Note on government accounting

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Introduction

Statistics on public finance can be compiled in accordance with two internationally accepted conventions:, i.e. either on an accrual basis or on a cash-flow basis. In analysing these statistics, it is important to know what method has been followed and what the data actually entail. With the current emphasis on transparent financial disclosure and given the fact that the government sector has an impact on all areas, monitoring the accounting, auditing and reporting processes of the public sector has become both fashionable and crucial to the democratic process. This has led to an increased concern about the type, quality and reliability of the information available.

In the past, the main objective of an accounting system for the central government was to control cash spending in accordance with parliamentary limits, usually set by the budget. More recently, however, it has been recognised that changes in the manner in which the public sector is organised and managed, has made the accounting and reporting of government transactions on a cash basis inadequate. Consequently, international organisations have proposed two separate data systems to assist individual countries in drawing up public-sector accounts. These systems are spelt out in *"A System of National Accounts 1993"* (SNA) of the United Nations and the *"Manual on Government Finance Statistics"* (GFS) of the International Monetary Fund.

The ultimate aim of both systems is to provide a sound statistical basis to analyse the role of the public sector in the national economy. It is therefore not surprising that many conceptual, definitional and classificational links exist between the two systems. However, these systems also differ, since each set of data is organised in a unique way to meet its own specific objectives and needs.

The *System of National Accounts* seeks to measure all transactions relating to production, income, consumption and saving in the domestic economy during a specific period of time, irrespective of whether *payment* for such transactions takes place within that period or any other period. It is therefore based on the so-called accrual basis. The *Government Finance Statistics*, on the other hand, is concerned with financial transactions and focuses on cash payments to and from the public sector during a specific period of time (cash-flow basis). It provides a data base which integrates all public-sector transactions into one accounting system. This system summarises public-sector financial flows in a manner suitable to evaluate fiscal policy and places less emphasis on the processes of income creation and distribution. It is therefore very important that the accounting and reporting methods used in the public sector should be on an accrual basis and/or cash-flow basis, depending on the needs of policy makers and analysts.

In order to clarify the use of the two systems, a brief overview, together with their main advantages and disadvantages, is given in this note. This is followed by a description of the current accounting system used in the public sector and a short explanation of how the amortisation of the discount on government stock would affect interest payments by the government if the accrual basis is followed throughout.

Accrual accounting

In a system of accrual (or comprehensive) accounting, revenues and expenditures are recorded as they are earned or incurred, regardless of when payment is made or when income is actually received. Accrual accounting seeks to match the costs incurred during a particular accounting period with the benefits received, and revenues with the goods and services provided. These transactions may take place independently of cash transactions, but may also include them. The difference between the time of reporting revenues and expenditure and actual cash transactions gives rise to assets and liabilities. The classification of all the transactions leads to the formation of the balance sheet and income statement.

Care should, however, be taken not to confuse accounting on an *accrual* basis with accounting on an *obligation* basis. The major difference between these two systems is that the obligation basis is usually restricted to outlays (i.e. the recording of obligations incurred), while the accrual basis includes both revenue and expenditure. In addition, the accrual basis refers to the receipt of funds, property or services within a given period of time, while the obligation basis refers to the orders placed and contracts awarded that will result in the disbursement of money at a later stage.

Cash accounting

Government accounting has traditionally been based on a cash flow analysis and has evolved with reference to a corpus of funds through which government transactions could be carried out. In a cash-flow accounting system, transactions are recorded when the cash is paid or received. This need not be related to the timing of the services provided or benefits received and excludes all transactions in kind. Financial results are therefore reported on the basis of the differences between cash received and cash paid. In some countries, for example

in France, revenues are recorded on a cash basis, but expenditures are recorded in two stages: firstly, on the delivery of goods and services; and secondly, on the basis of actual payments.

Advantages and disadvantages of the two accounting systems

There are several schools of thought on what accounting system, viz the cash basis or the accrual basis, is the ideal system for governments. National income accountants view the accrual basis as the best way to measure the impact of the budget because it indicates the time when the government actually incurs a liability or registers a claim, i.e. the point of final commitment which has the largest and most direct impact on the private sector. According to the national income accountants, the adoption of the accrual basis of accounting by the government has the following additional advantages:

- it serves better the overall purposes of budget formulation and programme management;

- it speeds up the compilation of national accounts; and

- it provides information for decisions on the assessment of stewardship and compliance (whether resources were obtained and used in accordance with legal constraints and contractual requirements and the stewardship over the custody and maintenance of resources), the assessment of the state of finances (the sources and types of revenue, the allocation and uses of resources, including the split between operating and capital costs, the extent to which revenues sufficiently cover costs of operation, the timing and volume of cash flows, the ability to meet financial obligations, both in the short and the long term and to assess the overall financial condition), the assessment of performance (the economy and efficiency of operations and whether goals and objectives have been met), and the assessment of the economic impact (the economic impact of the government on the economy and to enable the evaluation of the government's spending options and priorities).

These advantages are recognised by prominent economists in the field of public finance such as A. Premchand[1] of the Fiscal Affairs Department of the International Monetary Fund, who do not, however, concede that the accrual basis is the best measure of the economic impact of public finance. According to Premchand, it is difficult to decide exactly when claims or liabilities can be said to have influenced the community's economic decisions.

The cash system, on the other hand, has for a long time been a favourite of some economists and of some accountants. Some of the advantages of the cash system are:

- it enables an easy identification of the impact of government operations on the economy as actual payments made by government from its accounts at the central bank tend to affect the money market and activate the economy, while each payment to government reduces the liquidity;

- it provides a meaningful assessment of the impact of government operations on demand management;

- it facilitates the analysis of the impact of government on financial and credit markets;

- the government has a record of its own cash position;

- it is more comprehensive than national accounts as cash-based systems include loan transactions; and

- it is easy to administer.

However, a cash-based system also has its limitations, namely:

- it excludes all non-cash transactions;

- cash flows do not always reflect management requirements; and

- cash flows have limited usefulness in the measurement of changes in inventories.

What system should be adopted ?

These two different approaches in government accounting should not be regarded as mutually exclusive, but should rather be seen as essential elements, each having a place of its own in the overall system. In the early 1970s the efforts to introduce performance budgeting in some of the industrial countries led to the need to convert cash-based government accounting into accrual-based accounting. However, implementation problems, the cost of the system and the growing influence of demand management as a policy goal slowed down the introduction of accrual-based accounting. In addition, the increased emphasis on the measurement of the budget impact on the economy and the advantages that the cash system had for this purpose, favoured its application. In the United States, the introduction of congressional budget procedures, which also emphasised the cash basis for purposes of

1 A. Premchand; *Government Budgeting and Expenditure Controls; Theory and Practice,* International Monetary Fund, Washington, D.C. 1983. p390

determining budgetary ceilings, was further reason not to apply the accrual-based system.

More recently, i.e. in the beginning of the 1990s, the resolve to improve the cost effectiveness of the public sector, the focus on the value of money in the provision of public services and the added concern to control the nature and extent of long-term liabilities (particularly in the form of loans, loan guarantees and pensions), stimulated the search for alternative budgeting and reporting techniques. These had to reflect and enhance decision-making on the magnitude of accruing costs more effectively. This search led to renewed interest in accrual accounting in many countries, none of which did away completely with cash accounting. Work has rather been focused on the additional financial information needed to complement traditional cash budgeting to reflect the new performance challenges and priorities facing these countries' public sectors. However, the introduction of the accrual-based accounting system has become obligatory for the governments of New Zealand and the United States, and even the International Monetary Fund is currently considering the inclusion of accrual-based accounting in the *"Manual on Government Finance Statistics"*.

A number of questions need to be asked when a government considers introducing accrual accounting, namely:

- Will the conversion to accrual accounting provide adequate accountability to the legislator and the public at large?

- Will it facilitate macro-economic management by contributing more effectively to the formulation of appropriate fiscal policies and their implementation with the minimal fiscal slippages?

- If the new accounting standards are to be introduced in government, who should be responsible for their implementation and what are the costs involved in implementing the new system?

It can therefore be concluded that both accounting systems have a place in the overall system of government accounting, auditing and financial reporting. In analysing government financial reports, it is important to determine first what accounting system was used to produce the financial report. It is also important that the results of the different accounting systems are not combined in one analysis without explaining the shortcomings.

The accounting systems currently in use in the public sector of South Africa

Public-sector enterprises, local governments and extra-budgetary institutions are currently making use of the accrual accounting system. The Main Budget (as regulated by the Exchequer Act and Treasury Instructions) and the provincial governments are, however, mainly applying the cash accounting system. The Department of State Expenditure has appointed a private firm to investigate and prepare a working document in respect of various matters, including the establishment of accounting standards for the National Government to improve financial administration. This report has recently been completed and is currently being considered by the parties concerned.

The South African Reserve Bank, for purposes of monetary policy decisions, needs information on how the expenditure of the government is influencing the money market. In view of the deficiencies in the current reporting system, it is necessary for the Reserve Bank to make adjustments to the issues and receipts of the Exchequer Account for money issued to the Paymaster-General Accounts of the different departments but not spent by the departments; for the amortisation of the discount on zero-coupon stock, which is capitalised over the maturity of the stock but does not represent an actual cash flow; and for some of the profits or losses on the early redemption of government stock which do not represent actual cash flows.

The current reporting system also does not fulfil the requirements of an accrual-based system. If it is to do so, the different government departments will have to make book entries for example on flows, which imply a change of ownership when goods are delivered; on services when provided; and on intermediate consumption when materials and supplies are being used. With regard to taxes, information is needed, for example, the moment the tax liability is definitively assessed. The above-mentioned information is, however, not readily available and because of this, important insights contained in the accrual system are lost in the compilation of the published public sector data. One such example of data contained in the accrual system but of which the consequences are ignored in the cash flow analysis, is the influence of the discount on government stock on the total cost of debt servicing. The calculation of the amortisation of the discount on the issue of new government stock over the maturity of the stock clearly illustrates this deficiency in the current accounting system.

The amortisation of the discount on government stock

Since September 1980, domestically marketable stock of the government has been issued at a discount. The total discount has varied from fiscal year to fiscal year, but amounted to a total of R34,9 billion in the period from September 1980 to the end of March 1995. As indicated above, this discount was not included in the calculation of the interest payments of the government in the accounting system that is currently used by the government. The discount on government stock

therefore represents a hidden cost which is not included in the deficit, although it has a noticeable influence on the rate of increase in total government debt. The discount on new issues of government stock is capitalised on the day of issue and rolled over on the maturity date by issuing new government stock. Zero-coupon stock, however, is treated differently. The discount on zero-coupon stock is amortised over the maturity of the stock and included in expenditure, while at the same time a corresponding amount is added to new loans received by the Exchequer.

During October 1986 the Accounting Practices Committee of South Africa issued a report (Exposure Draft 68) under the title "Accounting for Investment", which is in accordance with "International Accounting Standard 25" issued under the same title by the International Accounting Standards Committee. According to these reports the discount or premium on acquisition, being the difference between the acquisition cost and the redemption value, should be amortised over the period from acquisition to maturity, so that a constant periodic yield will be earned on the investment. The discount or premium, together with the nominal rate offered by the stock, serves to provide the effective interest rate over the term of the stock.

Exposure Draft 68 suggests two methods which can be used to calculate the amortised amount in each year, namely the straight line amortisation method or the effective interest method. If the straight line amortisation method is used, the discount or premium is calculated as the difference between the issue price and the nominal value of the stock. This discount or premium is then divided in equal amounts over the maturity of the stock. The following example explains the straight line method:

> A 10 per cent government stock with a nominal value of R100 and a two-year maturity is issued at R88. This gives a discount of R12, which, according to the straight line amortisation method is amortised at R6 for each year. Total interest accrued amounts to R16 each year, consisting of the R6 amortisation plus R10 coupon interest paid.
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> If the effective interest method is used, the discount

Table 1. Cost of government debt

Fiscal years	Interest R millions	Amortised discount R millions	Cost of government debt R millions	Government debt R millions	Interest as percentage of government debt %	Cost of government debt as percentage of government debt %	Interest as percentage of GDP %	Cost of government debt as percentage of GDP %	Annual discount R millions
1980/81	1 403,2	0,8	1 403,9	18 150,8	7,7	7,7	2,2	2,2	15,4
1981/82	1 837,6	7,1	1 844,6	19 853,3	9,3	9,3	2,5	2,5	106,9
1982/83	2 380,3	19,3	2 399,6	22 112,8	10,8	10,9	2,9	2,9	87,2
1983/84	2 929,7	56,5	2 986,4	26 421,4	11,1	11,3	3,1	3,2	501,2
1984/85	3 876,0	99,8	3 975,8	30 172,7	12,9	13,2	3,5	3,6	681,1
1985/86	4 226,3	176,4	4 402,6	37 071,3	11,4	11,9	3,4	3,5	408,3
1986/87	5 398,9	214,5	5 613,4	41 424,6	13,0	13,6	3,6	3,8	604,2
1987/88	6 209,3	269,0	6 478,3	50 314,0	12,3	12,9	3,6	3,7	887,2
1988/89	7 671,8	507,5	8 179,3	60 056,5	12,8	13,6	4,1	4,4	2 367,5
1989/90	8 580,9	666,1	9 247,0	79 894,9	10,7	11,6	3,5	3,7	4 330,8
1990/91	11 274,8	686,4	11 961,2	96 035,4	11,7	12,5	4,0	4,2	2 965,6
1991/92	13 433,4	1 030,5	14 463,9	105 657,1	12,7	13,7	4,2	4,5	4 299,5
1992/93	16 493,3	1 268,6	17 762,0	126 613,5	13,0	14,0	4,7	5,1	4 080,6
1993/94	20 533,1	1 284,9	21 818,0	154 665,7	13,3	14,1	5,2	5,5	2 721,7
1994/95	23 047,6	1 960,8	25 008,4	192 160,8	12,0	13,0	5,2	5,6	10 851,3

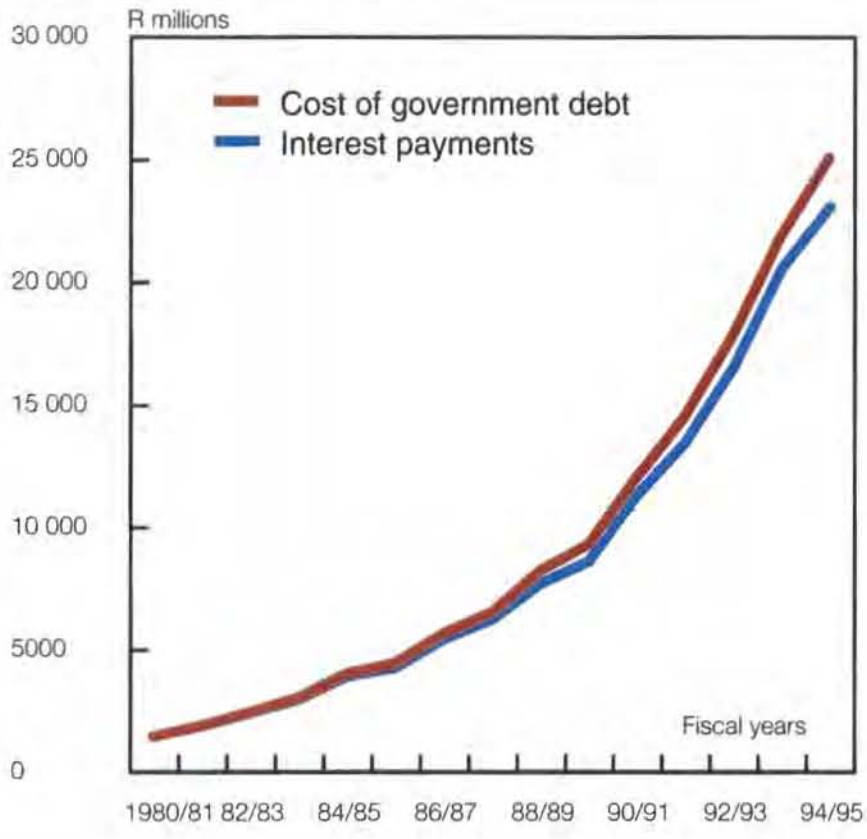
or premium at issue, being the difference between the issue price and the redemption value, is amortised at the rate of interest inherent in the carrying amount at which the stock was initially issued. The discount or premium together with the nominal rate offered by the stock will combine to provide the effective rate of interest paid over the term of the stock. The effective interest method yields the following results, applied to the above-mentioned example and assuming that the R10 coupon interest is paid at the *end* of each year:

Government receives R88 now, in return for paying out R10 in coupon interest after 1 year, and R110 in capital and coupon interest after 2 years, when the bond matures. The effective interest rate i is calculated from the equation $R88 = R10/(1+i) + R110/(1+i)^2$. Rounding somewhat, i equals 0,176, or 17,6 per cent per annum. Interest accrued in year one therefore is R88 X 0,176 or R15,49, and in year two (R88 +R15,49) X 0,176 or R18,21. Therefore the amortised amount in year one amounts to R5,49 and in year two to R8,21.

However, for the purpose of the exercise discussed below, the straight line amortisation method was used because of its simplicity. The part of the discount which must be amortised during each month over the maturity of the stock was calculated for each government stock. These amounts were then added to reach the total amount that must be amortised during each fiscal year. This amount was then added to the total cash flow interest payments to obtain the total interest costs of government debt during each fiscal year according to the accrual accounting system. The results of these calculations are shown in Table 1.

The amortised discount increased substantially from R0,8 million in fiscal 1980/81 to R1 960,8 million in fiscal 1994/95. If the amortised discount for the fiscal year 1994/95 is added to the cash flow interest payments of R23 047,6 million in that fiscal year, the cost of government debt amounted to R25 008,4 million – an increase of 8,5 per cent. The amortised discount in fiscal 1994/95 of R1 960,8 million amounted to 0,4 per cent of the gross domestic product in fiscal 1994/95, which means that if interest payments were the only item in the government accounts showing a difference in value between cash and accrual accounting, the deficit would increase from 5,7 per cent of gross domestic product to 6,1 per cent in that specific fiscal year. Taking into account the sharp increase in the discount on government stock over the last few years, especially in the fiscal year 1994/95, this means that the amortised discount will continue to play an important role in the reported cost of government debt in the years to come, even if the discount should decline.

Cost of government debt



Conclusion

This note has described the differences between the two internationally accepted accounting systems used in public-sector accounting and concludes that a move away from a cash-flow accounting system to a accrual accounting system by the government will have a marked effect on the presentation and transparency of the government accounts. For purposes of monetary policy, it is preferable that the accounting systems that are used must also be able to provide information on a cash-flow basis. At the same time, accrual-based information is extremely important as a source of data for national accounting practice, which provides policymakers with reliable estimates of key aggregates, such as government saving and consumption expenditure.

Bibliography

Everingham, G.K. & Hopkins, B.D. 1991. *Generally accepted accounting practice*. Juta & Co, Ltd, Student's Edition.

Exposure Draft 68. 1986. *Accounting for investments*. Accounting Practices Committee.

Hicks, B.E. & Hunt, P. (Ed) 1980. *Cash flow accounting*. The International Group for Cash Flow Accounting, and The Research and Publication Division, School of Commerce and Administration, Laurentian University, Sudbury, Ontario, Canada.

International Accounting Standard 25. 1986. *Accounting for investments*. International Accounting Standards Committee.

Livingston G.D, C.F.A. 1988. *Yield curve analysis. The*

fundamentals of risk and return. New York Institute of Finance. New York.
OECD Working Papers, Vol.1. *Accounting, for what?: The value of accrual accounting to the Public sector*, No 16. Paris 1993.
Premchand, A. 1989. *Government budgeting and expenditure controls: Theory and practice*. International Monetary Fund. Washington, D.C.
Premchand, A. (Ed) 1990. *Government financial management: Issues and country studies*. International Monetary Fund. Washington, D.C.
Premchand, A. 1993. *Public expenditure management*. International Monetary Fund. Washington, D.C.
Strydom, W.A. 1994. *Geamortiseerde diskonto op staatseffekte*. Departmental Study No 19. Economics Department. South African Reserve Bank.