likely to be better because of the sums involved (however, as noted above, identification of surplus funds will be more efficient where agencies have control over their own cash flows). Transaction fees may be proportionately less under a centralised system.

However, centralised systems also have their disadvantages. Individual agencies find it time-consuming and annoying not to have control over their cash and usually devise other means of gaining access to “emergency” funds. These “emergency” funds frequently grow until a parallel banking system is in operation and relatively large sums are sitting outside the central system. The use of credit cards, smart cards and other electronic payment mechanisms can be used to reduce the need for access to cash, and therefore limit the use of parallel systems.

Although a system of controls is needed for the disbursement of cash under both centralised and decentralised systems, the controls instituted by one’s own agency will normally be less burdensome than those instituted by a central Treasury, as they cater to the specific needs of the agency.

3.2.2. *Structure of bank accounts*

Although the degree of centralisation will be the prime determinant of the banking structure, the legislative requirements within a jurisdiction may also have an impact upon the structure of the banking system. Separate bank accounts may be required for receipts and payments. Some agencies may have authority to draw upon their receipts, while others may not.

The relationship of the cash management system to the central bank needs to be clearly established. In some instances the central bank is the government’s primary bank. In other cases the central bank will be responsible for monetary policy while the government uses commercial banks for its banking needs. The issue of whether to use one bank or a number of commercial banks also needs to be addressed. Although there are advantages to using one bank, in some countries the geographical distribution of banking facilities may mean that this is not possible.

3.2.3. *Electronic funds transfer*

A wide-range of electronic banking facilities and electronic funds transfer mechanisms are available. Governments are increasingly taking advantage of the benefits of electronic funds transfer.

This technology may be used in conjunction with a centralised banking system to electronically combine bank accounts for the investment of surplus overnight balances, as in New Zealand (the overnight sweep of departmental cash balances and investment of these funds in the overnight money market in New Zealand resulted in savings of about \$NZ 30 million a year). Electronic funds transfers may also be used to collect tax receipts and make payments to beneficiaries and other creditors. One of the main benefits of electronic receipt and payment mechanisms is that there is less need to hold cash thereby reducing the opportunity cost associated with idle funds, and cash balances may be forecast with greater certainty thereby improving the opportunity to invest surplus funds. Electronic collection and payment mechanisms are used in various countries.

3.3. *Conclusion*

This section has described the key elements of a cash management system, and some of the administrative mechanisms associated with cash management systems. The following sections describe two regimes which may be used to provide incentives for the efficient management of cash.

Although innovative techniques may be developed in the absence of incentive regimes, if an organisation faces appropriate incentives, new techniques and innovative practices are more likely to occur.

4. **Capital charge regimes**

4.1. *Rationale*

In the private sector, firms obtain their funds either by borrowing or from owners' equity contributions (including retained earnings). The firm must provide a return on both sources of finance: lenders require interest and owners require a return on capital (either as dividends or as an increase in share price). These requirements impact directly on the firm as a whole. However, within a large firm, with many subsidiaries or branches, a central Treasury operation may organise all funds, and financing costs may no longer impact directly upon a particular subsidiary or branch. Where there is a central borrowing function, the cost of interest is usually passed on through internal charging, although the interest cost may be an average rate, or an internally determined rate. The cost of equity capital is harder to mimic. Subsidiaries, even where wholly owned, can be required to pay a legal dividend to the parent entity. However, where the

subsidiary is wholly owned the dividend is determined internally rather than by market forces. Other techniques are required. They generally seek to show the cost of capital through profit targets and economic value-added analysis. Economic value-added is a technique whereby firms deduct all financing costs, including interest and the required return on capital before showing “economic value-added”.

Similarly, in the public sector, there is a financing cost associated with the acquisition of cash and other assets. However, the sources of finance differ for governments. In order to finance assets governments typically raise funds from various forms of taxation and borrowing. There are costs associated with both of these sources of funds.

When governments raise taxes, those taxes may be used to finance the production of goods or services, or they may be invested in the infrastructure of government. Effectively taxpayers are providing equity capital for the government. If taxpayers were to make private investments they would normally include in their portfolio a mix of debt and equity assets. They would expect a return on their portfolio based on both the mix of debt and equity, and the amount of risk which they were exposed to. If the government is to make sound investment decisions, then it needs to reflect the opportunity cost to taxpayers' of its investments.

Although governments do not provide an explicit return to taxpayers, they do pay interest on borrowed funds. Whenever funds from borrowing or from taxation are tied up in assets or held in the form of surplus cash balances, there is cost. This cost may be the spread of paying interest on unnecessary debt over the interest earned, the cost of collecting unnecessary taxes, or the opportunity cost of not being able to purchase other public sector assets or undertake other activities on behalf of citizens.

Although borrowing costs are significant costs to the government as a whole, they may not be obvious to individual government agencies and may have no impact upon agency financial statements. For example, public sector borrowing is usually undertaken by a central borrowing agency and then allocated to agencies at no cost. This prevents agencies from seeing the true cost of their financing, and also makes it less likely that they will be motivated to manage assets efficiently.

In the private sector, the concepts of cost of capital and internal rate of return are often used to determine whether investment proposals will provide a return greater than the cost of the debt and equity finance used to fund a proposal. These concepts are less commonly used in the public sector, partly because of the difficulty of determining an appropriate rate for equity capital, but more commonly because these costs are not recognised by individual government agencies.

Government agencies which have been established as separate commercial operations with commercial objectives, referred to here as Government Business Enterprises, do face these costs. The enterprise will usually pay both interest on the use of borrowed funds, and a return to the government in the form of dividends when a profit is made. Because these agencies have commercial objectives and are required to operate in a manner similar to private sector enterprises, it is relatively easy to impose interest and dividend requirements.

It is more difficult to apply the concepts of interest and dividends directly to agencies such as government departments. Government departments may not account for their assets and liabilities, they are not usually required to make a profit, and government appropriations or grants may have been used to purchase assets or working capital, rather than there being clearly identified “equity” or “borrowings”.

The implications of such arrangements are that departments have weak incentives to:

- ensure that additional asset purchases are properly justified;
- minimise their asset holdings;
- fund the purchase of new assets by rationalising existing asset holdings;
- investigate alternative ways of providing goods and services which use fewer assets; and
- consider leasing assets.

The other implication is that the “cost” of goods and services provided by the agency does not reflect financing costs for the use of capital. When governments wish to compare the cost of providing goods and services through government agencies or via the private sector, information on the full cost of goods and services is required for a valid comparison to be made.

The problems discussed above are not new. What is new is that governments are now more aware of these problems and are in a position to do something about them. The increased use of accrual accounting means that some governments now know the amount of taxpayers’ funds invested in assets and can develop substitutes for the cost of capital in the form of a charge on an agency’s asset holdings. Such “capital charges” would normally incorporate interest and a return on capital – that is, they are intended to be a substitute for both the cost of debt and equity.

A capital charge usually consists of a rate levied on an asset base. The rate will vary depending upon the way in which it is calculated and the countries in which it is operating, but will usually be in the region of 5-15%.

The asset base upon which the charge is levied could be:

- total assets;
- fixed assets;
- total assets less current liabilities; or
- total assets less all liabilities.

Before a charge can be introduced it is necessary to have complete information on assets held and the values of those assets. This discipline in itself yields benefits, as demonstrated in the following discussion.

In the United Kingdom, the government proposes to introduce a capital charge “to increase the incentives for efficient utilisation of capital resources and management of working capital” (*Better Accounting for the Taxpayer’s Money*, July 1995). One of the reasons given for the introduction of a capital charge is to allow a better comparison between publicly and privately financed capital projects. As a pre-requisite to the introduction of accrual accounting and the application of the charge, the government has compiled a national asset register. The stated benefits of the asset register include:

- that it demonstrates accountability by the government;
- citizens can see what assets the country owns;
- it will allow the introduction of accrual accounting; and
- it will assist departments to identify surplus assets.

4.2. Description/background

A capital charge is levied on an agency which neither pays interest nor provides a return on owners’ capital. The charge is designed to be a substitute for interest and a return on capital.

As a minimum, the charge should cover the government’s cost of borrowing. This is the bottom line cost of government funds. However, the activities conducted by governments are not without risk, and it is possible to argue that some form of risk premium in addition to the government’s borrowing cost is also appropriate. If the government contracted a private sector firm to provide goods and services on its behalf, that firm would be financed by a mix of debt and equity. The holders of both debt and equity would expect a return on their investment, commensurate with the risk of investing in that firm. Although the risk of bankruptcy will not normally be relevant for a government, the other operating risks faced by a private sector firm would also be faced by the government.

In order to determine the appropriate risk premium, different models could be used. One way of measuring risk is provided by the Capital Asset Pricing Model (CAPM). This model derives from finance theory and has been

used in New Zealand to determine the appropriate risk premium for government agencies. Another model from finance theory is the Arbitrage Pricing Theory.

A capital charge may be expressed in either real (excluding inflation) or nominal (including inflation) terms. The required returns measured by the CAPM include holding gains. If some measure of market value of the agency is available, which it rarely is, then a nominal rate may be used. However, if inflation is used as a proxy for holding gains, the real cost of capital rather than the nominal cost may be applied to the book value of net assets (assets less liabilities).

4.3. Incentives

In general, a capital charge should have a positive impact on decision-making in the following areas:

- asset management decisions;
- output purchase decisions;
- output production decisions; and
- capital investment decisions.

Each of these is discussed in turn below.

4.3.1. Asset management decisions

Capital charges should lead to more efficient asset management for the following reasons:

- complete information on assets held is available;
- the full cost of holding assets is highlighted; and
- agencies can reduce the capital charge through more efficient asset management (i.e. by disposing of surplus assets, by increasing asset utilisation and by substituting existing assets with cheaper assets).

The charge provides managers with a good reason to focus upon the total investment of the government in a particular agency and to seek ways of reducing that investment. If an agency is able to return surplus capital to the government, then an appropriate incentive is provided if it is able to retain the resulting capital charge savings.

4.3.2. Output purchase decisions

Following the allocation of the cost of the capital charge to outputs, the price of all outputs would increase to reflect the additional cost. However, the cost of some outputs would increase more than others. Depending upon the method of cost allocation used, outputs which required relatively more fixed

assets in their production would bear relatively more of the capital charge. As the true cost of outputs becomes known, governments are also able to make better cost comparisons between private and public sector providers, or between alternative public sector providers. This may lead to the government:

- purchasing less of some outputs and more of others; and/or
- purchasing some outputs from private providers.

In addition, some government agencies supply goods and services to the private sector. In the absence of a capital charge, such goods and services are being subsidised by taxpayers. Once an allowance for the capital charge is included in the price of goods and services, private sector purchasers may review their purchase decisions. They may decide to continue purchasing at the increased cost, they may place pressure on the government agency to reduce its costs, or they may elect to purchase their goods and services elsewhere. Whatever the outcome, the result is usually beneficial to the taxpayers. There is no *prima facie* reason why a government should unwittingly subsidise goods and services provided to the private sector, nor why a government agency should be involved in the production of goods and services which are more efficiently produced by another organisation. The only circumstances in which it might be appropriate to sell goods and services for less than their cost is where an agency has excess capacity and a marginal costing approach is appropriate.

4.3.3. *Output production decisions*

The allocation of the charge to goods and services will make it easier for a government agency to see the full cost of producing its goods and services. The charge should encourage resource switching and facilitate make or buy decisions. This should lead to reduced asset holdings and therefore a reduced charge. An agency may initiate reviews of production processes itself, or it may be forced to do so because of negative reactions to revised costs.

4.3.4. *Capital investment decisions*

On average a government agency should be able to generate more value from its net assets than the capital charge it is required to pay to the government. If an agency's investments all fall in the same risk class, then the capital charge could be used as the discount rate or hurdle rate when evaluating new investment proposals. In practice, some investment decisions will be more or less risky than others, and a higher or lower discount rate should be used.

The capital charge will not provide an immediate solution to the problem of what discount rate should be used and should not be used indiscriminately as a default discount rate. However, the presence of a capital charge should lead to more widespread and more informed debate on the appropriateness of discount rates and investment selection techniques.

4.4. Issues

In the private sector, costs of capital are market determined and can change rapidly. However, administrative charges do not self-adjust. Charges therefore need to be regularly reviewed, particularly where agencies are competing with private sector suppliers.

When a capital charge is first introduced within a jurisdiction, lack of requisite information or skills may mean that a uniform charge is applied to all agencies. Over time, agencies which consider that a uniform rate is too high may be able to obtain information regarding the cost of capital for comparable private sector activities and present a case for a lower rate. Similarly, the Ministry of Finance might make a case for a higher rate if the investment risk warrants it.

The issue of asset valuation is likely to be a recurrent theme. It is important that initial valuations are established in a manner which enables them to be accepted by all parties. It is also necessary to consider the impact of future revaluations as a capital charge may prove a disincentive to revalue assets, where revaluations are accepted accounting practice. When a charge is levied on net book values, the amount of the charge will increase solely because of a change in recorded asset values. However, the revalued asset does more accurately reflect the opportunity cost of the investment.

One of the main incentives associated with a capital charge regime is that agencies may retain savings that they make by reducing the amount of the charge. The impact of this incentive will depend upon the extent to which agencies actually realise the benefit of such savings. In some jurisdictions, the system of legislative appropriations may mean that any additional spending has to be formally approved. Administrative mechanisms may need to be developed to address this issue, and reduce the transaction costs associated with the operation of the incentive.

One issue which needs to be considered is whether the charge will be fully funded in its first year of application. If it is fully funded, then agencies' financial positions do not immediately alter. However, there is an incentive to reduce asset holdings because that will reduce the capital charge in subsequent periods.

Administrative charges would normally be reviewed each year. If the capital charge is increased, then agencies may be expected to meet the increase out of existing resources. It follows that when the rate is decreased, agencies should be allowed to retain the benefit of the decrease. This may have wider fiscal implications.

One concern which has been expressed about capital charges is that they may be too successful. By encouraging agencies to focus on the cost of holding

assets they may actually discourage additional investment which is sensible, either because it will save costs in the long-term or because the agency needs to update its assets on an ongoing basis.

4.5. Implications of the capital charge regime for cash management

Although a capital charge is intended to provide incentives for better asset management generally, it should also provide incentives for better cash management. More specifically, a capital charge should provide incentives for the minimisation of cash balances and the efficient use of cash. To the extent that managers have more direct control over cash than other assets, a capital charge may have an even greater impact upon cash than other assets. The following paragraphs explain why this may be so.

Managers can reduce the cost of a capital charge upon their operations by reducing the net asset holding of the agency. They can do this by selling fixed assets and returning the proceeds to the government, not replacing assets as they depreciate, purchasing cheaper substitute assets or renting buildings or equipment. However, these decisions are long-term decisions. They may require the agreement of a number of parties within an organisation and they may take a number of months to implement.

By contrast, the level of cash held by an agency can be reduced relatively quickly and in a number of ways. Cash balances (and therefore total asset balances) may be reduced by:

- the adoption of tighter receivable collection policies;
- the implementation of better debtor follow up;
- changing the timing of payments or changing payment procedures; and/or
- reducing inventories.

The capital charge may therefore provide strong incentives for managers to review the amount of cash held.

4.6. Future directions

In many jurisdictions, the boundaries between the public and private sector are becoming blurred as the private sector is given more opportunity to provide services which have traditionally been provided by the public sector. Governments are now more willing to consider making purchases from the private sector, or entering into other arrangements with the private sector. Some examples of public/private arrangements are given below.

Governments may contract out various aspects of services, such as prison management, to private sector firms. Contracts may include the provision of administrative services such as catering, cleaning and maintenance services. Additionally private sector firms may provide security services. Some

countries, including the United States and Australia, have gone even further and contracted out the total ownership and management of a prison.

The construction of large infrastructure assets such as roads, tunnels and bridges is another area where private firms and the public sector may collaborate. These assets are often expensive and their construction takes a number of years to complete. There may be significant financial risks in terms of cost control and eventual return on the assets. Even where a government wishes to initiate the construction of such assets, and may be prepared eventually to own the asset, it may not have, and may not wish to acquire, the appropriate construction and project management skills required. Governments may enter into arrangements with private sector firms to build such assets, often with an agreement that the private sector firm may be guaranteed the right to revenues for a number of years following construction. Such arrangements may be referred to Build Own and Operate (BOO), Build Own Operate and Transfer (BOOT), or Design Build Finance and Operate (DBFO).

In order for a government to assess whether these arrangements are desirable, a government needs accurate and comprehensive financial information. It needs to know the full cost (and associated financial risks) of producing such goods and services or assets itself, compared to the cost of the alternative arrangements.

When determining prices, private sector firms need to take account of all costs, including interest costs and an allowance for a return to owners. In order to perform an accurate cost comparison, governments also need to consider these factors. It is in this environment that a capital charge can be particularly useful. Even where a capital charge is slightly higher or lower than it should be, the presence of a capital charge and its impact on output pricing and asset purchase decisions is likely to be beneficial.

Whenever a government contracts with the private sector, there is a need for comprehensive cost information. Based on current trends, the demand for this information is likely to increase in the future.

5. Interest rate regimes

5.1. Rationale

As discussed in Section 4 above, there is a cost associated with the use of borrowed funds. However, to the extent that the government is able to invest surplus cash balances held by agencies, either in short-term deposits, or on the overnight markets, a government is able to recoup some of this cost. Within a centralised system, a government is also able to offset the cash requirements of agencies against each other. The need for funds by one agency may be offset by the existence of surplus funds within another agency.

When agencies borrow funds directly from financial institutions or the public, they too face the direct cost of such funds, and have the opportunity to reduce these costs by reducing the amount of their borrowings, or by utilising short-term investment opportunities for surplus cash balances. However, it is normally neither possible nor desirable to allow agencies to borrow in their own right.

When they do not see the direct cost of borrowed funds, agencies are unlikely to build this cost into their decision-making. Where agencies may not face the direct cost of borrowed funds, they can still be shown the cost of financing holdings of cash and other assets through the use of interest charges and capital charges. Such charges may be notional – that is they may only be shown in the financial statements at the end of each year, or they may involve actual payment. Some UK agencies show a notional interest cost in their financial statements. Another way, as discussed in Section 4 above, is to introduce a capital charge which incorporates both the cost of borrowed funds and owners' (taxpayers') funds.

However, notional interest charges and capital charges only substitute for the cost of funds. They may give an agency an incentive to reduce its overall requirement for borrowed funds, but they still do not provide an incentive for the accurate forecasting of day-to-day cash requirements and the identification of short-term surplus cash balances. When notional interest charges and capital charges are used, they need to be accompanied by incentives for accurate forecasting and the identification of short-term surpluses. These incentives may be provided through an interest rate regime.

Possible features of interest rate regimes, and examples of regimes operating in various jurisdictions are discussed below.

5.2. Description

An effective interest rate regime should encourage agencies to:

- forecast cash receipts and cash payments accurately;
- identify any balances which will be held for a period long enough to justify their placement on term deposit;
- take advantage of any interest-free opportunities for deferred payment;
- review payment schedules and mechanisms for payments; and
- actively monitor accounts receivable and review collection mechanisms.

Agencies can be given incentives to maximise the funds available for short-term deposit by the payment of interest on these balances. Despite the fact that a government can recoup some borrowing costs by reinvesting surplus cash balances, it is usually not efficient to borrow funds and then reinvest those same funds. Agencies therefore need to realise that accurate forecasting is the prime

goal. This can be achieved by paying the highest rate on cash balances which are the same as (or within agreed limits of) forecast cash balances. In order to make agencies aware of the cost of borrowing and reinvesting, a lower rate could be paid on balances in excess of those forecast. Agencies could also face a penalty to the extent that cash balances are less than the forecast balance.

An example to illustrate these scenarios follows:

- An agency's forecast cash balance for the period may be 100.
- The highest rate paid on accurate balances may be 6%.
- The rate paid on balances over and above forecast balances may be 5.8%.
- The rate paid on balances less than forecast may be 5.5%.

| | Actual cash balances | | Calculation of interest | Interest paid |
|---|----------------------|--------------------------|---------------------------------------|---------------|
| 1 | 100 | <i>Forecast balance</i> | 100 @ 6.0% = 6.00 | 6.00 |
| 2 | 110 | 10 greater than forecast | 100 @ 6.0% = 6.00 10 @ 5.8% = 0.58 | 6.58 |
| 3 | 95 | 5 fewer than forecast | 95 @ 5.5% = 5.23 | 5.23 |

The choice of short-term deposits available to agencies could range from the immediate short-term (overnight, daily, weekly) up to six months. If an agency has surplus funds available for more than six months, it is possible to argue that the agency is holding cash in excess of its requirements. To discourage agencies from consistently holding cash balances in excess of their needs, the interest rate regime and the capital charge regime need to be linked. If the capital charge rate is higher than the interest rate paid on cash balances then agencies have an incentive to minimise cash balances (*e.g.* the capital charge rate could be 10% and the interest paid on cash balances may be 6%).

5.3. System requirements

An interest rate regime works best in a centralised environment, where all agencies use the same bank. In a centralised system, the amalgamation of daily closing cash balances for investment in the overnight money market or as an offset to other government debt is feasible. It would be possible to implement an interest rate regime in a decentralised environment across a range of banks, but the benefits to the government would not be as great as the amalgamation of surplus balances for short-term investment would take longer.

Incentive systems may also be implemented regardless of whether agencies have access to electronic banking facilities such as desktop banking. Such facilities have obvious benefits in terms of time savings and more immediate information on bank balances and transactions but are not a prerequisite for an interest rate regime.

5.4. Issues

Whenever a system is created, there may be perverse incentives, or ways of obtaining unexpected advantages from the system. In the case of interest regimes, the risks include the following:

- the incentives may not be strong enough; and
- agencies may deliberately manipulate cash forecasts to maximise cash balances throughout the year while still minimising opening and closing cash balances.

An argument has been made in favour of giving agencies authority to keep interest revenue earned under an interest rate regime. Jurisdictions where agency spending is controlled by appropriations would need to explore ways of providing agencies with this authority. However, an opposing view considers that control over interest revenue is not critical, as long as there are other incentives, *e.g.* incentives on the level of interest earned.

The risk of agencies manipulating cash forecasts to obtain maximum interest needs to be considered in light of the benefits to be obtained from such regimes. While the risk exists, it can be reduced by the careful scrutiny of cash forecasts at the beginning of the period.

5.5. Future developments/direction

Although interest rate regimes have shown themselves to be effective in providing agencies with incentives to reduce their need for cash, and to more effectively manage cash balances held, they are not a perfect substitute for real costs of capital. Problems associated with interest rate regimes include disputes over the appropriateness of rates charged, the inability of agencies to use a bank of their choice and difficulties associated with allowing agencies to retain and use the interest paid on deposits.

The solution to these difficulties lies not in the perpetual refinement of a regime (although some refinements may well be desirable and possible), but in allowing agencies to face real interest charges and receive real interest revenue. The problems associated with administrative regimes which attempt to mirror the real world disappear when the doors to the real world are opened. Although most governments will always retain some central government agencies (either for the provision of goods and services which cannot be contracted out for public policy reasons or because the role of the state in a particular jurisdiction requires this approach), the nature and extent of such activities has been under review. This has been evidenced already by the widespread establishment of Government Business Enterprises and the creation of independent agencies outside the central government structure.

6. Conclusions

This paper has argued that an effective accountability relationship is a pre-requisite for efficient cash management. The paper outlined the elements of an effective accountability relationship and described how these elements related to cash management. It then described the main elements of a cash management system and factors to be considered in the design of cash management systems. In keeping with the accountability framework outlined, the paper stressed that effective cash management is likely to result when agencies have control over their cash flows.

The paper also outlined two regimes which have been used to provide incentives for improved cash management, the capital charge regime and the interest rate regime. Both these regimes operate within accrual accounting systems. It is ironic that cash is likely to be better managed under an accrual accounting system than under a cash accounting system.

The focus of this paper has been on cash management and the design and implementation of incentives for efficient cash management. However, it is necessary to consider the relative importance of cash management within the context of an entity's overall performance. Cash management is only one component of an entity's performance. In most cases it is not the primary focus of an entity's performance. Care therefore needs to be taken when determining the appropriate emphasis to give to cash management compared to other aspects of entity performance *e.g.* output performance.

Although cash management may not be the most crucial aspect of entity performance, it still warrants close attention as significant benefits may be realised through better cash management. Traditionally, standards of cash management have not been high, despite the prevalence of cash accounting systems. The increasing use of accrual accounting systems has led to the review of management practices generally and the provision of better management information. Accrual accounting has permitted the development of incentive regimes such as the capital charge for the improved management of assets. Changes in technology have also played a part in improved cash management. The availability of electronic fund transfers has led to the adoption of various electronic payment and receipt mechanisms by governments. These mechanisms assist the objectives of cash management by allowing more accurate forecasting and reducing the need for cash balances to be held. Although electronic fund transfers may occur in the absence of specific incentive regimes, the existence of such regimes increases management's desire to investigate these techniques.

The incentives regimes discussed in this paper operate at an agency level. However, governments as a whole face increasing pressure to "do more with less" and to demonstrate their efficient management of public resources. This

pressure comes from both fiscal restrictions and the awakening interest of electorates in the accountability of their elected representatives. These pressures are likely to increase rather than decrease. The existence of these pressures means that governments will need to think carefully about their management of public resources and the incentives that they place upon agency management to act in the interests of the electorate.

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