SOME ASPECTS OF THE EVOLUTION AND STABILITY OF THE CENTRAL GOVERNMENT'S CURRENT DEBT SITUATION 1960-1997

by

PROFESSOR J VAN DER S HEYNS

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PREFACE

The work on which this paper is based was undertaken while the author held a rotating research fellowship in the Economic Research Unit, University of Natal, Durban, from July to December 1987.

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J. van der S. Heyns
May 1988

1. INTRODUCTION

1.1 Rationale and Objectives

The main objectives of this paper are, firstly, to investigate some aspects of the recent historical evolution of the central government's total debt with particular reference to the longer-term relationship between the budget and the growth of the outstanding debt, and secondly, to assess the stability of the central government's current debt situation, taking a medium-term view into the 1990s.

Reference will be made to the government's gross debt as well as its net debt (i.e., financial liabilities less financial assets). However, apart from the fact that there is a lack of reliable data on the historical net debt situation, the quantitative importance of the government's financial assets in its overall debt situation has also diminished markedly over the last ten years. Partly for these reasons but also out of a desire to keep the focus of the paper on the existing budgetary framework, the forward-looking analysis will concentrate on the evolution of the gross rather than the net debt situation of the central government.

Following similar studies abroad, the paper will not examine the distribution of the total debt between domestic and foreign debt, nor will it examine the maturity structure or ownership distribution of the total debt, although aspects of debt management such as these obviously impact on the capacity of the economy to absorb debt as well as on the government's debt service burden.

Neither does the paper examine the current and future budgetary implications of (1) the very extensive volume of financial guarantees provided by the government, or (2) the potential

financial claims on the Exchequer in respect of accumulated foreign exchange losses of the South African Reserve Bank, or (3) the potential liabilities of the government in respect of any of the country's social welfare funds or the government service pension and provident funds.

The rationale for the study may be described as follows. The government's gross debt has grown considerably since the late 1970s. However, despite the recorded increase in the absolute level of debt, the importance of the debt in the economy remained relatively stable between 1983 and 1987 in the sense that the outstanding debt, as a ratio of gross national product (GNP), remained almost constant. In contrast, the average rate of interest on the outstanding debt increased fairly dramatically from 7,87 per cent in 1980/81 to 14,55 per cent in 1986/87 If the government's net debt situation is considered instead, the extent to which the absorption of government funds by net debt service costs increased in the 1980s was even more pronounced. As a result, the share of debt service costs in both total and current outlays of the government increased quite dramatically. Given the enormous pressures currently on the central government to provide increasing amounts of public services and/or to reduce taxation, there is legitimate concern that rising budget deficits could impact on the already high debt service burden by further raising the outstanding debt, and that ever increasing debt service costs as a proportion of government spending may consequently become a serious constraint on the flexibility and stability of budgetary policy in South Africa, including the ability of the government to lower tax rates to more acceptable levels.

This paper seeks to contribute to the discussion of these issues by focusing on the relationship between the budget and the evolution of the outstanding debt. A special area of focus is therefore the so-called forward-looking fiscal calculus, which is used here to make some projections of the longer-term debt and

budgetary implications of alternative fiscal scenarios.

1.2 Focus on the Fiscal Calculus

The fiscal calculus runs in terms of budgetary deficits, the growth of the economy, interest rates and the growth of public debt. The reciprocal relationship between the budget and the public debt can be explained in simple terms as follows.

If the government incurs a budget deficit in fiscal year 1987, it adds to the volume of outstanding debt and interest has to be paid on the debt in 1988. This interest forms part of government outlays in 1988 and unless tax revenues are higher or other expenses are reduced, the budget deficit increases. The now higher budget deficit adds to the public debt in 1988 and interest has to be paid on a still higher debt in 1989, and so on. The question is, will the continuous rolling on of interest payments in this way cause the outstanding debt and interest payments to expand indefinitely or to unacceptable levels?

An indefinite rise, or so-called "explosion", of debt and interest as a ratio of GNP is more likely to occur if interest rates rise above the growth rate of GNP. Conversely, if the growth rate of GNP exceeds the interest rate, the debt and interest as a ratio of GNP will rise to a finite ceiling. When a country is faced by an adverse, i.e., a negative growth-interest differential, and is unable to reduce its budget deficit, it may be said to be in a so-called "debt trap".

A more elaborate treatment of the fiscal calculus will be presented in Section 4.

1.3 Budgetary and Debt Concepts

Since the relationship between the budget and the outstanding debt constitutes a key element of the fiscal calculus, it is as

well to be clear from the outset about the meaning of these concepts.

The budget referred to in the paper is the budget of the central government[1] (i.e., the budget that is presented annually to Parliament by the Minister of Finance). Its accounting framework is the State Revenue Account. This account is currently a sub-account of the State Revenue Fund or its banking equivalent, the Exchequer Account. (See Section 5.1 for a more detailed description of the division of the State Revenue Fund into its several sub-accounts).

Although the State Revenue Fund lies at the centre of the central government's entire financial system, the Fund's outlays and revenues are not synonymous with the expenditures and revenues of the central government as defined in the national accounts. Indeed, the coverage of the so-called central government budget is such that it excludes a considerable but variable volume of extra-budgetary transactions, a fact which gives the budget a considerable potential both to be manipulated and itself to give a distorted picture of the government's influence on the economy. The government's extra-budgetary transactions, moreover, impinge on the ownership distribution of the outstanding debt. Such transactions thus obviously have implications for the destination and significance of government interest payments. For example, interest on government securities accruing to separate funds such as the Special Defence Account may perhaps be regarded as disguised additional budgetary allocations to the separate funds rather than as interest. This particular issue touches on the whole question of how big a part of the outstanding debt is really held outside the central government sector, rather than by government agencies. By focusing exclusively on (1) the annual budget, (2) the financing of budget deficits by the issue of debt, and (3) the burden imposed on the budget by the accumulated debt, the present study obviously deals only with a part of the central government's finances.

However, the importance of the traditional central government budget **per se** lies in the fact that, despite its lack of comprehensiveness, it does form the basis for the Finance Minister's major fiscal policy decisions, and is widely used as a broad indicator of the government's fiscal stance. These are also the reasons why the present study will concentrate on the debt of the "central government" rather than, say, the central government sector or the general government sector. Basing the study on broader concepts of debt such as the latter two might have enhanced the international comparability of the results, but would have produced little of practical relevance for fiscal policy making in South Africa.

The debt concept corresponding to the central government's budget, as defined above, is the so-called State Debt. In the main, the latter represents directly or indirectly the cumulative effect of the financing of past budget (State Revenue Fund) deficits by the raising of loans.[12] Interest on the State Debt also forms a direct statutory charge against the State Revenue Fund. It is on the State Debt and its evolution between 1960 and 1997 that attention is therefore focused in this paper.

The State Debt per se is a gross debt concept, in more senses than one, i.e., it takes no account of any off-setting financial claims that the central government (the political entity) has accumulated on other sectors, nor does it take account of the fact, alluded to above, that a part of the outstanding debt may be held by other central government departments, frequently through the office of the Public Investment Commissioners (formerly the Public Debt Commissioners) and the Corporation for Public Deposits, or by the South African Reserve Bank which has relevant financial links with the budget (in the sense that the whole or part of interest payments to the Reserve Bank may return to the Exchequer as profits of the former).

It is also necessary to distinguish between the State Debt and South Africa's public debt.(3) All debt issued by public authorities in South Africa, whether by general government departments or business enterprises at whatever level, form part of South Africa's total public debt. In addition to the debt issued by the central government itself, the public debt thus includes loans raised by, e.g., the separate national states and universities (at general central government level), and the municipalities (at general local government local level), as well as loans raised by departmental business enterprises, including **inter alia** the National Housing Commission, SATS, the Department of Posts and Telecommunications and the other so-called public corporations. The State Debt is clearly only part of the total public debt, and it should therefore be distinguished from broader debt concepts such as the debt of the combined central government(4), or the debt of the general government.(5)

1.4 The Consequences of High and Growing Debt Levels

In a study such as the present one it is important at the outset to distinguish clearly between: (i) the impact of budget deficits and their financing on the flows of savings and investment in the economy; and (ii) the impact of budget deficits on the outstanding stock of government debt in relation to GNP, and the budgetary cost of servicing that debt. It is the second of these two aspects of public borrowing policy which is relevant to the subject matter of this study. The question is: do the accumulated government debt and annual additions to it impose constraints on fiscal policy in addition to those arising from the need to shape current deficits in relation to the current and expected flows of savings and investment?

There are two main problems associated with a large stock of outstanding debt in relation to GNP. These are discussed below, with particular reference to the discussions in OECD Economic Outlook, (1984 and 1985).

Government Debt and Interest Rates

There is, firstly, the risk of upward pressure on nominal and real interest rates. This risk is associated with the possibility that the economy may have a limited capacity to absorb increasing amounts of government debt. The link between interest rates and stocks of debt could arise through two channels. The first is that higher real interest rates may have to be paid in order to induce private investors to hold increased shares of government stock in their portfolios. Any reluctance on the part of financial markets to absorb disproportionate amounts of government debt into private portfolios will thus tend to be reflected in upward pressure on interest rates.

The second way in which a high outstanding stock of debt may influence interest rates is through inflationary expectations. High and growing levels of debt in relation to GNP may be associated with fears, on the part of savers, of future inflation in case of monetisation or higher taxes to service the debt. Such fears of high inflation will tend to be reflected in greater risk premiums, resulting in rising nominal and real interest rates.

It is axiomatic that concern in the financial markets would be greater the higher the current level of debt in relation to GNP, and the larger the current additions being made to it. However, such a general conclusion is subject to two important caveats. Firstly, since it is the average level of budget deficits over the course of the business cycle, and not the actual level in any one year that determines the growth rate of the outstanding debt in the medium-term, it is essential to distinguish between cyclical and structural increases in the debt/GNP ratio. To the extent that debt increases are perceived by the financial markets as a cyclical phenomenon (and thus likely to be reversed over the remainder of the business cycle), undesirable expectational effects might be limited. Conversely, permanent or sustained

increases in the debt/GNP ratio, which are associated with larger structural budget deficits, are more likely to result in rising interest rates especially in the case of a non-accommodating monetary policy.

Secondly, it seems impossible to stipulate an optimal debt/GNP ratio for a particular country. According to the OECD there does not appear to be any obvious policy rule for the ideal or optimal level of debt, applicable to all countries. In the words of Muller and Price:

> "There appears to be no generally optimal ratio of gross government debt to GNP - in proximate terms, any fixed debt-GNP ratio might, within wide bounds, be said to be a 'steady state' (i.e., sustainable) position ..." (Muller and Price, 1984b).

Comparative studies have therefore revealed large differences in debt levels between countries and in the same country at different times. The appropriate level of debt and the rate of adjustment towards that level appear to depend on many factors (OECD, 1985, p.8). The result is a lack of consensus on what optimal debt levels might be and especially on how fast governments should strive to achieve such levels:

> "Although the need to limit or reverse increases in the ratios of debt to GNP is widely recognised, there is not yet a concensus on the longer-run goals of fiscal policy with respect to such ratios". (OECD, 1985, p.6).

The Debt Service Burden

The second major difficulty associated with large stocks of government debt is the budget inflexibility resulting from an increased burden of debt service payments. In the context of persistently high interest rates and large deficits, there is the risk that debt levels and interest costs could "explode" because of the compounding effect of interest payments. With a major component of expenditures thus committed to rise as a proportion of GNP, a squeeze on other components of expenditure will be

required merely to maintain the structural component of the deficit as a share of GNP. In other words, to avoid even larger deficits as debt service costs rise, taxes would have to rise or non-interest spending to fall, imposing considerable difficulties on any government aiming for a reduction in tax burdens and/or maintaining politically sensitive public expenditures. Moreover, if, at some stage, the economy should slow down, and the cyclical component of the budget deficit should increase, the need to make further budget savings in order to avoid incurring even more rapidly increasing debt service commitments, would become even more acute.

The macro-economic effectiveness of budgetary policy in influencing aggregate demand is, moreover, likely to be diminished if interest payments (which often have a relatively high savings "leakage" in the hands of households) are substituted in the budget for direct expenditures on goods and services.

1.5 Outline of the Study

The study comprises nine parts. Part 2 below describes the international background against which the present project has been undertaken. This is followed in Part 3 by a brief sketch of recent South African developments in the same general sphere of budgetary policy.

The essentials of the forward-looking fiscal calculus are set out in Part 4.

Various aspects of the recent historical evolution of the central government's debt situation are examined in Parts 5, 6 and 7, while Part 8 uses the analytics of Part 4 in order to assess the stability of the current and prospective fiscal scenarios.

Part 9 concludes the paper.

2. INTERNATIONAL BACKGROUND

This study must be viewed against the background of a recent revival of interest, in South Africa and abroad, in the public debt as a budgetary phenomenon. The present section provides a brief sketch of recent overseas developments, while Section 3 will provide a South African background.

2.1 Classical Views

While several objective factors, including the oil crises of the 1970s, declining growth rates and the acceleration of inflation, contributed to a rapid deterioration in the public financial position of many countries during the 1970s, an indifferent and careless attitude by governments towards budget deficits and public debt also played an important role. The more relaxed attitude towards borrowing is widely attributed to the abandonment, since the 1930s of the classical budget-balancing norms of fiscal prudence and responsibility in favour of open-ended Keynesian fiscal activism, focusing on the budget's short-term impact on aggregate demand.

Classical views on public finance and budget deficits were dominated by a concern with the public debt. Classical economists were almost unanimous in condemning budget deficits and the accumulation of debt. Although it was frequently conceded that deficit financing was permissible in times of war, they were concerned that in peacetime it would lead to fiscal irresponsibility and wastefulness. It was also feared that the burden of the public debt could become excessive because of the taxation required to service it. Taxes in turn were considered to be harmful because of the burden they imposed on productive activity. In this kind of environment, low expenditure and budget surpluses were the order of the day, except in war-time. In other words, responsible financial conduct by the government

was viewed in basically the same light as that for the family. Frugality was the cardinal virtue, and this norm was given practical shape in the widely shared principle that government budgets should be in balance, if not in surplus, and that deficits were acceptable only in extraordinary circumstances. Large and continuing budget deficits were interpreted as the mark of folly.

2.2 The Keynesian Revolution

The Keynesian revolution of the late 1930s brought a significant change in these traditional attitudes towards fiscal policy and budget deficits. In sharp contrast to pre-Keynesian concerns with the longer-term implications of government borrowing and public debt, Keynesian analysis focused on the short-term link between budget deficits and aggregate demand, with fiscal policy being seen as a means of achieving an appropriate level of real demand, and hence employment, in the short-term. The Keynesian vision of how the economy worked was widely shared in the first three decades after 1945.

The notion of an unstable economy whose performance could be improved through the manipulation of government budgets produced a general principle that budgets need not be balanced. Indeed balanced budgets would mean that the government was not doing its duty. In short, the classical norm of balanced budgets was replaced by the Keynesian norm of unbalanced budgets:

> "The Keynesian platform for economic management replaced the old-fashioned belief in a balanced budget with what was viewed as a new and superior principle, that of using the budget - deficits and surpluses - to balance the economy." (Wagner, et al, 1982, p.9).

Under the new fiscal regime, deficits were thus no longer viewed as a sign of irresponsible government action, and the avoidance of budget deficits, along with some effort to reduce the public

debt, ceased to be a sine qua non of fiscal behaviour. In the words of Hugh Dalton:

> "we may now free ourselves from the old and narrow conception of balancing the budget, no matter over what period, and move towards the new and wider conception of the budget balancing the economy." (Dalton, 1954, p.221).

One country after another therefore discarded the old norms of responsible fiscal conduct in favour of the new doctrine with its emphasis on the functional use of the budget for short-term demand management purposes. In particular, the traditional or classical principles of sound finance, which had held that no borrowing was justified if associated with unproductive expenditures, were abandoned in favour of activist fiscal policies. The latter soon went far beyond deficits in recession. Deficits were often larger than could be reconciled with pure Keynesian principles of smoothing out fluctuations in demand, so that permanent and sustained fiscal deficits or so-called structural deficits became the norm rather than the exception in many countries.

2.3 The Revival of Classical Concerns

Keynesian theory of counter-cyclical policy failed to give adequate recognition to the shortcomings of the political systems within which policy was to function. The running of deficits was actually only part of the Keynesian contra-cyclical policy prescription. As developed by the economists who advocated macro-economic planning fiscal policy was to be devoted to smoothing out cycles in private economic activity. It was therefore to be symmetrical, guided by the same principle during both recession and inflation, i.e., deficits would be created during recession and surpluses during inflation. However, over the course of the cycle, the budget could remain in balance. As James Buchanan remarked:

"The time-honoured norm of budget balance was thus jettisoned, but, in the pure logic of Keynesian policy, there was no one way departure. It might even be said that Keynesian economics did not destroy the principle of a balanced budget, but only lengthened the time-period over which it applied, from a calendar year to the period of a business cycle." (Buchanan, 1978, p.15).

However, Keynesian fiscal policies were made to function rather differently when put into practice. The reason, according to Buchanan, was that after the abandonment of classical principles of sound finance, political institutions were no longer constrained as before. He said:

"Anyone, citizens no less than politicians, would typically like to live beyond his means. Individual citizens generally face a personal or household budget constraint which prevents them from acting on this desire, although some counterfeit and others go bankrupt. In the century before the shift in belief wrought by the Keynesian revolution, politicians acted as if they sensed a similar constraint when making the nation's budgetary choices. Contemporary political institutions, however, are constrained differently because of the general belief in the Keynesian vision. This shift in constraints due to the shift in general beliefs alters the character of governmental budgetary policy. While there is little political resistance to budget deficits, there is substantial resistance to budget surpluses. Hence, fiscal policy will tend to be applied asymmetrically: deficits will be created frequently, but surpluses will materialise only rarely. This bias results from the shift in the general, public impression or understanding of the Western economic order, and of the related rules of thumb held generally by the citizenry as to what constitutes prudent,

> reasonable, or efficacious conduct by government in running its budget." (Buchanan, 1978, p.18).

Although deficits were therefore created during recessions, these were not followed by offsetting surpluses when economic activity improved. There was, moreover, little political opposition to non-recessionary deficits. Buchanan had this to say about Keynesian economics:

> "Keynesian economics has turned the politicians loose; it has destroyed the effective constraint on politicians' ordinary appetites to spend and spend without the apparent necessity to tax." (Buchanan, 1978, p.27).

The IMF's de Larosiere described the disintegration of the traditional doctrine of balanced budgets as follows:

> " ... the traditional stigma attaching to fiscal deficits and growing public debt gave way to a certain nonchalance and laxity on the part of policy makers. Fiscal deficits no longer required justification, and they did not seem to have undesirable political repercussions, even when they occurred during non-recessionary periods." (de Larosiere, 1984, p.261).

Some economists see political bias in favour of higher spending as an important cause of the growing public indebtedness of many governments. De Larosiere has, for example, noted that:

> "Because the beneficiaries of these (government) services represented large and politically powerful groups, while those who opposed them were less numerous and less concentrated, the political process generally favoured their expansion. If the cost of these services had been totally covered by ordinary revenue, we would have witnessed a process of income redistribution in favor of lower-income users of these services, without fiscal deficits. However, while the

electorate pushed for higher spending, it was far less supportive of the tax increases that would have been needed to finance that spending. As time passed, and in spite of substantial tax increases in all industrial countries, the gap between government spending and revenue grew, contributing eventually to higher public debt burden." (de Larosiere, 1984, p.261).

In the United States in particular, there is a strong body of support for some sort of constitutional amendment to restore discipline and responsibility to the budgetary process.(6)

Public and congressional debate over more than a decade on this latter issue culminated in the passing in December 1985 of the so-called Gramm-Rudman-Hollings budget balancing law (i.e., the Balanced Budget and Emergency Deficit Control Act of 1985). The countering of the built-in bias in the United States budgetary process in favour of government spending and budget deficits is seen as an important rationale for the enactment of this legislation. For example, it was noted in the United States budget for the fiscal year 1987 that:

> "The American political system faces a great test. At present, the benefits of goverment programs tend to be concentrated on particular fiscal constituencies which lobby to defend their benefits, while the costs of such programs are spread over the population at large. The Balanced Budget and Emergency Deficit Control Act of 1985, better known as the Gramm-Rudman-Hollings amendment (GRH), was designed to cut through this Gordian knot and return the budget to balance by 1991." (United States, 1986a, p.2-3).

By passing this law, Congress bound itself to five years of enforced deficit reduction, with the goal of balancing the budget by October 1990.

But there appears to be limited support outside the United States for a constitutional approach to the problem of maintaining fiscal discipline. Budgetary decisions, i.e., the allocation of resources, distribution of income and issues of stabilisation (such as the choice between inflation and unemployment), are essentually political issues and those who hold power are unlikely to restrict their political freedom in that regard. The support that exists for a constitutional budgetary constraint in the United States is often considered to be a result of the country's peculair system of Congressional decision-making. In the United Kingdom, for example, there is very limited support for the concept of a constitutional limitation of any kind on deficits or spending, there being, of course, no written constitution in the United Kingdom.(7)

Legislative constraints on government borrowing for purposes of financing consumption exist in West Germany, Japan and Switzerland (Chouraqui and Price, 1983, p.34). In West Germany a constitutional constraint on the financing of current expenditures from loans was imposed in terms of the Growth and Stability Act of 1967, the passing of which is said to have heralded the beginning of the Keynesian era in Germany. However, the Act failed to have the desired effect, and has not prevented the authorities from running budget deficits in excess of their own capital expenditure, often disguised through redefinitions of expenditures and other forms of window-dressing. The latter is reminiscent of South Africa's own experience with dual budgeting, which will be reviewed in Section 3.1.

However, despite the limited support for a return to the rigid budget-balancing rules of fiscal restraint, which exerted such a dominant influence on public finance in the pre-Keynesian years, some of the former concerns over longer-term fiscal issues on which most attention was focused before Keynes, have once more become an important part of discussions of fiscal policy (de Larosiere, 1984; and Odling-smee, 1985). In particular, there is

a much greater awareness than before of the longer-term constraints on fiscal policy.

The rapid growth of public debt, relative to GNP, since the early 1970s has become a major policy concern in many countries, including many OECD member countries. As Table 1 shows, debt levels grew dramatically in many countries between 1970 and 1983. As a result there was a rapid escalation of debt service costs in relation to GNP, giving rise to fears in some countries that the situation may become explosive:

> "Since the late 1970s interest rates have been particularly high in most member countries, generally exceeding economic growth rates. Given the large budget deficits, this has led to a rapid increase in government debt service payments and raised concern that the compounding effects of such a situation would imply continuously growing deficits and an explosion of debt as a proportion of GNP." (Chouraqui, Jones and Montador, 1986, p.13).

A reduction of debt levels together with the aim of reducing taxes have been an important motivation in many countries to pursue policies of fiscal consolidation.

Both the IMF and the OECD regularly exhort their member countries to reduce the ratio of debt to national income. Public debt developments in member countries and the debt service burden now also feature regularly in OECD reviews (OECD, 1984, and OECD, 1985). The so-called fiscal calculus has also received considerable attention (Chouraqui, Jones and Montador, 1986; Marris, 1985; and Bispham, 1987). Whether or not the public debt calculus imposed a constraint on fiscal expansion in the United Kingdom was moreover the subject of considerable debate in that country in 1985. Whilst Congdon (1985a, 1985b, 1985c) took the view that the United Kingdom was already in the so-called debt trap, Layard (1985), Charter for Jobs (1985), Dornbusch (1985),

Davies (1985) and Davies and Layard (1985) argued that the government could expand its borrowing in order to reduce the high level of unemployment. Budd, Dicks and Keating (1985) accepted that there was an optimal debt/GNP ratio, but did not venture to determine it.

Table 1 Debt Service Burden on the General Government Sector: 1970-85
(Percentages of Nominal GNP)

	Debt Outstanding		Gross Debt Interest Payments					
	1970	1983	1970	1975	1980	1983	1984	1985
United States	46	46	2,2	2,5	3,3	4,6	4,9	5,5
Japan	12	67	0,6	1,2	3,2	4,4	4,6	4,7
Germany	18	41	1,0	1,4	1,9	3,0	3,0	3,0
U Kingdom	86	54	3,9	4,0	5,6	4,9	4,7	4,3
Italy	44	85	1,7	4,0	6,3	9,1	9,6	10,1
Austria	19	45	1,0	1,3	2,5	3,1	3,3	3,8
Belgium	73	116	3,4	3,5	6,1	9,5	9,8	10,1
Netherlands	51	61	2,9	3,9	3,7	5,7	6,2	6,5

Source: OECD 1984, December, p.32.

The growing importance of public debt as a component of fiscal analysis is also demonstrated by the fact that a recent United Kingdom Green Paper on public expenditure devoted an entirely new section to the issue of public debt interest (United Kingdom, 1984). In the Netherlands, the role of the public debt as a determinant of the optimal budget deficit is dealt with in a recent report by the Sosiaal-Economische Raad (Netherlands,

1985). The exceptional rise in the United States public debt (held by the public), and the increase in interest costs in the budget, were also highlighted recently by a special study of these issues undertaken by the Congressional Budget Office (United States, 1984).

3. RECENT SOUTH AFRICAN DEVELOPMENTS

In South Africa, as elsewhere, the so-called Keynesian revolution of the 1930s led to significant changes in thinking about the economic role of government deficits and public debt. The new attitude towards budget deficits and government borrowing, based on Keynesian principles of short-term demand management, was, **inter alia**, reflected in a changed framework of budgeting and budgetary presentation in South Africa in the post-1945 period. The process of adjustment of the format of the budget to the new Keynesian vision of how the economy worked, and the role of the budget in it, culminated in the abolition of the dual budgetary system which had been in existence since 1910, and the introduction of a so-called unitary budget over a decade ago.

3.1 **The Dual Budgetary System**

The so-called divided or dual budgetary system, which existed in South Africa from 1910 until its demise in the 1970s, was a reflection of the earlier, pre-Keynesian or classical attitudes towards the budget and public debt. In terms of this system, the central government's financial and budgetary accounts were divided into a so-called Revenue Account and a Loan Account (the smaller Bantu Education and South West Africa Accounts are not considered here). In general, the government's current expenditures were brought to account in the Revenue Account and financed from taxation and other current revenues, whilst capital expenditures and lending (i.e., permanent or recoverable expenditures) were brought to account in the Loan Account and financed from borrowing.

Until at least the early post-1945 years this dual budgetary system, based on the nature of government spending, provided both a necessary and an adequate framework for the conduct of what were then considered to be sound financial policies. These

policies were based on the principle, accepted at an early stage in the development of public finance in South Africa, that responsible fiscal conduct demanded that at least current expenditure should be financed by current revenues, but that capital expenditure (i.e., productive outlays) could be financed from borrowing. In these early years the budgetary distinction between current and capital expenditure was therefore of vital interest. However, since the early 1950s there had been a gradual blurring of the division between the Revenue and Loan Accounts. This reflected, at least in part, the fact that the distinction between current and capital expenditure and revenue had become blurred and was fraught with definitional problems. An example was the difficulty of categorising mining leases. But the breakdown of the division also resulted from a weakening post-war resolve on the part of policy makers in South Africa to maintain the earlier dictums of sound finance against the onslaught of the new principle of functional finance with its emphasis on short-term demand management. For example, since 1954 the Minister of Finance had purposefully proposed that surplus monies in the Revenue Account be transferred to the Loan Account. The reverse (i.e., loan financing of current expenditure) was on occasion achieved by re-defining certain current outlays as capital expenditures. The formal division between the Revenue and Loan Accounts therefore became largely meaningless. The final step on the road to a new style of budgetary presentation, based on the new Keynesian vision of the economy, was taken when, following the recommendations of the Franzsèn Commission in 1970, the distinction between the Revenue and Loan Accounts, and hence the underlying distinction between the central government's capital and current expenditures as a rationale for financial decisions, was formally abandoned in 1976 in favour of a so-called unitary or undivided budgetary presentation, setting out total government spending, total revenues, and the overall deficit (surplus) and its financing.

Apart from the obvious administrative advantages which must also have flowed from such a unification of the government's accounts, the introduction of a unitary budget served a twofold purpose: (1) to underline the importance of the concept of a consolidated budget deficit and the need to finance it in a non-inflationary way by integrating the government's borrowing with broad monetary policy, and (2) to promote the idea that the choice between taxation and borrowing should be based on so-called 'economic factors' such as the general state of economy, conditions in the money and capital markets, the balance of payments, etc., rather than on the type of expenditure to be undertaken. The eclipse of the longer-term dimensions of budgetary policy, which attracted so much attention in former times, by shorter-term issues was thus completed when the first of the so-called unitary budgets was introduced in Parliament in March 1976.

3.2 A New Fiscal Constitution

The Keynesian revolution and its South African corollary (i.e., the eventual collapse of the dual budgetary system) therefore changed the fiscal constitution of South Africa in an important respect. In terms of the Keynesian vision there were no longer considered to be any apparent traditional or constitutional constraints on the conduct of government finance or on the size and stability of government deficits. In other words, as elsewhere, the South African government assumed complete freedom to unbalance the overall budget on the basis of widely accepted Keynesian (demand management) principles. In short, by the 1970s the creation of open-ended budget deficits and borrowing, no longer related to or evaluated with reference to the government's assets or investments, had become normal and acceptable fiscal behaviour in South Africa in the interest of pursuing the macro-economic objectives of stability and growth.

As the old budgetary system gradually disintegrated over the years and was replaced by a more modern (Keynesian) system of

accounting and presentation, the earlier (i.e., classical) preoccupation with principles of sound government finance and the longer-term implications of fiscal policy (e.g., the burden of the public debt, debt servicing costs and inter-generational equity) inevitably also faded in the public mind. Even the visible signs of the older order disappeared. For example, references to the burden of the public debt and the old rules of fiscal responsibility, which were still quite common in earlier post-War years, disappeared almost completely from Parliamentary debates during the 1970s. Moreover, the 'old fashioned' budgetary distinction between current and capital expenditure, epitomised by the distinction between the Revenue and Loan Accounts, which dominated budgetary policy in South Africa for so long, was dropped in favour of a new, low-profiled, classification of expenditure (to be voted on by Parliament) into: current expenditure, capital expenditure and transfers. As the transfers component of the total cut across the former division of outlays between the Revenue Account and the Loan Account, the new classification was not comparable with the old. In addition, the expenditure to "to be voted on by Parliament" excluded the so-called Statutory Appropriations, rendering the classifications not only confusing but also incomplete.

Although a much more detailed economic (and functional) classification of government expenditure (not easily reconcilable with the aforementioned classification contained in the Estimate of Expenditure) was indeed supplied, the relevant table was relegated to a rather obscure part of the annual budget format (i.e., the statistical appendix). One could perhaps argue about the relative importance of these classifications in the budget's presentation since 1976, but there is no doubt that they have not played an important part in the determination of the government's fiscal stance since then. During the 1970s a familiar sign of the 'old order', i.e., the traditional annual statement by the Auditor-General on the so-called productive nature of the total outstanding public debt, also disappeared from the government's

audited accounts.(8)

Since the demise of the dual budgetary system in the 1970s, the annual budget document has accordingly provided few if any longer-term perspectives on the government's annual budgetary stance, and little to aid those who continued to look at the budget through classical eyes. Moreover, the annual budget presentation by the Minister of Finance continues to pay scant attention to the central government's outstanding debt, which plays such a key role in the determination of total government expenditures.

3.3 Interest in Longer-term Issues

There have been indications recently that some of the issues on which attention was focused in earlier years are once again regarded as legimate areas of concern in the discussion of fiscal policy in South Africa. Such concerns include, inter alia: the role of government interest payments as a cause of growing current expenditure; the so-called burden imposed on future generations by the large outstanding debt; and the short- and long-term implications of the financing of current expenditures by government borrowing (i.e., government dissaving). In its longer-term context, the latter issue in particular represents a resurrection, in a somewhat different guise, of the earlier, pre-1976, issues surrounding the distinction between current and capital outlays.

The loan financing of current outlays in particular has attracted a great deal of attention in South Africa since the early 1980s. As shown in Table 2, loan financing of current outlays first took place in the 1980s during the years 1983/84 and 1984/85. Criticism of government in this regard centres around two issues: (i) government appropriation of scarce private saving to finance current outlays could lower the growth rate of the economy by reducing the overall rate of productive investments, and (ii) the

future capacity of government to service debt may be impaired if the debt is created to finance unproductive outlays.

Table 2 Central Government Outlays and Loan Financing, 1981-88 (R. Millions)

Year ending 31 March	1981	1982	1983	1984	1985	1986	1987	1988(1)
Current	11 097	13 962	16 660	20 183	25 100	29 775	35 126	41 682
Capital	2 546	2 694	3 000	3 662	2 773	3 200	5 086	4 636
Total	13 643	16 656	19 660	23 845	27 874	32 976	40 213	46 318
Loan financing(2)	551	2 345	2 373	4 587	4 351	4 478	4 351	8 425

Sources: South African Reserve Bank, Quarterly Bulletin. (Various issues)
The South African Reserve Bank.
Statistical/Economic Reviews. Budget 1986/87 and Budget 1987/88.

Notes: (1) Budget estimates.
(2) Actual Exchequer deficits, except 1987/88.

The government responded to these criticisms by appearing to adopt a more cautious if somewhat hypocritical attitude towards the issue in question. For example, it was stated in the 1985 budget that "current" expenditure would not again be financed by borrowing, as had happened in 1983 and 1984. As Table 2 shows, the realised budget deficit in fiscal year 1985/86 again exceeded the government's capital expenditure, by approximately R1 200 million.

In the same vein, it was declared in the 1986 budget that "as a further discipline the government's total borrowing requirement has been kept below the total intended capital spending for 1986-87". However, there was no statistical backup in the budget to substantiate this statement. At the same time, the budget actually also questioned the appropriateness of the usual national accounting distinction between capital and current expenditure. The question is, why did the government accept a discipline on itself which was, by its own admission, based on inapplicable national accounting concepts and, moreover, was not easily attainable in the then current phase of the business cycle?

The government's battle to come to grips with the issue in question must be assessed against the background of three main arguments against any dogmatic adherence to a policy of "no loan financing of current outlays". Firstly, at a time when the private demand for loanable funds is low relative to supply, it is legitimate and desirable for the public authorities to off-set the private excess of savings over investment by incurring larger budget deficits (irrespective of their composition), subject only to balance of payments considerations. The data in Table 2 must therefore be assessed against the background of the severe recession through which the South African economy has passed in the 1980s and the obligation that the government has to support demand.

Secondly, there is no generally accepted way that one can draw a valid distinction between truly productive and truly unproductive government outlays at this juncture of South Africa's history. The traditional national accounting distinction between investment and consumption may be appropriate for the private sector but is definitely not appropriate in respect of many of the traditional functions performed by the public sector, i.e., education, social welfare, research, health, etc. Even outlays on the development and production of armaments may directly or indirectly stimulate improvements in productivity (e.g., witness the successes of Armscor).

Lastly, longer-term budgetary issues such as these are in any case best evaluated in a longer-term context. As it is the trend of deficits or debt accumulation rather than the annual figures which serve as an indicator of fiscal discipline, an evaluation of the budget needs to distinguish between longer-term trends and purely short-term and reversible departures from the trend. The reason is that a short-term departure from a norm may not give cause for concern or have undesirable expectational consequences if it is expected to be merely temporary and will soon be reversed. Thus, temporary increases in the overall budget deficit or temporary loan-financing of 'current expenditure' when the economy is weak may to some extent be off-set when the economy is strong, and may be quite acceptable in a medium-term context. Since the South African budget has a very short-term focus it stands to reason that a norm which has a medium-term orientation will not fit easily into its framework.

The 1987 budget, which raised the overall deficit substantially above its level in the previous year, failed to mention the distinction between current and capital expenditure and its financing. As shown in Table 2, the Finance Minister actually proposed to use approximately R4 000 million of borrowed funds to finance a part of "current outlays" over the budget period,

thereby unfortunately creating the perception that the government is treating its own declared norms in a somewhat undisciplined manner.

Thus far attempts to give the annual budget a longer-term orientation have been fitful. The 1985 budget included a section on "longer-term fiscal and monetary policy". This latter section stipulated, **inter alia**, that "total public sector spending" as a percentage of GDP was to be brought down to its 1981 level by 1990, and that the deficit before borrowing of the "government sector" was not in future years to exceed 3 per cent of GDP, barring highly unusual circumstances. In the event, the 1985 budget provided for a deficit before borrowing on the State Revenue Account alone of about 2,2 per cent of GDP. There was, however, no indication of how much of a contribution the central government's deficit was expected to make towards keeping the deficit before borrowing of the "government sector" as a whole within the 3 per cent of GDP limit. The 1986 budget likewise failed to throw any light on this puzzle.

In a further development the 1986 budget effectively pushed into the background again, if not actually abandoned, the Finance Minister's previously declared medium-term objective of reducing public-sector spending as a percentage of GDP to its 1981 level, by declaring that it "will be more difficult to realise, at any rate in the following few years".

On the positive side, however, the 1985 budget for the first time gave a breakdown of the total of transfer payments into capital and current outlays. As this move will make it easier for the budget user to estimate the government's total capital expenditure, it could perhaps be seen as an indication of the government's willingness to recognise and encourage any renewed interest in the structural aspects of the budget deficit and to facilitate its evaluation.

4. THE FISCAL CALCULUS

This section sets out the analytics of the so-called fiscal calculus as it applies to the mechanical relation between the budget and the debt/GNP ratio. Further aspects of the debt calculus will be presented in other relevant parts of the paper.

The precise manner in which annual budget deficits and debt in relation to the GNP interact depends in a very complex way on the rate of growth of the nominal GNP and the interest rate on the outstanding debt. The projections provided in Section 8 below are based on the specifications provided by Bispham, 1987. The major conclusions emerging from Bispham's presentation are summarised below.(9)

An important result emerging from the debt calculus is that a budget deficit **per se** does not necessarily produce an "explosive" debt situation (i.e., an ever-expanding ratio of debt to GNP), even when the deficit is entirely debt financed. Taking the simplest case first, a constant overall budget deficit/GNP ratio, (i.e., where no interest is paid, or debt interest payments are off-set entirely by changes in the non-interest deficit) will be associated with the following upper limit of the debt/GNP ratio:

$$\frac{Debt_t}{GNP_t} = b_t \quad (\frac{1+y}{y}) \qquad (1)$$

where y = the nominal growth rate of GNP

b_t = the constant overall budget deficit as a proportion of GNP.

In these circumstances the conditions for stability of the debt/GNP ratio can be described as follows. The debt/GNP ratio will remain constant at any given level when the outstanding debt increases at the same rate as nominal income. This will occur

when the budget deficit ratio equals the fall in the debt ratio caused by the growth of GNP, i.e., when

$$p_t = \frac{Debt_o}{GNP_o} \quad (\frac{y}{1+y}) \qquad (2)$$

If the budget deficit exceeds this steady-state level, that ratio will increase, though it would stabilise at a new ceiling.

Where interest is paid on the outstanding debt and the resulting expenditures are not off-set by changes in other expenditure or revenues in order to maintain a constant deficit ratio, a potential for the existence of "explosive" situations exist. Then the crucial distinction between "explosive" and "non-explosive" debt situations is between those situations in which the growth rate of nominal (or real) GNP is less than, equal to or greater than the nominal (or real) interest rate on the outstanding government debt. Provided the same price index is used to deflate nominal GNP as is used to calculate the real interest rate, the same situations may be distinguished using the real equivalents as when nominal values are used. In the actual calculations in Section 8, nominal values are used, although prospective consumer price indexes are used in order to build up the estimated future growth rates of nominal GNP.

The relevant interest rate is sometimes taken to be the "net of tax (paid by the bondholders) rate" as this would be the appropriate rate to use in order to measure net budgetary effects (Bispham, 1987, p.42). In that case the non-interest budget deficit (non-interest expenditures less revenues) would exclude tax on government interest payments. Other writers (e.g. Chouraqui, Jones and Montador, 1986, p.67) assumed the interest rate to be gross of tax paid on government stock. However, it should be noted that the latter approach implies that tax on interest would be an increasing proportion of total tax revenue as the debt/GNP ratio rises.

The foregoing distinction between "gross" and "net of tax" interest rates does not affect the analytics that follow below. In the actual calculations of prospective debt and debt service ratios in Section 8 below, gross (i.e., before tax) interest rates will be used.

The analytics of the aforementioned key connection between the growth rate and the interest rate may be summarised as follows.

With q representing the constant primary budget deficit expressed as a proportion of GNP, y the annual growth rate of nominal GNP, r (10) the interest rate, and $Debt_o/GNP_o$ the initial debt ratio, the debt/GNP ratio will evolve as follows:

For all $r \neq y$:

$$\frac{Debt_t}{GNP_t} = q\left(\frac{1+y}{r-y}\right)\left[\left(\frac{1+r}{1+y}\right)^t - 1\right] + \frac{Debt_o}{GNP_o}\left(\frac{1+r}{1+y}\right)^t \qquad (3)$$

But for $r = y$

$$\frac{Debt_t}{GNP_t} = tq + \frac{Debt_o}{GNP_o} \qquad (4)$$

The evolution of the debt/GNP ratio when $t \to \infty$ will thus depend crucially on the relationship between y and r, i.e.,
when $r = y$

$$\frac{Debt_t}{GNP_t} = tq + \frac{Debt_o}{GNP_o} \to \infty \text{ as } t \to \infty$$

and when $r < y$:

then $\frac{1+r}{1+y} < 1$

thus $(\frac{1+r}{1+y})^t \rightarrow 0$ as $t \rightarrow \infty$

therefore $\frac{Debt_t}{GNP_t} \rightarrow q\ (\frac{1+y}{y-r})$ as $t \rightarrow \infty$

This demonstrates that whilst the distinction between nominal and real GNP and interest rates is not relevant in respect of the distinction between "explosive" and "non-explosive" situations, the growth rate of nominal GNP helps to determine the level of the steady-state equilibrium debt/GNP ratio.
For r>y:

then $\frac{1+r}{1+y} > 1$

therefore $\frac{Debt_t}{GNP_t} \rightarrow \infty$ as $t \rightarrow \infty$

The direction of the "explosion" will, however, depend on the signs of $\frac{Debt_o}{GNP_o}$ and q, as well as on their relative magnitudes.
This can be explained as follows:
Equation (3) can be restated as follows:

$$\frac{Debt_t}{GNP_t} = q\ (\frac{1+y}{r-y})\ (\frac{1+r}{1+y})^t - q\ (\frac{1+y}{r-y}) + \frac{Debt_o}{GNP_o}\ (\frac{1+r}{1+y})^t \qquad (3b)$$

As the middle term is a constant it can be ignored.
With $\frac{Debt_o}{GNP_o}$ and q both positive, $\frac{Debt_t}{GNP_t}$ will obviously increase indefinitely. However, if q is negative (i.e., if there is a primary surplus), then the two "explosive" terms in equation (3b) will pull in opposite directions. $\frac{Debt_t}{GNP_t}$ will either "explode" (increase without limit), or "implode" (decrease towards an

infinite accumulation of net assets) according to whether: $\left|q\left(\frac{1+y}{r-y}\right)\right|$ is smaller or larger than $\left|\frac{Debt_o}{GNP_o}\right|$

Only if the absolute values of the two terms were exactly equal would $\frac{Debt_t}{GNP_t}$ remain constant. As discussed below, the two terms thus combine to define a so-called "threshold" primary surplus to stabilise the debt/GNP ratio.

It follows from the above that the conditions for stability of the debt/GNP ratio can be expressed in terms of two key statistics: (1) The primary fiscal deficit, and (2) The difference between the growth rate of nominal GNP and the interest rate on the outstanding debt, i.e., the so-called growth-interest differential. To illustrate this, Chart A gives the effect of various combinations of the values of these two statistics on the value of the debt/GNP ratio.

Chart A*

The Debt/GNP Ratio : Conditions for Stability

Growth-interest differential	Primary Budget Balance: Surplus (-)	o	Deficit (+)
y - r = +	-	-	?
y - r = 0	-	o	+
y - r = -	?	+	+

* Adapted from Johnson, 1985.

The simplest case occurs when the primary deficit is assumed to be zero, and the growth rate of nominal GNP and the interest rate are the same (i.e., the growth interest differential = o), then the debt/GNP ratio remains constant. When the growth rate of GNP is higher than the interest rate (i.e. the growth-interest differential is positive) a constant primary deficit ratio (+) will not be explosive but will be associated with the following asymptotic debt ratio (as already shown above):

$$\frac{Debt_t}{GNP_t} = q\ (\frac{1+y}{y-r})$$

This steady-state debt ratio will be higher, the smaller the positive growth-interest differential. The actual debt ratio will tend to rise or fall according to whether it is below or above this long-term equilibrium ratio. The overall budget deficit itself will not remain a constant proportion of GNP, but will head for a new equilibrium level, where it will equal the sum of the constant primary deficit plus interest on the equilibrium debt. Expressed as a proportion of GNP, the overall budget deficit ratio (b_t) will approach the following ceiling:

$$b_t = q(\frac{1+y}{y-r})\ r+q \qquad (5)$$

Conversely, a primary surplus (-) and a growth rate higher than the interest rate (i.e., a positive growth-interest differential) will make the debt/GNP ratio fall, in the direction of a finite accumulation of net assets.

The obvious conclusion is that as long as the growth-interest differential is positive, the debt situation remains "non-explosive", in the sense that the debt/GNP ratio will not rise/fall explosively to an infinite level. As we have seen, the actual debt ratio will rise or fall depending on whether it is above or below the long-term equilibrium ratio.

However, once the interest rate is equal to, or greater than the growth rate of nominal GNP, the debt situation becomes potentially "explosive", although the direction of the explosion can be either way.

Where r = y the interest component of the budget deficit grows at the same rate as nominal GNP; it therefore has no effect on the debt/GNP ratio, whatever its level, and it is only the primary budget position that affects this ratio: as shown in Chart A, where the primary budget balance is neither in surplus nor in deficit, the outstanding debt will grow at the same rate as the GNP, so the debt/GNP ratio will be stable at whatever level it happens to be at any particular point in time. However, a primary deficit (+) will cause the debt/GNP ratio to increase "explosively" when the growth-interest differential is zero, and a surplus (-) will make the debt ratio fall to an infinite accumulation of assets.

A negative growth-interest differential unambiguously gives rise to an "explosive" situation, although the direction of the "explosion" could be either way. However, a primary surplus and an interest rate higher than the growth rate will give rise to the existence of so-called knife-edge cases, where the debt situation is delicately balanced. In this situation, the debt/GNP ratio would grow without limit if the primary budget surplus (q) is below a certain threshold level, where the latter is

$$q = \frac{Debt_o}{GNP_o} \left(\frac{r-y}{1+y}\right) \qquad (6)$$

If the primary surplus is above this threshold level, the government will eventually accumulate infinite assets. It follows that for the actual debt/GNP ratio to remain stable (i.e., constant), the primary budget must be sufficiently in surplus, and the actual ratio will rise or fall depending on whether the primary surplus is below or above the threshold.

5. THE GROWTH OF THE CENTRAL GOVERNMENT'S TOTAL DEBT: 1960-1987

The purpose of this section is to describe: (1) the growth of the State Debt between 1960 and 1987; (2) the factors that contributed to that growth; and (3) the growth of the government's (gross) debt service burden.

5.1 Some Conceptual and Methodological Issues

As discussed in Section 1.3, the budget referred to in this study is the central goverment's budget, as it is customarily presented to Parliament by the Minister of Finance. From an accounting point of view, the budget is based on the so-called State Revenue Account, currently representing one of four separate accounts in the State Revenue Fund (the Fund's banking equivalent is the Exchequer Account).

Strictly speaking, the central government's budget currently comprises the general affairs budget, controlled by the Minister of Finance, as well as the three sub-budgets presented to Parliament by, respectively, the Ministers of the Budget of the three Houses of Parliament. However, the separate Ministers Councils' "own" expenditures are currently so closely related to amounts allocated to them from the centralised general affairs budget, and their "own" revenues are as yet so small that a consolidation of the four budgets would not differ much from the Finance Minister's budget on its own. The Finance Minister's budget will thus be used synonymously with the Central Government's overall budget. The latter in turn will be taken to be equivalent to the annual receipts, issues and deficits on the combined Exchequer Account. Indeed, it is this latter account, as the main generator of debt, which stands at the centre of the present study, and from now on "the budget" and "the Exchequer Account" will be used synonymously.

Given the scope and coverage of the central government's budget, as defined above, the deficit before borrowing is defined as expenditure (including net government lending) minus revenues. The corresponding gross debt concept is the so-called State Debt, as defined in Section 1.3. In other words, the outstanding State Debt represents, with minor qualifications, the cumulative effect of debt issued (less redemptions) to finance past annual Exchequer deficits. Such a debt concept would obviously include debt held internally by government departments, including the Paymaster-General.

The aforementioned gross concepts may be contrasted with the corresponding net budgetary and debt concepts. The net debt of the central government is conceptually equal to the State's gross financial liabilities (i.e., the State Debt) minus its financial assets. The budget deficit which is conceptually consistent with this net debt concept, and which reflects the net borrowing of the government in each period, would thus be defined as follows: government expenditure (excluding net government lending) minus tax revenues, i.e., the net financial balance of the government. The net debt would obviously come closer to reflecting the total of past deficits in those countries where the government's net financial balance is considered to be more relevant than the government's gross borrowing. In South Africa it is however the gross debt and the deficit before (gross) borrowing which has traditionally been the focus of attention in the evaluation of fiscal policy.

It is especially when making inter-country comparisons of debt ratios and debt service burdens that a net measure is regarded as best because of the large differences between countries in the amount of financial intermediation (Marris, 1985, p.328). In some respects a net concept of debt might also be more appropriate than the gross debt for a study of the past and future evolution of the South African debt situation. The

central government's intermediary role has traditionally been a very substantial one in the sense that the government has been a relatively large borrower on behalf of individuals and institutions in both the private and broad public sectors. When the government borrows on behalf of others the loans increase the State's gross financial liabilities and interest costs but the State also acquires financial claims or assets, the interest on which represents a legitimate offset against its interest payments on the gross debt. To ignore these accumulated financial assets and the corresponding flow of interest/dividend income would be to distort the State's true financial position. More importantly, it would exaggerate the government's present and future debt service burden. On the other hand, the South African government's role as a financial intermediary has over the last decade showed signs of diminishing, mainly as a result of the granting of "own" borrowing powers to organisations such as SATS, the Department of Posts and Telecommunications and other state enterprises.

Moreover, a particular advantage of working with the gross debt in South Africa is that data is more readily available and thus more highly publicised. Gross debt figures are also more directly comparable with published gross interest payments and other direct costs of raising loans. In South Africa, the gross debt also reflects the cumulative effect of past Exchequer deficits, defined as the deficit before borrowing. In contrast, the concept "Net financial balance", referred to above, does not enjoy a high profile in this country.

In the discussion to follow, reference will be made to both gross and net debt. However, because of the relatively close link between budget deficits and the gross debt, only the latter will be used for the forward - looking fiscal projections in Section 8.

5.2 Growth of the Total State Debt: 1960-87

At the end of 1946 the total State Debt equalled R1,181 million. However, over the next 14 years this total had more than doubled to R2 463 million. Table 3 shows the further growth of the total debt until 1987.

Between 1960 and 1987, (i.e., after a further 27 years), the gross outstanding debt had grown almost twenty-fold to R47 619 million. Since 1982 the total debt had once again more than doubled.

5.3 Causes of Annual Movements in the Total Debt

The growth of the total debt between 1960 and 1987 and annual movements in the total can be attributed to several objective factors, including (1) annual budget deficits, (2) changes in the government's cash balances, (3) net transfers to the Stabilisation Account, (4) adjustments for changes in foreign exchange rates, (5) IMF loan transactions, and (6) cancellations of debt. Table 4 provides data indicating the role played by these factors during the period in question.

Budget Deficits

Budget deficits (i.e., Exchequer deficits) emerge from Table 4 as historically the most important cause of the long-term growth in the outstanding gross State Debt, having accounted for no less than 89 per cent of the cumulative increase in the total debt between 1960 and 1987. The central government not only ran deficits in every year covered by the table, but these deficits also increased from an average of R189 million in the period 1960/61 1966/67 to R6 903 million in 1986/87.

However, as the size of budget deficits is influenced by the effect of inflation on budget aggregates, as well as by other structural and cyclical factors, deficits are best analysed in a

Table 3 **Growth of the State Debt: 1960–1987 (R. Millions)**

As at 31 March	Total	As at 31 March	Total
1960	2 463	1974	7 761
1961	2 531	1975	8 472
1962	2 631	1976	10 264
1963	2 788	1977	12 095
1964	2 962	1978	14 251
1965	3 222	1979	16 295
1966	3 395	1980	18 150
1967	3 769	1981	19 853
1968	4 217	1982	22 065
1969	4 879	1983	26 467
1970	5 211	1984	30 498
1971	5 450	1985	36 445
1972	6 162	1986	41 084
1973	7 135	1987	47 619

Source: South African Reserve Bank, Quarterly Bulletin, (various issues).

Table 4 **Causes of Changes in the State Debt: 1960–1987 (R. Millions)**

Year ending 31 March	Increases in State Debt	Causes						
		Exchequer deficits	Changes in: Cash balances(1)	Changes in: Stabilisation account(2)	IMF loans(3)	Cancellation of Debt	Foreign exchange rate adjustments(4)	Total
1961	68	70	-2					68
1962	100	121	-19			-2		100
1963	157	133	25			-1		157
1964	174	113	63			-2		174
1965	260	269	-7			-2		260
1966	173	277	-98			-6		173
1967	374	341	-36			-3		374
1968	448	331	42	83		-8		448
1969	662	388	17	259		-4		662
1970	332	392	-56			-4		332
1971	239	424	-1	-180		-4		239
1972	712	802	-119			-4	33	712
1973	973	636	42	274		-4	25	973
1974	626	412	225			-5	-6	626
1975	711	808	-109			-5	17	711
1976	1 792	1 340	-70	397		-5	130	1 792
1977	1 831	1 967	-88	-30		-5	-13	1 831
1978	2 156	2 000	81			-6	81	2 156
1979	2 044	2 120	-5			-6	-65	2 044
1980	1 855	1 776	154			-7	-68	1 855
1981	1 703	551	-43	1 242		-7	-40	1 703
1982	2 215	2 345	-304			-7	181	2 215
1983	4 402	2 373	51	1 061	938	-7	-14	4 402
1984	4 031	4 587(5)	383	-900	-59	-129	149	4 031
1985	5 947	4 351	641				955	5 947
1986	4 639	4 478(5)	-250		-94		505	4 639
1987	6 535	6 903	291		-434		-225	6 535
	45 156	40 305	880	2 206	351	-233	1 645	45 156
	100.0	89.3	2,0	Percentages 4,9	0,8	-0,5	3,6	100,0

Sources:
(1) South African Reserve Bank, Quarterly Bulletin (various issues).
(2) South African Reserve Bank.
(3) Republic of South Africa, Part 1 of the Reports of the Auditor-General, (Government Printer, 1960-1986).

Notes:
(1) Changes in Exchequer and PMG balances; increase + and decrease –.
(2) Changes in the balances on the Stabilisation Account, increases +, decreases –.
(3) IMF loan transactions: loans raised +, loans repaid –.
(4) Increases in the external value of the Rand = –.
(5) Includes transfers to the South African Reserve Bank in respect of foreign exchange losses.

longer-term context in relation to GNP. Table 5 shows that deficits as a proportion of GNP were on a rising trend between 1960 and 1979, increasing from an average of 1,94 per cent during the period 1960/61 - 1963/64 to an average of 4,86 per cent over the period 1971/72 to 1978/79. However, this rising trend was reversed in the 1980s, especially during the earlier part of the decade. More will be said about this at a later stage.

Table 5 Exchequer Deficits as a Ratio of GNP, 1960-87

Year ending 31 March	%	Year ending 31 March	%
1961	1,38	1975	3,43
1962	2,27	1976	5,12
1963	2,33	1977	6,62
1964	1,77	1978	5,99
1965	3,83	1979	5,58
1966	3,60	1980	3,89
1967	4,08	1981	0,93
1968	3,53	1982	3,49
1969	3,84	1983	3,11
1970	3,46	1984	5,37
1971	3,42	1985	4,32
1972	5,84	1986	3,94
1973	4,14	1987	5,18
1974	2,14		

Source: South African Reserve Bank, Quarterly Bulletin, (various issues).

Changes in the Government's Cash Balances

Table 4 shows that the year-on-year growth rate of the State Debt since 1960 was also influenced by fluctuations in the

government's cash balances. Whilst the government may in a particular year borrow more than what is needed to finance a shortfall in the Exchequer, accumulated cash surpluses may be used in subsequent years to reduce the need to borrow. In addition cash balances may temporarily dam up in the Paymaster-General Account. For these reasons alone there is unlikely to be an exact correspondence between Exchequer deficits and annual increments in the State Debt. In the medium to longer-term, however, one would expect the correspondence to be much closer, and even in the very short-term the discrepancies ought not normally to be very large. As reflected by Table 4, cash accumulated in the Exchequer Account and the Paymaster-General Account between 1960 and 1987 accounted for a total increase in outstanding debt of R880 million. This latter total was however accumulated almost entirely during the last three or four years, beginning more or less with the dormancy of the Stabilisation Account, as described below.

The Stabilisation Account

The operation of the Stabilisation Account since the middle of the 1960s has effectively permitted the Treasury at times to borrow far in excess of its own direct budgetary needs and to sterilise the proceeds in the interest of monetary policy. The Stabilisation Account has therefore helped to break the close link that might have existed between Exchequer deficits and the outstanding debt.

Table 4 shows that transfers to and from the Stabilisation Account occurred on a relatively modest scale during both the 1960s and 1970s. By contrast, fairly substantial amounts were involved during the first half of the 1980s, and a rapid build-up of cash in the Account consequently occurred. At the end of March 1983 the amount standing to the credit of the Account totalled R3,095 million or 11,69 per cent of the total outstanding State Debt at that stage.(11)

Because of the accumulations on the Stabilisation Account, increases in debt outstripped budget deficits by substantial amounts, especially during 1980/81 and 1982/83; conversely, in the following year the growth of debt was substantially less than what it would have been otherwise, as a substantial transfer from the Stabilisation Account occurred. By the end of March 1985 however, the amount on the Account had been reduced to NIL, and the Account has been dormant since then. The rapid reduction in the balance on the Stabilisation Account was achieved as follows. Outstanding interest-free advances from the Account to the National Supplies Procurement Fund, amounting to approximately R2,0 million, were converted into permanent capital with effect from 1 April 1984. The amount concerned was therefore written out of the Stabilisation Account, which implied that the mechanism created by the latter account was effectively employed, with retroactive effect, to finance additional extra-budgetary outlays, thus bypassing the usual budgetary procedures.

On the information available, and taking the 27-year period from 1960/61 to 1986/87 as a whole, the financing of extra-budgetary expenditure through the medium of the Stabilisation Account therefore contributed to the growth of the State Debt to the tune of R2 206 million. Whether or not the Account contributed indirectly to a further overall increase in the total outstanding debt between 1968 and 1985 on account of the need to finance the additional interest costs, depends on the extent to which the latter was off-set by any interest earned on the investment of balances on the Account. To give a precise answer to this question would require detailed investigation; however, two points may be underlined in that connection: (1) as the amounts on the Stabilisation Account were frequently utilized to finance temporary liquidity shortages in the Exchequer, this would have helped to reduce implicitly the government's gross interest costs; and (2) whilst the advances referred to above, (i.e., to the National Supplies Procurement Fund) were in fact interest free, the advances in question may have served as a substitute

for more expensive private credit. Both these factors would have tended to reduce the net cost to the Exchequer of operating the Stabilization Account.

(3) **Adjustments for Foreign Exchange Rate Changes**

Adjustments of the outstanding debt in respect of foreign exchange rate changes were especially significant during the 1980s when exchange rates were particularly volatile. The government's gross outstanding foreign debt, measured in Rands, increased from R730 million at the end of March 1980 to R3 220 million at the end of March 1987. When the currencies of the creditor countries appreciate against the Rand, the outstanding debt, measured in Rands, rises and vice versa. Table 4, reflecting these valuation adjustments since 1972/73, shows that over the period as a whole valuation adjustments account for R1 645 million or 3,6 per cent of the increase in the outstanding debt. However, between 1980 and 1987, valuation adjustments accounted for no less than R1 511 million or 5,13 per cent of the increase in the Rand value of the total debt of the central government.

IMF Loan Transactions

Table 4 also reveals the effect of IMF loans transactions on the outstanding State Debt between 1982 and 1987. Prior to 1982, the proceeds of IMF loans were utilized in the financing of budget deficits; however, as from 1982 the Rand counterpart of IMF loans has not been spent: instead, the proceeds of the loans, while raising the outstanding State Debt, have been placed on deposit with the Reserve Bank and has thus effectively been sterilized. Conversely, repayments of such loans by the Treasury represent a decline in the outstanding State Debt, without reducing the availability of budgetary funds, because corresponding transfers are made to the Exchequer from the IMF deposit account with the Reserve Bank. As the IMF loan negotiated by the South African Government in fiscal year 1982/83 had not yet been fully repaid by 1987, its contribution to the

total debt over this period was positive, albeit quite small.

The Cancellation of Debt

Prior to the closing of the General Sinking Fund (which had existed since 1926) in fiscal year 1983/84, the State had made regular but small revenue transfers to that Fund for the purchase of government securities, to be cancelled on maturity. Such cancellations were never large, and amounted to approximately R7 million per annum over the last four years of the existence of the Fund However, the latter was dis established in fiscal year 1983/84 and debt amounting to R129 million was consequently cancelled in that year. As shown in Table 4, the cancellation of debt by the General Sinking Fund amounted to only R233 million over the 27 year period as a whole.

5.4 Gross Debt Service Costs

Debt service costs comprise mainly interest and discounts on government securities.(12) They represent a category of government spending over which the fiscal planners have no direct budgetary control in the short to medium-term, because the volume of outstanding debt and the average interest rate on the total debt represent the cumulative effect of past fiscal, monetary and debt management policies. Rising interest payments as a ratio of GNP will act as a constraint on the flexibility and stability of budgetary policy by increasing the squeeze on other components of the budget just to maintain a given ratio of expenditures to GNP. Moreover, a large or increasing share of interest in total outlays will reduce the flexibility of government outlays, thus making it more difficult to reduce total outlays, in a recession when revenues fall or when it is a longer-term aim of the government to reduce the level of taxation.

Table 6 shows the evolution of the gross debt service costs of the State since 1960, in absolute terms and relative to GNP and the budget. Over the 26 year period debt service costs increased

Table 6 The Central Government's Debt Service Costs: 1961-1987

Year ending 31 March	Interest Payments(1)		
	Total	Percentages of	
	RM	Exchequer Receipts	GNP
1961	98	12,3	1,9
1962	108	13,3	2,0
1963	110	12,2	1,9
1964	119	11,4	1,9
1965	129	10,9	1,8
1966	144	11,1	1,9
1967	165	11,5	2,0
1968	200	12,1	2,1
1969	243	14,4	2,4
1970	279	13,0	2,5
1971	293	12,6	2,4
1972	336	12,3	2,5
1973	390	12,3	2,5
1974	468	11,2	2,4
1975	494	10,1	2,1
1976	562	10,0	2,2
1977	733	11,8	2,5
1978	890	12,6	2,7
1979	1 150	14,1	3,0
1980	1 317	13,3	2,9
1981	1 428	10,7	2,4
1982	1 951	13,4	2,9
1983	2 475(2)	14,3	3,2
1984	3 439(2)	17,9	4,0
1985	4 567	19,3	4,6
1986	5 052	17,0	4,5
1987	5 979	17,3	4,5

Source: (1) South African Reserve Bank, Quarterly Bulletin, (various issues).
(2) Republic of South Africa, Part 1 of the Reports of the Auditor-General (Government Printer: Pretoria), 1961-1987

Notes: (1) Including discounts on government securities.
(2) Includes small amounts of interest paid in respect of loans to Community Councils.

uninterruptedly from R98 million in 1960/61 to R5 979 million in 1986/87. Their importance in the economy has likewise increased steadily from 2,04 per cent of GNP in the 1960s to 3,72 per cent in the 1980s.

However, the ratio of debt costs to GNP increased substantially from less than 3 per cent during 1980/81 and 1981/82 to an average of approximately 4,5 per cent during the period 1982/83 to 1986/87. As a result, the importance of the gross debt service burden in the annual budget has also increased considerably over the last six years, from 10,7 per cent of Exchequer receipts in 1980/81 to 17,3 per cent in 1986/87. As a percentage of current outlays, the debt service burden increased from 12,9 per cent in 1980/81 to 17,0 per cent in 1986/87, as is shown in Table 7.

Table 8 moreover shows that the annual growth of gross interest costs during the period 1980/81-1986/87 far exceeded the growth of the other components of spending (i.e., current and capital), except in 1985/86 and 1986/87.

Table 7 The Central Government's Gross Debt Service Costs as a Ratio of Current and Total Outlays

Year ending 31 March	1981	1982	1983	1984	1985	1986	1987
	Percentages						
Current Outlays	12,9	14,0	14,9	17,0	18,2	17,0	17,0
Total Outlays	10,5	11,7	12,6	14,4	16,4	15,3	14,9

Source: South African Reserve Bank.
Republic of South Africa, Statistical Economic Review,
The Budget Speech 1987/88 (Government Printer: W.P.B. - 1987).

Table 8 Annual Changes in Government Outlays : 1982-1987

Year ending 31 March	1982	1983	1984	1985	1986	1987
	Percentages					
Current Outlays						
Interest	36,6	26,9	39,0	32,8	10,6	18,4
Other	24,2	18,1	18,0	22,6	20,4	13,8
Total	25,8	19,3	21,2	24,4	18,6	18,0
Capital Outlays	5,8	11,4	22,1	-24,3	15,4	59,0
Total Outlays	22,1	18,0	21,3	16,9	18,3	22,0

Source: As for Table 7

Rising gross debt interest costs were clearly one of the prime determinants of the relatively high rate of increase in current spending between 1980 and 1987.

6. EVOLUTION OF THE CENTRAL GOVERNMENT'S GROSS DEBT/GNP RATIO : 1960-1987

6.1 Introduction

As we have seen, the conditions for stability of government debt in relation to GNP can be expressed in terms of two sets of data: (1) the growth-interest differential (y - r); and (2) the primary (non-interest) budget deficit. In particular, the debt/GNP ratio is "non-explosive" as long as the growth-interest differential is positive. However, the situation is potentially "explosive" when $y < r$, and the stability of the debt situation of a country then depends crucially on the size of the primary deficit.

By the mid-1980s many countries faced a negative growth-interest differential. For such countries the size of their primary deficits was therefore absolutely crucial. In some countries an "explosive" situation still exists, with the outstanding debt likely to grow indefinitely as a ratio of GNP, unless budget deficits are lowered drastically.

By comparison, the gross debt/GNP ratio in South Africa was on a declining trend between 1960 and the early 1980s, and recently showed signs of stabilising at between 35 per cent and 36 per cent. However, escalating budget deficits and debt service costs suggest that South Africa's overall debt situation might in reality be deteriorating, and that if present trends continued, the government's debt and interest costs could rise to unacceptable levels in the longer-term. In particular, the question arises whether recent and expected increases in the outstanding debt pose a threat to the future flexibility and stability of budgetary policy.

This section reviews the historical evolution of South Africa's gross debt/GNP ratio between 1960 and 1987, against which the

forward-looking fiscal calculus will be undertaken in Section 8.

6.2 Movements in the Debt/GNP Ratio : 1960-1987

Table 9 shows the evolution of the debt/GNP ratio between 1960 and 1987, and reveals that, despite the rapid growth of the nominal Rand value of the debt, the ratio of debt to GNP actually fell from 51,84 per cent in 1960 to 35,76 per cent in 1987. Whilst the ratio fluctuated between 44 per cent and 48 per cent in the 1960s and early 1970s, it thereafter declined still further to an average of 40,14 per cent in the late 1970s.

A close scrutiny of the 1980s reveals in addition that the ratio of debt to GNP fell dramatically from 42,89 per cent in 1979 to 32,80 per cent in 1982, but thereafter remained fairly stable at approximately 35-36 per cent between 1983 and 1987.

The following section sets out the simple analytics of changes in the debt/GNP ratio.

6.3 The Analytics of Changes in the Debt/GNP Ratio[13]

Year-to-year changes in the debt/GNP ratio are defined as:

$$\frac{Debt_t}{GNP_t} \quad \frac{Debt_{t-1}}{GNP_{t-1}} - \frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{-y}{1+y}\right) + \left(\frac{Debt_{t-1}}{GNP_{t-1}}\right) \left(\frac{Debt_t - Debt_{t-1}}{Debt_{t-1}\ (1+y)}\right) \qquad (1)$$

where y = the growth rate of nominal GNP.

Equating $\frac{Debt_t - Debt_{t-1}}{GNP_t}$ with b_t (defined as the budged deficit expressed as a ratio of GNP - it is thus assumed that there is a direct one-to-one relationship between the budget deficit and the total debt), this gives:

$$\frac{Debt_t}{GNP_t} - \frac{Debt_{t-1}}{GNP_{t-1}} = \frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{-y}{1+y}\right) + b_t \qquad (2)$$

Table 9 Evolution of the State Debt/GNP Ratio: 1960-1987
(Percentages)

Year ending 31 March	Debt/GNP ratio(1)	Year ending 31 March	Debt/GNP ratio(1)
1960	51,84	1974	40,54
1961	50,00	1975	36,03
1962	49,57	1976	38,90
1963	48,72	1977	40,26
1964	46,30	1978	42,69
1965	45,83	1979	42,89
1966	44,23	1980	39,79
1967	45,11	1981	33,49
1968	45,02	1982	32,80
1969	48,33	1983	34,70
1970	45,96	1984	35,74
1971	43,96	1984	36,19
1972	44,86	1986	36,15
1973	46,05	1987	35,76

Notes: (1) Calculated by dividing total debt at end March by GNP of last completed calendar year.

Sources: Table. 4
South African Reserve Bank, Quarterly Bulletin, (various issues).

Equation (2) divides year-to-year changes in the debt/GNP ratio into those arising from the budget deficit as a ratio of GNP, b_t, and those arising from the growth of GNP, y. The debt/GNP ratio remains constant when the budget deficit ratio equals the fall in the debt ratio caused by the growth of GNP, i.e.,

$$\frac{Debt_t}{GNP_t} - \frac{Debt_{t-1}}{GNP_{t-1}} = 0 \text{ when:}$$

$$\frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{-y}{1+y}\right) = -b_t \qquad (3)$$

It follows from equation (3) that the outstanding debt would be rising as fast as GNP when the budget deficit expressed as a proportion of GNP, (b_t), equals:

$$\frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{y}{1+y}\right) \qquad (4)$$

or

$$\frac{Debt_{t-1}}{GNP_t} (y) \qquad (5)$$

In principle, the debt/GNP ratio would rise if b_t exceeds $\frac{Debt_{t-1}}{GNP_t}$ (y) and fall if it is smaller than $\frac{Debt_{t-1}}{GNP_t}$ (y)

Likewise the outstanding debt as a proportion of GNP would remain constant if the deficit/GNP ratio equals $\frac{Debt_{t-1}}{GNP_t}$ (y).

The framework provided by equation (2) can now be used to examine the movements in the debt/GNP ratio in South Africa over the period 1960-1987. However, a qualification has to be noted first, because Table 4 revealed that Exchequer deficits were only

one of several factors which contributed to the growth of the outstanding debt over the period 1960-1987. Other factors include, exchange rate adjustments, transfers to and from the Stabilisation Account,etc. To incorporate these factors into the analysis, the "debt increasing" term (b_t) in equation (2) can be decomposed. Equation (2) then becomes:

$$\frac{Debt_t}{GNP_t} - \frac{Debt_{t-1}}{GNP_{t-1}} = \frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{-y}{1+y}\right) + b^1_t + b^2_t + b^3_t + b^4_t + b^5_t \quad (6)$$

where b^1_t = Exchequer deficits,
b^2_t = Foreign exchange adjustments,
b^3_t = Net transfers to the Stabilisation Account,
b^4_t = IMF loan transactions,
b^5_t = Other factors (i.e., changes in cash balances and the cancellation of debt,

all expressed as ratios of GNP_t.

It follows from equation (6) that the condition for stability of the debt/GNP ratio would then be as follows:

$$- b^1_t = \frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{y}{1+y}\right) + b^2_t + b^3_t + b^4_t + b^5_t \quad (7)$$

The existence of "non-budgetary" influences on the outstanding debt thus affects the size of the budget deficits required to stabilise the debt/GNP ratio at any given level.

6.4 Analysing Changes in the Debt/GNP Ratio : 1980s

Equation (6) and the data contained in Table 4 have been used to quantify the contribution made by the various "causes of debt changes" to the year-to-year changes in the debt ratio between 1981 and 1987. The results of these calculations are given in Table 10.

The following salient results emerge from this table:

Table 10 Composition of Year-to-Year changes in the Debt/GNP ratio: 1980-1987

Year ending 31 March	Total Change in Debt/GNP ratio	Composition						
		Change in Nominal GNP	Exchequer deficits	Exchange rate adjustments	Stabilisation Account	IMF loans	Other (1)	Total
		Percentages of GNP						
1980	-3,11	-7,17	3,89	-0,15	-	-	0,32	-3,11
1981	-6,30	-9,17	0,93	-0,07	2,10	-	-0,08	-6,30
1982	-0,69	-3,98	3,49	0,27	-	-	-0,47	-0,69
1983	1,90	-3,87	3,11	-0,02	1,39	1,23	0,06	1,90
1984	1,04	-3,69	5,37	0,17	-1,05	-0,07	0,30	1,04
1985	0,45	-5,45	4,32	0,95	-	-	0,64	0,45
1986	-0,04	-4,12	3,94	0,44	-	-0,08	-0,22	-0,04
1987	-0,39	-5,29	5,18	-0,17	-	-0,33	0,22	-0.39
	-7,14	-42,74	30,23	1,42	2,44	0,75	0,79	-7,14

Source: Table 4.

Note: (1) Changes in cash balances and the cancellation of debt.

The growth of nominal GNP has been a significant negative factor and, all other things remaining the same, would have accounted for a fall in the debt ratio of over 42 percentage points. The latter was only partly off-set by regular Exchequer deficits and other factors.

As a result, the debt ratio fell by 7,14 per cent over the period as a whole. However, this fall was totally accounted for by a fall in the debt ratio of 9,4 percentage points between 1979 and 1981. Between 1981 and 1987 the ratio actually increased by 2,27 percentage points. The role of the "non-budgetary" factors in this latter increase is revealing.

In the first place, the several "non-budgetary" factors frequently served as a stabilising factor by off-setting differences between the rise in GNP and increases in the total debt resulting from Exchequer deficits. This effect was particularly visible in 1980/81 and again in 1982/83, when net transfers to the Stabilisation Account and new IMF loans exerted upward pressure on the debt ratio. The reverse, however, occurred in 1983/84 when the deficit ratio suddenly jumped to 5,37 per cent. In 1984/85 and 1985/86, falls in the the external value of the Rand again helped to keep the debt ratio on a relatively even keel.

The "non-budgetary" factors nonetheless combined to exert a positive net effect on the growth rate of the total debt. As indicated in Table 11, after March 1981, budget deficits alone would have kept the debt/GNP ratio between 31 per cent and 33 per cent, with an effective increase in the ratio of only 1,29 per cent between 1981 and 1987. In terms of basics, whilst the total debt actually increased by R29 469 million in the 1980s, only R25 587 million or 87 per cent of the latter was accounted for by annual budget deficits. Instead, the various "other factors" accounted for a net increases in the outstanding debt of R3 890

million over this period. In the absence of the debt created by these "other factors", the debt/GNP ratio in 1987 would have amounted to only 32,84 per cent, rather than the 35,76 per cent shown in Table 9.

Table 11 Evolution of a Hypothetical Debt/GNP Ratio, Based On Actual Exchequer Deficits Alone (Percentages)

As at 31 March	Debt/GNP ratio(1)
1980	39,79
1981	31,55
1982	31,28
1983	30,70
1984	32,82
1985	32,13
1986	32,41
1987	32,84

Source: Table 4.

Note: (1) Calculated by dividing total debt at end March by GNP of last completed calender year.

The relative stability of the debt/GNP ratio in the 1980s is sometimes interpreted as a sign of fiscal over-conservatism which might have contributed to the recession in South Africa. Indeed, the foregoing analysis of the role of other factors indicated that budgetary policy, expressed in terms of Exchequer deficits, was actually even more restrained during the period in question than what can be deduced indirectly from the relative stability of the total debt ratio. On the other hand, if the budgetary stance of the 1980s is evaluated against the background of the inflationary conditions that prevailed during the period in question, and against the fact that the debt ratio had been falling until 1981, a different picture emerges. This point can be explained as follows:

Equation (5) showed clearly that the budget deficit "required" to stabilise the debt ratio is affected by the rate of growth of nominal GNP as well as the initial debt ratio, i.e., given the latter, the higher the rate of growth of nominal GNP the greater would be the "required" deficit ratio to stabilise the debt ratio at its current level. It follows that the high (rising) nominal growth rates of the current inflationary period in South Africa necessitated high (rising) budget deficit ratios to stabilise the debt ratio. In the longer-term context, between 1972 and 1987, the high inflation rates would have permitted the authorities to run much higher structural deficits (i.e., deficits as a ratio of GNP) than before, without increasing the debt ratio. The fact that the latter ratio in fact declined rather than increased or remained constant over the longer-term between 1972 and 1982 must indeed be interpreted as a sign of fiscal responsibility, relatively speaking at least.

It is important that the behaviour of the debt ratio and its relation to budgetary policy in the 1980s be viewed against the background just sketched. Contrary to the earlier trend, budgetary deficits were now such that they made the total debt rise faster than nominal GNP, thus actually raising the debt ratio moderately over the period 1981-1987, clearly reversing the earlier trend of a falling ratio. The relatively small gain in the debt/GNP ratio between 1983 to 1987 however raises the issue of whether budgetary policy should not perhaps have been made more expansionary, given the exceptionally depressed conditions of the economy at the time. The analysis in Section 6.6 of changes in the composition of budget deficits will throw further light on the relative restrictiveness of budgetary policy in the 1980s.

The essential conclusion emerging from the analysis in the last few paragraphs is that fiscal policy cannot be judged solely on the basis of movements in the debt/GNP ratio. For example, in

terms of equation (3) the deficit ratio "required" to stabilise the debt ratio at its current level of 35,76 per cent is relatively low because the latter ratio is historically at a very low level. However, had the current debt ratio been, say 50 per cent, current inflation rate of approximately 15 per cent per annum and a real growth rate of 2,5 per cent would have permitted the government to run total deficits of approximately 7,50 per cent of GNP, without raising the debt ratio. As the deficit ratio consistent with stabilising the debt/GNP ratio would in addition rise further if inflation accelerates, the reliability of movements in the debt ratio as an indicator of fiscal discipline and responsibility is clearly doubtful. The analysis in the next section will throw further light on the role of inflation **per se** as a cause of movements in the debt/GNP ratio.

6.5 **The Role of Inflation**

In an inflationary situation such as that experienced in South Africa in recent years, it is useful to draw an analytical distinction between the nominal and real growth of GNP when analysing changes in the debt/GNP ratio. Whilst both inflation and positive real growth would tend to reduce the debt/GNP ratio, an erosion of the real value of debt by inflation frequently leads to accusations of cheating being levelled against a government which is "inflating its way out of trouble". This is particularly likely when, as reflected by Table 12, high inflation rates in South Africa were accompanied since the early 1970s by negative real interest rates resulting in bondholders experiencing real capital losses. The main purpose of this section is to throw some light on the role played by inflation in the movement of the debt/GNP ratio between 1972 and 1987.

Table 12 Inflation Rates, Average Nominal Interest Rates on t
State Debt, and Average Real Interest Rates on the State Debt
1960-1987

Year	Inflation Rates(1)	Interest Rates	
		Nominal(2)	Real(3)
1960	1,10	3,98	2,88
1961	1,82	4,27	2,45
1962	1,79	4,17	2,38
1963	1,05	4,27	3,22
1964	2,43	4,36	1,93
1965	3,73	4,47	0,74
1966	3,59	4,48	0,89
1967	3,47	5,31	1,84
1968	1,52	5,76	4,24
1969	3,00	5,72	2,72
1970	5,25	5,62	0,37
1971	6,09	6,17	0,08
1972	6,53	6,35	-0,18
1973	9,56	6,55	-3,01
1974	11,63	6,34	-5,29
1975	13,43	6,63	-6,80
1976	11,13	7,21	-3,92
1977	11,29	7,45	-3,84
1978	10,86	8,07	-2,79
1979	13,27	8,08	-5,19
1980	13,76	7,87	-5,89
1981	15,20	9,83	-5,37
1982	14,67	11,22	-3,45
1983	12,34	12,99	0,65
1984	11,66	14,97	3,31
1985	16,23	13,86	-2,37
1986	18,60	14,55	-4,05

Notes: (1) Based on the consumer price index.
(2) Average nominal interest rate on the outstanding State Debt. The nominal rates apply to the year ending on 31 March of the following year.
(3) Nominal interest rates minus inflation.

Source: Central Statistical Service.
South African Reserve Bank.

When a distinction is made between real and nominal increases in GNP, year-to-year changes in debt/GNP ratios (equation 1) can be decomposed as follows[14]:

$$\frac{Debt_t}{GNP_t} - \frac{Debt_{t-1}}{GNP_{t-1}} = \frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{-p'}{1+p'}\right) + b_t \left(\frac{1+y}{1+p'}\right) - \frac{Debt_t}{GNP_t} \left(\frac{y-p'}{1+p'}\right) \quad (8)$$

where p' = the rate of inflation

y-p' = the growth rate of real GNP

Equation (8) indicates that while both inflation and the real growth of the economy tend to lower the debt/GNP ratio by raising nominal GNP, Exchequer deficits exert an off-setting positive effect on the ratio. Once again, however, the assumption of a one-to-one relationship between budget deficits and the outstanding debt in equation (8) is unrealistic in the South African situation, especially for the 1980s; b_t may therefore be expanded to include also the so-called "non-budgetary factors" which contributed to the growth of the outstanding debt in the 1980s.

Equation (8) thus becomes:

$$\frac{Debt_t}{GNP_t} - \frac{Debt_{t-1}}{GNP_{t-1}} = \underbrace{\frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{-p'}{1+p'}\right)}_{\text{Inflation}} + \underbrace{b^1_t \left(\frac{1+y}{1+p'}\right)}_{\text{Exchequer Deficits}}$$

$$+ \underbrace{b^2_t \left(\frac{1-y}{1+p'}\right)}_{\text{Foreign Exchange}} + \underbrace{b^3_t \left(\frac{1+y}{1+p'}\right)}_{\text{Stabilisation Account}} + \underbrace{b^4_t \left(\frac{1+y}{1+p'}\right)}_{\text{IMF loans}}$$

$$+ \underbrace{b^5_t \left(\frac{1+y}{1+p'}\right)}_{\text{Other factors}} - \underbrace{\frac{Debt_t}{GNP_t} \left(\frac{y-p'}{1+p'}\right)}_{\text{Real growth}} \quad (9)$$

where b^1_t = Exchequer deficits,
b^2_t = Foreign exchange rate adjustments,
b^3_t = Net transfers to the Stabilisation Account,
b^4_t = IMP loan transactions,
b^5_t = Other factors,
all expressed as ratios of GNP_t.

Equation (9) can also be used to quantify the so-called "inflation tax" arising from the effect of inflation on the real value of outstanding debt. As discussed above, the erosion of the outstanding debt by inflation represents a cost to the bondholders. More particularly, if the downward adjustment in the value of the outstanding debt because of inflation exceeds interest payments because inadequate allowance has been made for inflation in the coupon rate, then holders of debt experience a net capital loss. To calculate this loss or "inflation tax", the aforementioned inflation adjustment and the interest payments on government debt should be analysed together, as follows:
Equating $b^*_t + it$ with b^1_t, equation (9) becomes:

$$\frac{Debt_t}{GNP_t} - \frac{Debt_{t-1}}{GNP_{t-1}} = \underbrace{\frac{Debt_{t-1}}{GNP_{t-1}} \left(\frac{-p'}{1+p'}\right)}_{\text{Inflation}} + \underbrace{it \left(\frac{1+y}{1+p'}\right)}_{\text{Interest}} + \underbrace{b^*_t \left(\frac{1+y}{1+p}\right)}_{\text{Primary Budget deficit}}$$

$$\underbrace{\qquad\qquad\qquad\qquad\qquad\qquad}_{\text{"Inflation Tax"}}$$

$$+ \underbrace{b^2_t \left(\frac{1+y}{1+p'}\right) + b^3_t \left(\frac{1+y}{1+p'}\right) + b^4_t \left(\frac{1+y}{1+p'}\right) + b^5_t \left(\frac{1+y}{1+p'}\right)}_{\text{Non-budgetary factors}}$$

$$- \underbrace{\frac{Debt_t}{GNP_t} \left(\frac{y-p'}{1+p'}\right)}_{\text{Real growth}} \qquad (10)$$

where

it = interest paid as a proportion of GNP

b^*_t = the primary (non-interest) budget balance ratio

Equation (10) has been used to generate the data contained in Table 13. Inflation (i.e., the GNP deflator) clearly emerges as the major cause of the decline in the debt/GNP ratio since 1972. The erosion of the real value of the debt is reflected by the fact that inflation would, other things being equal, have reduced the gross debt/GNP ratio in South Africa by as much as 72 percentage points. The "inflation tax" (i.e., the inflation adjustment less interest) inflicted on the government's lenders alone equalled almost 23 per cent of GNP over the period as a whole. The decline in the real value of the outstanding debt actually exceeded interest payments in 12 out of 16 years, and it is only in the late 1980s that the situation was reversed to some extent. One would expect this unhappy experience over the 1970s and early 1980s to have increased the reluctance of investors to take up government stock in South Africa, and therefore to have increased the constraint on budgetary policy associated with any given level of outstanding debt, as reflected by the rising marginal and average interest rates on government debt in the 1980s.

6.6 Assessing the Stability of the Historical Debt Situations

The rise and fall of the gross debt/GNP ratio in South Africa over the last 27 years can also be analysed in terms of the underlying stability conditions set out in Section 4. Table 14 shows the historical evolution of these conditions between 1960 and 1987.

Several important points emerge quite clearly from the table. Firstly, the average interest rate (r) on the total debt was on a rising trend throughout the entire period, with an acceleration of the rise in the 1980s. Secondly, the growth of nominal GNP

Table 13 An Analysis of Changes in the Debt/GNP Ratio: 1972-87 (Percentages of GNP)

Year ending 31 March	Total change in Debt/GNP ratio	Composition of Changes									
		"Inflation tax"			Primary deficits	Foreign exchange rate adjustments	Stabilisation account	IMF loans	(2) Other	Real growth	Total
		Inflation[1]	Interest	Total							
1972	0,9	-1,81	2,60	0,79	3,60	0,18			-0,87	-2,79	0,90
1973	1,19	-3,86	2,60	-1,26	1,63	0,17	1,83		0,25	-1,50	1,19
1974	-5,51	-5,57	2,65	-2,92	-0,32	-0,03			1,25	-3,57	-5,51
1975	-4,51	-4,49	2,29	-2,20	1,45	0,08			-0,52	-3,23	-4,51
1976	2,87	-3,99	2,12	-1,87	2,94	0,49	1,50		-0,29	0,47	2,87
1977	1,36	-4,63	2,47	-2,16	4,16	-0,04	-0,10		-0,31	-0,05	1,36
1978	2,43	-4,78	2,64	-2,14	3,29	0,24			0,22	0,43	2,43
1979	0,20	-5,16	3,03	-2,13	2,55	-0,17			-0,04	-0,02	0,20
1980	-3,10	-5,30	3,04	-2,26	1,06	-0,16			0,34	-2,08	-3,10
1981	-6,30	-6,77	2,60	-4,17	-1,60	-0,08	2,26		-0,09	-2,62	-6,30
1982	-0,69	-3,97	2,90	-1,07	0,57	0,27			-0,45	-0,02	-0,69
1983	1,90	-4,86	3,13	-1,73	-0,13	-0,02	1,34	1,19	0,06	1,19	1,90
1984	1,04	-3,93	4,00	0,07	1,34	0,17	-1,04	-0,07	0,30	0,28	1,04
1985	0,45	-4,06	4,75	0,69	-0,22	0,99			0,67	-1,67	0,45
1986	-0,04	-4,34	4,42	0,08	-0,50	0,44		-0,08	-0,22	0,24	-0,04
1987	-0,38	-4,97	4,54	-0,43	0,70	-0,17		-0,33	0,22	-0,37	-0,38
	-8,19	-72,47	49,78	-22,69	20,52	+2,39	+5,79	+0,71	0,52	-15,31	-8,19

Source: Table 4 and Table 9.

Note: (1) Based on GNP deflator.

(2) Changes in cash balances and the cancellation of debt.

Table 14 Underlying Debt Stability Conditions : 1960-1987

Year ending 31 March	Nominal GNP growth(1)	Nominal interest rate(2)	Growth-interest differential	Primary deficit(3)	
	Percentages			Total RM	% of GNP
1961	6,59	3,98	2,61	-28	-0,55
1962	5,08	4,27	0,81	13	0,24
1963	7,56	4,17	3,39	23	0,40
1964	11,81	4,27	7,54	-6	-0,10
1965	9,89	4,36	5,53	140	1,99
1966	9,16	4,47	4,69	133	1,73
1967	8,87	4,48	4,01	176	2,11
1968	12,10	5,31	6,79	131	1,40
1969	7,78	5,76	2,02	145	1,44
1970	12,29	5,72	6,57	113	1,00
1971	9,37	5,62	3,75	131	1,06
1972	10,79	6,17	4,62	466	3,39
1973	12,98	6,35	6,63	251	1,62
1974	23,78	6,55	17,23	-56	-0,29
1975	22,54	6,34	16,20	314	1,33
1976	11,08	6,63	4,45	778	2,98
1977	14,42	7,21	7,21	1 234	4,15
1978	11,57	7,45	4,12	1 109	3,32
1979	13,80	8,07	5,73	970	2,55
1980	20,07	8,08	11,99	459	1,01
1981	29,93	7,87	22,06	-877	-1,48
1982	13,51	9,83	3,68	394	0,59
1983	13,37	11,22	2,15	-102	-0,13
1984	11,89	12,99	-1,10	1 148	1,35
1985	17,98	14,97	3,01	-216	-0,21
1986	12,86	13,86	-1,0	-574	-0,51
1987	17,14	14,55	2,59	924	0,69

Notes: (1) Based on growth in latest completed calender year.
(2) Includes discount on the issue of government stock. Calculated by dividing interest payments plus discounts in fiscal year by outstanding debt at beginning of the year.
(3) Primary deficits +, surpluses -. The primary deficit equals the overall deficit before borrowing minus gross interest payments.

Sources: South African Reserve Bank, Quarterly Bulletin, (various issues).
Republic of South Africa, Part I of the Reports of the Auditor-General (Government Printer: Pretoria), 1961-1986.

(y) exceeded the average nominal interest rate on the outstanding debt throughout the period, except in 1983/84 and again in 1985/86. The underlying longer-term debt situation had therefore remained basically "non-explosive", even though the crucial growth-interest differential (y-r) narrowed considerably in the 1980s. Lastly there were regular primary deficits (i.e., the overall deficit before borrowing less gross interest payments) until 1980, with surpluses only in isolated instances; however, these deficits had been curtailed drastically since the beginning of the 1980s, with relatively small surpluses recorded in four out of the seven completed fiscal years. In the 1980s as a whole, the average primary deficit equalled only R100 million per annum, or 0,1 per cent of GNP.

Table 15 gives data to illustrate the longer-term context in which year-to-year movements in the underlying factors should be evaluated. Three distinct periods are considered: (1) the pre-1972 period, when inflation was still relatively low; (2) the 1970s, representing the period when inflation began to be a major problem; and (3) the 1980s, a period of continuing rapid inflation combined with low average real growth rates of the economy.

The 1960-1972 Situation

The average nominal interest rate on the State Debt showed a rising trend during 1960-87 and this rising trend was also evident during the 1960s. However, the average rate of interest on the debt during the period 1960-72 as a whole was trailing the growth of nominal GNP, producing an average positive growth-interest differential during this period of 4,36 per cent. The average primary deficit for the period was R120 million or 1,4 per cent of GNP.

Table 15 Historical Debt Situations in South Africa(1)
(Percentages)

	Debt Situations		
Years ending 31 March	1961-72	1973-80	1981-87
Primary deficit/GNP ratio	1,40	2,19	0,11
Nominal GNP growth	9,27	16,28	16,67
Nominal gross interest rate	4,91	7,08	12,14
Long-term equilibrium debt/GNP ratio	35,08	27,68	2,58
Actual debt/GNP ratio at beginning of period	51,84	44,86	39,79
Actual debt/GNP ratio at end of period	44,86	39,79	35,76
Number of years debt ratio reaches 50%	∞	∞	∞
Long-term equilibrium deficit/GNP ratio	2,98	3,93	0,38

Sources: Table 14

Notes: (1) Projections assume a one-to-one relationship between budget deficits and the increase in total debt.

Based on this underlying data, the long-term steady state debt ratio would be equal to 35,08 per cent. Starting with an initial debt/GNP ratio of 51,84 per cent in 1961, the fiscal calculus would predict a fall in the ratio towards the steady state level;

in the event, the ratio in question actually fell to 44,86 per cent by 1972.

The 1973-80 Situation

The nominal interest rate on the State debt was rising between 1973 and 1980, and the average for the period as a whole was therefore higher than for the previous period. However, the 1970s were also characterised by a rising inflation rate, to which the average nominal interest rate on the State Debt was not fully adjusted. The result was a relatively high average positive growth-interest differential of 9,20 per cent. However, the favourable effect of this improvement (from the State's point of view) in the growth-interest differential was off-set partly by a rise in the average primary deficit as a ratio of GNP, i.e., the primary deficit was held at an average of R632 million or 2,19 per cent of GNP between 1973 and 1980. The net effect of the movements in these opposing forces was that the long-term debt ratio was moved down to 27,68 per cent from the higher level based on the experience of the 1960s.

The 1980s Situation

The period from 1980/81 to 1986/87 saw further relatively dramatic changes in the fundamentals of the debt situation. The average nominal interest rate on the State Debt continued its upward trend, rising from 7,87 per cent in 1980/81 to 14,55 per cent in 1986/87, giving an average for the period 1980/81-1986/87 of 12,14 per cent. Moreover, after a dramatic but very exceptional increase of 29,93 per cent in nominal GNP in 1980, which followed in the wake of the gold price rise, the nominal GNP rose at an average annual rate of 14,46 per cent during the remainder of the period, giving an average for the period as a whole of 16,67 per cent. The net result is that the growth-interest differential equalled 4,53 per cent for the period as a whole (but only 1,56 per cent for the period 1981/82-1986/87).

This worsening growth-interest differential was however off-set by a reversal of earlier trends as far as the primary deficit is concerned, because, as we have seen, primary deficits in the 1980s averaged only R100 million or 0,1 per cent of GNP. Consequently, the longer-term equilibrium debt ratio, based on the average data set out above, collapsed to 2,58 per cent. Given this latter figure, the long-term equilibrium ratio of the budget deficit to GNP would equal only 0,38 per cent.

Looking at the 1980s as a whole, therefore, the underlying fiscal situation continued to be "non-explosive", with the fundamentals of the situation, as represented by the averages of the basics for the 1980s, indicating a lower rather than a higher longer-term debt ratio for the future.

At the same time, however, the situation had become more delicately balanced because of the narrowing of the "average" growth-interest differential in the 1980s. The stability of the underlying debt situation also fluctuated considerably. For example, potentially "explosive" situations existed when the growth-interest differential became negative on two occasions (i.e., in 1983/84 and 1985/86). The converse existed in 1980/81, 1982/83 and 1984/85 when the situation was "stable" but potentially tending to a finite accumulation of net assets, on account of positive growth-interest differentials combined with primary budget surpluses.

It is worth emphasizing the way in which the more restrictive fiscal stance, as measured in terms of primary budget deficits, contributed to the relative stability of the debt ratio in the 1980s. To have continued running primary deficits of the general order of magnitude as those that prevailed in the 1970s, in the face of the rising interest costs, would have required the running of historically unprecedented total budget deficits of between 6-7 per cent of GNP, and would have put the debt ratio on a definite steeply rising trend. In the event, total budget

deficits were allowed to rise moderately under the weight of interest costs, to an average for the 1980s of 4,02 per cent of GNP.

However, the potentially very destabilising effect of the escalating interest costs and the worsening growth-interest differential on the underlying longer-term debt situation was effectively off-set by the dramatic turnabout in the primary deficit situation. This turnabout was partially obscured by the relatively large swings which occurred in the government's primary deficits in the 1980s (i.e., deficits in 3 years and surpluses in 4). Since it is, however, the trend rather than year-to-year changes in budget deficits and debt accumulation that serve as an indicator of fiscal discipline and responsibility, the budgets of the 1980s as a whole therefore represented a radical reversal of earlier budgetary tends as well as a substantial squeeze on non-interest components of the budget.

In a medium-term context, recent non-interest budgetary behaviour thus caused the rise in the actual debt/GNP ratio to be narrowly circumscribed, despite the escalation of interest costs, and despite the operation of some "non-budgetary" factors that made for a rise in the outstanding debt.

This once again raises the vexing issue of whether a too restrictive fiscal policy measured in terms of primary deficits did not contribute to the prolonged depressed economic conditions in the 1980s. In particular, would the alternative of raising the debt ratio by lowering tax rates not have been more appropriate as a means of both sustaining demand and raising productivity, as part of a policy of growth without inflation?

To conclude, this section's projections, admittedly based on purely arithmetical calculations and the arbitrary "average" set of conditions that prevailed in the 1980s, suggest a gradual

longer-term lowering of the debt/GNP ratio, despite some recent reversals from this trend. However, this relatively favourable outlook for the future debt situation is subject to important qualifications as the averages for the 1980s mask some disturbing trends which might not be reversible in the medium-term. Specifically, the projections depend on the extent to which the government would be able to sustain policy trends and conditions of the 1980s as a whole. Since the recent high and rising interest on the outstanding debt is unlikely to be brought down speedily for reasons peculiar to the public debt, and since budget deficits show clear signs of rising to levels that are noticeably higher than those of the early 1980s and will not easily be reversed, the illustrative projections of this section may be too optimistic. Section 8 therefore considers alternative fiscal scenarios.

7. THE CENTRAL GOVERNMENT'S NET DEBT SITUATION: 1960-1987

A study of the historical evolution of the Central Government's gross debt situation is only part of the total debt picture, because the government has historically played an important role as a financial intermediary, and has therefore also accumulated a substantial volume of financial assets as an off-set against its liabilities. This section is designed to elucidate this aspect of the historical evolution of the government's current debt situation.

7.1 The Government's Role as a Lender

Table 16 highlights the historical importance of government lending in the South African budget as well as its declining role over the last decade.

The table shows that net government lending comprised important proportions of total outlays, as measured by Exchequer issues, during most of the period covered in the table. Net lending likewise equalled high proportions of Exchequer deficits during most of the 1960s, 1970s and 1980s.

Government lending thus clearly emerges as a major cause of budget deficits during these years. In several instances net lending actually exceeded Exchequer deficits. In these years the government therefore had net financial surpluses, i.e., it was a net lender and its net financial liabilities therefore decreased. However, there has been a substantial decline in the government's lending operations over the last decade.

Whilst net lending as a ratio of total Exchequer issues equalled an average of 14,9 per cent during the late 1960s and 1970s, this percentage decreased steadily between 1980 and 1985 to 1,8 per cent in 1985 (Net lending to the departmental enterprises, including the National Housing Fund and the Community Development

Table 16 Central Government Lending: 1968-1985 (R. Millions and Percentages)

Year ending 31 March	New loans(1)	Repayments	Other Departmental enterprises (net)	Net lending(2)			Net financial balance(3)	
				Total RM	Percentages of			
					Exchequer issues	Exchequer deficit	Total RM	% GNP
1968	x	x	x	267	13,4	80,7	-64	-0,7
69	x	x	x	577	27,9	148,7	+189	1,9
70	x	x	x	527	20,8	134,4	+135	1,2
71	x	x	x	368	13,4	86,8	-56	-0,5
72	x	x	x	588	16,7	73,3	-214	-1,6
73	528	49	60	550	14,4	86,5	-86	-0,6
74	612	115	67	675	14,8	163,8	+263	-1,4
75	709	56	74	788	13,8	97,5	-20	-0,1
76	984	61	97	1 110	15,9	82,8	-230	-0,9
77	1 027	58	119	1 214	14,9	61,7	-753	-2,5
78	1 095	39	160	1 148	12,7	57,4	-852	-2,6
79	1 287	44	173	1 416	13,8	66,8	-704	-1,9
80	1 274	88	194	1 380	11,8	77,7	-396	-0,9
81	1 117	71	218	1 265	9,1	229,6	+714	+1,2
82	920	28	269	1 161	6,9	49,5	-1 184	-1,8
83	354	25	594	922	4,7	38,85	-1 451	-1,9
84	172	27	329	474	2,0	10,3	-4 113	-4,8
85	310	282	475	503	1,8	11,6	-3 848	-3,8

Notes: (1) Includes SATS and Posts and Telecommunications, but excludes other departmental business enterprises.
(2) Includes loans and the acquisition of shares.
(3) Deficit before net borrowing: Deficit -, Surplus +.

Sources: (1) South African Reserve Bank.
(2) South African Reserve Bank, Quarterly Bulletin, (various issues).
(3) J G van der Walt: **Die Rol van die Sentrale Regering as Finansiële Tussenganger,** Unpublished M.Com Dissertation. University of Pretoria, Pretoria, October, 1980, Table 14.
x Not available.

Fund, but excluding the SATS and Post Office, nonetheless increased from R194 million in 1979/80 to R475 million in 1984/85). This apparent partial phasing out of the Central Government's role as a financial intermediary represents an important structural change which has had an important effect on the evolution of the government's overall debt situation over the last decade.

7.2 The Net Debt Situation: 1968-87

Table 17 shows the effects of the government's combined borrowing and lending activities on the evolution of its debt over the period 1968 to 1987. The following picture emerges.

The government's net debt situation was relatively speaking very favourable during the 1960s and early 1970s, with the net debt as a ratio of GNP equalling only 4,02 per cent between 1960-1977, and only 6,3 per cent on 31 March 1977. On this latter date financial assets of the State equalled 84,5 per cent of its liabilities.

However, after fiscal year 1976/77, the total nominal net debt rose quickly to reach R5 265 million or 11,5 per cent of GNP at the end of March 1980. The rate of increase in the net debt gathered further momentum during the 1980s, so that at the end of March 1987 the total net debt equalled R34 342 million or 25,8 per cent of GNP. This represented a six-fold increase between 1980 and 1987, or an average annual increase of 31,50 per cent, compared to a 2,5 fold increase in the gross debt over the same period. Moreover, at the end of March 1987 the State's financial assets comprised only 27,87 per cent of its financial assets.

A part of the explanation for the rate of increase in the total net debt outstripping that of the gross debt in the 1980s is obviously that the diminished role of the State as a financial intermediary has had the effect of slowing down the growth of the

Table 17 Evolution of the Central Government's Net Debt: 1968-1975 (R. Millions and Percentages)

As at 31 March	Gross financial liabilities(1)	Financial assets(2)	Net financial liabilities	% GNP
1968	4 218	3 807	411	4,4
69	4 879	4 403	476	4,7
70	5 212	4 931	281	2,5
71	5 451	5 298	153	1,23
72	6 165	5 885	280	2,0
73	7 135	6 435	700	4,5
74	7 761	7 110	651	3,4
75	8 472	7 899	573	2,4
76	10 264	9 009	1 255	4,8
77	12 095	10 223	1 872	6,3
78	14 251	10 089	4 162	12,5
79	16 295	11 505	4 790	12,6
80	18 150	12 885	5 265	11,5
81	19 853	11 426	8 427	14,2
82	22 065	12 587	9 478	14,1
83	26 467	13 509	12 958	17,0
84	30 498	13 440	17 058	20,0
85	36 445	13 943	22 502	22,4
86	41 084	14 443	26 641	23,4
87	47 613	13 271	34 342	25,8

Notes: (1) Total State Debt.
(2) Excluding cash balances in the Exchequer Account and PMG Accounts.

Sources: (1) South African Reserve Bank.
(2) South African Reserve Bank, Quarterly Bulletin, (various issues).
(3) J G van der Walt: **Die Rol van die Sentrale Regering as Finansiële Tussenganger,** Unpublished M.Com Dissertation, University of Pretoria, Pretoria, October 1980, Table 16.

government's financial assets, without a corresponding reduction in the growth of the State Debt, because government policy allowed the gap left in the budget by the declining volume of lending to be taken up by other expenditures and/or reductions in taxation. In other words, budget deficits, defined to include net government lending, were sustained at previous levels or even increased at a time when the lending component of total government outlays was being drastically curtailed. Table 16 reflects this structural change in the budget by revealing that net financial deficits as a percentage of GNP were on a rising trend between 1977 and 1985. Thus, while the financial deficit as a ratio of GNP equalled only 0,24 per cent in the decade preceeding 1977, it equalled 3,08 per cent of GNP between 1982 and 1985. As the former recipients of government loans (i.e., SATS, Post and Telecommunications, etc.) continued to draw their own capital requirements from the same pool of loanable funds as the government itself, but now only directly instead of indirectly via the Treasury, the structural change in the composition of the government's outlays represented an effective expansion of the total outlays of the central government. It also increased the net debt considerably as a result of the widening gap between the State's financial liabilities and its financial assets.

A second reason for the rapid growth of the net debt since the mid-1970s was the conversion of outstanding loans to SATS and the Provincial Administrations into permanent capital (see Table 18). As loans amounting to over R6 000 million were effectively written off the government's asset register, it had the effect of further widening the gap between the States's financial liabilities and its financial assets, by the stroke of a pen.

Table 18 Central Government Loans Converted into Permanent Capital (R millions)

Year ending 31 March	Provincial Administrations	SATS	Total
1977/78	1 283	-	1 283
1980/81	-	2 724	2 724
1983/84	-	543	543
1986/87	-	1 672	1 672
Total	1 283	4 939	6 222

Source: South African Reserve Bank.

7.3 Net Debt Service Costs

The shift that occurred in the composition of government outlays over the last decade, and the writing down of the State's financial assets, probably had little direct effect on the efficacy of the budget **per se** as an instrument of macro-economic policy, mainly because government loans were replaced by other outlays, and the writing down of the State's assets involved no cash flows. However, the erosion of the State's assets and the concomitant deterioration in the government's net debt situation contributed to a rapid accumulation of net debt service costs. The position was aggravated by a decline in the yield on the government's financial assets in the 1980s. Consequently, the increase in net debt service costs in the 1980s was even more pronounced than the increase in the gross costs.

As shown in Table 19, net debt service costs, as a percentage of GNP, rose from 1,4 per cent in 1980/81 to 4,3 per cent in 1986/87. As a result, debt service costs absorbed a rapidly rising share of available government funds, with net costs, as a percentage of Exchequer receipts, having risen from 4,59 per cent

Table 19 The Central Government's Debt Service Costs: 1973-1987
(R. Millions)

Year ending 31 March	Interest Payments	Interest Receipts(1)	Total	Net Debt Service Costs Percentages		
				Change(2)	GNP	Exchequer Receipts
1973	390	273	117	-	0,8	3,7
1974	468	285	183	56,4	1,0	4,4
1975	494	328	166	-9,3	0,7	3,4
1976	562	389	173	4,2	0,7	3,1
1977	733	468	265	53,2	0,9	4,3
1978	890	530	360	35,9	1,1	5,1
1979	1 150	651	500	38,9	1,3	6,1
1980	1 317	663	654	30,8	1,4	6,6
1981	1 428	574	854	30,6	1,4	6,4
1982	1 951	527	1 424	66,7	2,1	9,8
1983	2 475	583	1 891	32,8	2,5	11,0
1984	3 439	512	2 927	54,8	3,4	15,2
1985	4 567	529	4 038	38,0	4,0	17,1
1986	5 052	370	4 682	16,0	4,1	15,7
1987	5 979	302	5 677	21,3	4,3	16,4

Notes: (1) Including interest and dividend receipts.
(2) Increases +, decrease -

Sources: South African Reserve Bank.
Republic of South Africa, **Part 1 of the Reports of the Auditor General** (Government Printer: Pretoria), 1973-1986.

in the 1970s to 16,4 per cent in 1986/87. Two main factors contributed to the more rapid rise in the net than the gross debt service burden of the government.

In the first place, whilst interest and dividend receipts constituted important proportions of gross interest payments since 1973, the government's interest/dividend receipts actually declined in absolute as well as relative terms in the 1980s, partly because of the aforementioned decline in the government's lending operations, and partly because of the aforementioned conversion of outstanding loans to SATS and the Provincial Administrations into permanent capital. As there was no corresponding reduction of State Debt on which interest continued to be paid, these conversions, amounting to an implicit subsidy equal to the interest foregone, contributed to the rapid acceleration of net budgetary cost of the State Debt during the period in question.(15) Table 19 shows that annual increase in net costs actually varied between 16 and 67 per cent in the 1980s.

The growing share of debt service costs in the budget is also a reflection of a widening gap between interest paid on the outstanding debt and the average yield on the government's financial assets, over the last eight years. After having shown a steady rise to 6,4 per cent in 1978/79, the average yield on the State's total financial assets fell to a low of 2,3 per cent in 1986/87, as is shown in Table 20. Since the latter rate is considerably lower that what the State is on average paying on its own debt (see Table 14) the implicit subsidy to other sectors of the economy is obviously an important but largely obscured factor in the total budgetary situation.

Table 20 **Average Yield on the Central Government's Financial Assets: 1973-1987**

Year ending 31 March	% Yield(1)
1973	4,6
1974	4,4
1975	4,6
1976	4,9
1977	5,2
1978	5,2
1979	6,4
1980	5,8
1981	4,5
1982	4,6
1983	4,6
1984	3,8
1985	3,9
1986	2,7
1987	2,3

Source: Table 17 and Table 19.

Notes: (1) Calculated by dividing the State's interest and dividend receipts (Table 19) by its total financial assets (Table 17).

8. PROSPECTIVE FISCAL SCENARIOS : 1988-1997

8.1 Introduction

The chief objective of this section is to use the analytics of Section 4 to examine the longer-term debt and budgetary implications of the current and some alternative fiscal scenarios, concentrating on the central government's gross debt situation.

Eleven different scenarios will be considered, and these will be divided into three groups: (1) Scenarios 1-3; (2) Scenarios A-E, and (3) Scenarios P1-3. The purpose of the first group of scenarios is to illustrate the medium-term implications for the State Debt of three approximations of recent fiscal situations. These projections will thus be based on current conditions which are assumed to remain constant over the forecast period. By comparison, Scenarios A to E will be made slightly more realistic in the sense that the underlying conditions will be allowed to change depending on assumptions about inflation, the growth rate and interest rates over the next ten years. Scenarios P1-3 examine a policy of maintaining a constant overall deficit ratio, under different assumptions about inflation rates, etc.

All conclusions regarding the absolute levels of debt and debt burdens, as opposed to changes therein, are of course subject to the caveat that the central government's net debt situation is more favourable than its gross debt situation as discussed in Section 7.

The projections of future debt and budgetary ratios have been derived using the purely mechanical fiscal analytics described in Section 4. The calculations are thus based on some simplifying assumptions, and these are given below.

8.2 Some Technical Assumptions

It is assumed that there are no stock adjustments of the kind discussed in Section 5.3, i.e., that changes in the gross debt are equal to current budget balances.

In addition the projections apply to the gross debt. Consequently, the assumed prospective budget deficits are inclusive of net government lending, implying that changes in the latter would be off-set by policy changes in other areas of the budget. Net lending currently comprises approximately 12 per cent of Exchequer deficits (Table 16).

Interest rates are rates before tax, and primary budget deficits are thus defined as follows: Government expenditures minus revenues (including tax on interest) minus gross interest payments.

8.3 Assessing the Current Debt Situation

Assumptions

Scenarios 1-3 are based on the following assumptions:

Scenario 1 (The 1986/87 Situation)

The primary deficit, nominal growth and interest rates remain as realised in 1986/87. A constant deficit ratio of 0,69 per cent is thus combined with a constant growth-interest differential of 2,59 per cent, given a 17,14 per cent growth rate of nominal GNP, and an average interest rate on government debt of 14,55 per cent.

Scenario 2 (The 1987 Budget)

The primary deficit as a ratio of GNP remains at the budget 1987/88 level of 0,96 per cent. The economy grows at a trend rate of 2,5 per cent per annum in real terms. Inflation

continues at 15 per cent per annum. The average nominal interest rate on the outstanding State Debt remains at its 1986/87 level of 14,55 per cent.

Scenario 3 (Revised 1987 Budget)
As in (2), but the primary deficit is raised to 2 per cent of GNP.

Table 21 sets out the results of the calculations, for the period 1988 to 1997.

Conclusions
Subject to the limitations of the underlying assumptions as well as the mechanical nature of the projections, the following salient results emerge from the calculations.

(1) In the absence of any extra-budgetary influences on the outstanding debt, Scenario 1 (the 1986/87 situation) would steer the gross debt/GNP ratio on a declining trend, with a long-term equilibrium ratio of only 31,21 per cent compared to the current 35,76 per cent. The equilibrium level would be reached in approximately 270 years. The declining trend of the actual debt ratio stems from the fact that the fall in the ratio caused by the rising GNP would exceed the deficit ratio, given the current inflation rate and average interest rate on debt.

(2) The slightly more expansionary budget situation as represented by the 1987 budget estimate (i.e., overall deficit of R8 421 million) would reverse the downward trend of the debt ratio, but only moderately so, with a steady-state equilibrium level of 38,24 per cent. By 1997 the debt ratio would be barely 0,5 per cent above the 1987 level. The equilibrium ratio would be reached in 215 years.

(3) As could be expected, the projections of debt ratios under Scenarios 1-2 imply that the overall deficit and debt cost ratios

Table 21 Budgetary and Debt Implications of Fiscal Scenarios 1 - 3: 1988-1997
(Percentages of GNP)

Year ending 31 March	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Scenario 1										
Gross Debt	35,66	35,56	35,46	35,37	35,28	35,19	35,10	35,01	34,93	34,85
Gross Interest Payments	4,44	4,43	4,42	4,41	4,40	4,38	4,37	4,36	4,35	4,34
Primary deficit	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69
Overall budget deficit	5,13	5,12	5,11	5,10	5,09	5,07	5,06	5,05	5,04	5,03
Scenario 2										
Gross Debt	35,82	35,88	35,94	36,00	36,06	36,11	36,16	36,22	36,27	36,32
Gross Interest Payments	4,42	4,43	4,45	4,45	4,46	4,46	4,47	4,49	4,49	4,49
Primary deficit	0,96	0,96	0,96	0,96	0,96	0,96	0,96	0,96	0,96	0,96
Overall Budget deficit	5,38	5,39	5,41	5,41	5,42	5,42	5,43	5,45	5,45	5,45
Scenario 3										
Gross Debt	36,86	37,94	38,94	40,01	41,00	41,97	42,92	43,84	44,74	45,62
Gross Interest Payments	4,42	4,57	4,69	4,83	4,96	5,08	5,25	5,26	5,44	5,54
Primary deficit	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
Overall Budget deficit	6,42	6,57	6,69	6,83	6,96	7,08	7,25	7,26	7,44	7,54

would either decline slightly or rise slightly over the 10 year period, subject to the caveat that the interest rate on the debt did not rise any further. Both scenarios would therefore have the effect of stabilising the role of budget deficits and interest costs in the economy. Whether or not this would also stabilise the share of interest in the total current outlays of the government, depends on the pace at which the latter grows. For example, any substantial future slow-down in the rate of increase in total current outlays vis-a-vis GNP would have the effect of raising the share of debt service costs in the totals, and vice versa.

(4) The raising of the primary deficit ratio to a constant 2 per cent of GNP (i.e., an overall deficit of R10 048 million in 1987/88) will indeed move the long-term equilibrium debt ratio to a much higher level, but the situation will not be "explosive" in the sense that the debt ratio and debt service costs will rise indefinitely or at a vastly accelerated rate. It would take many years for the higher steady state ratio of 79,66 per cent to be reached, and the actual ratio will be only 41,00 per cent and 45,62 per cent by 1991/92 and 1996/97, respectively. The actual debt ratio would thus increase at the rate of approximately 1 percentage point per year, between 1988 and 1997. The long-term equilibrium level would be reached after approximately 337 years.

(5) Under Scenario 3 the overall budget deficit and debt service burden would also not rise explosively over the medium-term. The overall deficit would be raised initially to 6,42 per cent of GNP, and over the next 4 years the ratio would rise further by an additional 0,54 per cent of GNP. By 1996/97 the deficit would amount to 7,54 per cent of GNP. Debt Servicing costs would rise by 1,2 per cent from 4,42 per cent of GNP in 1987/88, to 5,54 per cent in 1996/97, provided that the average interest rate did not rise above the 1986/87 level.

Some of the foregoing conclusions may now be drawn together. The first point is that none of the current debt situations *per se* represent an "explosive" situation. On the contrary, the growth of the debt and interest costs would continue to be narrowly circumscribed under the first two scenarios. Scenario 3 would however become non-viable at some time beyond 1997, because the steady-state equilibrium budget deficit and debt servicing costs, expressed as ratios of GNP, equal 13,59 per cent and 11,59 per cent, respectively, in this scenario. The prospect of such ratios would clearly make Scenario 3 unacceptable for the longer-term. This does not mean that the government would be bankrupt or in a totally uncontrollable situation by adopting a goal of maintaining a 2 per cent primary deficit on average. It merely implies that the budgetary situation would have to be reversed at some stage by either lowering the primary deficit or lowering the average interest rate, given the growth rate of GNP. Under such a scenario the task of the government would thus be to weigh up the economic advantages to be derived in the medium-term from additional spending and/or tax reductions, financed by more government borrowing, against the prospect and feasibility of bringing about an improvement in the budgetary situation at a later stage, either through automatic stabilisers or, if that is not enough, by way of discretionary policy steps.

An important additional policy factor to consider is that the projected evolution of the debt/GNP ratios through to 1997 under all three scenarios is based on the assumption of a continuation of a high rate of inflation. As we have seen, inflation has historically had an important effect on the evolution of the debt/GNP ratio, and the major part of the decline in the latter ratio, especially since 1972, can be attributed to the fall in the value of money. Scenarios 1-3 imply that this erosion of the outstanding debt by inflation will continue, and the impact of it especially on the financial markets must be an important consideration in any assessment of the projections offered in

this section.

8.4 Alternative Scenarios

This section illustrates the longer-term debt and budgetary implications of several alternative fiscal scenarios over the next 10 years. Its purpose is essentially to throw some light on the longer-term parameters within which debt policy may be operated in the short-term.

Forward projections of the debt/GNP ratios would obviously depend crucially on assumptions about the inflation rate, real growth rate of GNP, the average interest rate on the outstanding government debt and the non-interest budget deficit over the next 10 years. These assumptions are set out below.

Assumptions Underlying the Scenarios

In the light of the government's declared policy of reducing inflation, Scenarios A-D below assume that the current disinflationary policies are successful; however, as the rate at which the government can bring down the inflation rate is very much at issue, two alternatives are investigated, i.e., rapid deflation and gradual deflation. Either way, a higher long-term real growth rate is assumed to be associated with an improved inflation outlook. By contrast, Scenario E assumes that the government's disinflationary policies are unsuccessful, with a relatively high inflation rate coinciding with a lower but positive growth rate prevailing over the medium-term.

Also, on the assumption that the government is unlikely to be able to (or to want to) hold primary deficit ratios at present levels, and that the latter might consequently rise substantially, the alternative scenarios sketched below make possible a comparison of relatively low (1 per cent) with relatively high (2 per cent) primary deficit ratios.

It is further worth noting that the assumption of a constant primary deficit ratio assumes implicitly that the effect of automatic stabilisers and real and inflationary bracket creep is off-set by policy changes. The assumption of a constant deficit ratio must not therefore be associated with an unchanged fiscal policy over the course of the business cycle.

Lastly, the scenarios set out below are not based on detailed analysis of economic relationships in the South African economy; however, it is believed that the various scenarios represent reasonable possibilities.

The detailed scenarios are as follows:

Scenario A
The primary deficits continue at the 1987 budget level of 1 per cent of GNP. Inflation drops gradually from 15 per cent per annum in 1987/88 to 7,0 per cent per annum in 1996/97. Real growth rises gradually to a long-term trend rate of 4,5 per cent per annum by 1989/90. Interest on the outstanding debt drops gradually to 11,12 per cent in 1996/97.

Scenario B
As in (A), but inflation drops much more rapidly, to 7 per cent by 1991/92.

Scenario (C)
As in (A), but the primary deficit is raised to 2 per cent of GNP.

Scenario (D)
As in (B), but the primary deficit is raised to 2 per cent of GNP.

Scenario (E)

This scenario assumes that the government's current disinflationary policies are unsuccessful. The primary deficit remains at 2 per cent of GNP. The economy grows at 2 per cent in 1987/88, and 3 per cent in 1988/89, after which it remains constant at its new trend rate of 3 per cent. The inflation rate rises to 17 per cent per annum by 1989/90, then stabilises at that level during the remainder of the period. The average nominal interest rate on outstanding debt rises to 16,8 per cent by 1996/97.

Conclusions

Table 22 gives the results of the calculations for Scenarios A-E. The main conclusions are discussed below.

1. The calculations suggest that the debt/GNP ratio in South Africa is likely to rise in the medium-term and that it will not be easy to avoid such an outcome. This conclusion is supported by the fact that all five scenarios predict a higher debt/GNP ratio in 1997 than in 1987. However, the projections vary substantially. Of the four deflationary scenarios, Scenario A presents the most favourable picture as far as the projected debt ratio is concerned, combining a primary deficit ratio of only 1 per cent with gradual deflation to give a debt ratio of less than 40 per cent by 1997. At the opposite extreme is Scenario D (2 per cent primary deficit plus rapid deflation) giving a debt ratio of over 57 per cent by 1997. The size of the primary deficit is clearly a big factor, and so is the pace of deflation. This is illustrated by the fact that Scenarios B and C are about equivalent in terms of their effect on the debt ratio, as both these scenarios would raise the ratio to approximately 47-48 per cent between 1987 and 1997. By comparison with Scenario B, the slower fall in inflation under C is therefore enough to off-set the higher primary deficit.

Table 22 Budgetary and Debt Implications of Scenarios A to E: 1987-1997 (Percentages of GNP)

Year ending 31 March	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Scenario A										
Gross Debt	35,87	35,90	35,92	35,95	36,25	36,67	37,18	37,83	38,46	39,30
Gross Interest Payments	4,43	4,40	4,35	4,28	4,26	4,18	4,07	4,01	3,92	3,84
Primary Deficit	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Overall Budget Deficit	5,43	5,40	5,35	5,28	5,26	5,18	5,07	5,01	4,92	4,84
Scenario B										
Gross Debt	35,87	36,54	37,46	38,95	40,73	42,37	43,83	45,11	46,19	47,04
Gross Interest Payments	4,43	4,48	4,55	4,65	4,80	4,84	4,83	4,80	4,73	4,61
Primary Deficit	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Overall Budget Deficit	5,43	5,48	5,55	5,65	5,80	5,84	5,83	5,80	5,73	5,61
Scenario C										
Gross Debt	36,87	37,88	38,77	39,80	41,02	42,36	43,81	45,38	46,94	48,73
Gross Interest Payments	4,43	4,53	4,59	4,63	4,71	4,72	4,72	4,71	4,71	4,67
Primary Deficit	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
Overall Budget Deficit	6,43	6,53	6,59	6,63	6,71	6,72	6,72	6,71	6,71	6,67
Scenario D										
Gross Debt	36,87	38,53	40,45	42,98	45,84	48,56	51,08	53,41	55,51	57,32
Gross Interest Payments	4,43	4,61	4,80	5,02	5,29	5,45	5,51	5,60	5,61	5,55
Primary Deficit	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
Overall Budget Deficit	6,43	6,61	6,80	7,02	7,29	7,45	7,51	7,60	7,61	7,55
Scenario E										
Gross Debt	37,01	37,70	38,14	38,65	39,22	39,84	40,53	41,28	42,09	42,97
Gross Interest Payments	4,44	4,60	4,72	4,87	5,01	5,16	5,33	5,51	5,69	5,90
Primary Deficit	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
Overall Budget Deficit	6,44	6,60	6,72	6,87	7,01	7,16	7,33	7,51	7,69	7,90

A further conclusion emerging from the calculations is that of all the scenarios envisaging a 2 per cent primary deficit, the inflationary scenario (E) offers the most favourable outlook for the debt by 1997, as it gives a debt ratio of only 43 per cent by 1997. At the same time, however, Scenario E also presents the most problematical budgetary situation over the next 10 years (see below).

2. Scenario A gives the most favourable budgetary situation, predicting a slow decline in the overall deficit and debt service costs as a proportion of GNP. In Scenario B these ratios remain approximately constant over the forecast period, despite a substantial rise in the debt/GNP ratio to over 47 per cent by 1997. It is moreover revealing to note that broadly similar results emerge in Scenario C (primary deficit of 2 per cent of GNP plus gradual disinflation) and in Scenario B, as far as the debt burden is concerned. As already mentioned, the debt ratio in this latter scenario also increases to about 48 per cent by 1997. Thus, a higher debt ratio need not be associated with a higher debt service burden as a ratio of GNP by 1997. Conversely, the raising of the primary deficit to 2 per cent of GNP with rapid disinflation under Scenario D would raise the overall budget deficit ratio to 6,4 per cent right away, and then cause the ratio to rise further to 7,5 per cent by 1997. Debt service costs in Scenario D would also rise by approximately 1,1 per cent of GNP over the forecast period, to 5,5 per cent by 1997.

The effect on the Goverment's debt service burden of the raising of the primary deficit ratio to 2 per cent thus obviously depends crucially on the pace of disinflation, given the slow rate at which the average interest rate on government debt (i.e., the other part of the growth-interest differential) can be brought down.

An interesting characteristic of Scenarios B, C and D is that while the deficit and debt service ratios both rise during the disinflationary period, these ratios begin to fall back towards the end of the period as the relationship between the nominal growth rate and interest rate improves. A further decrease in the ratios in question can be expected if the overall debt situation improves after 1997, depending on the way in which the growth-interest differential evolves. It follows that some part of the relatively high or rising deficit and debt service ratios during the disinflationary period under Scenarios B-D may be a temporary phenomenon.

3. While the prediction of a rising debt ratio under Scenarios A to D may be problematical, a consolation is that changes in the ratio will tend to take place relatively slowly, with the possible exception of Scenario D, which is the only scenario predicting a debt ratio in excess of 50 per cent within 10 years. Since slow changes in the debt ratio give the government more scope and time to change its policies in order to avoid getting into a difficult situation from which it cannot easily escape, a situation where the debt/GNP ratio rises gradually is less risky. In this connection, the recorded narrowing of the growth-interest differential in Scenarios A to D (to be discussed below) will have obvious implications for the pace of change in the debt ratio after 1997.

4. Despite the projected rise in the debt ratios in the medium-term, the debt situations depicted in Table 22 remain basically "non-explosive", in the sense that the growth-interest differential remains positive in the longer-term. Only in the rapid deflation scenarios (B and D) does the growth-interest differential turn negative temporarily, as the rapidly declining inflation rate pushes the nominal growth rate of the economy below the falling interest rate. During this latter period the rate of growth of the debt ratio is accelerated substantially. In both these cases a positive growth-interest differential is

however restored before the end of the period, as the fall in interest rates catches up with the fall in the rate of GNP growth.

However, in the four cases where the disinflationary policies are successful (Scenarios A to D), the stability of the overall debt situation becomes progressively much more delicately balanced as time passes, with a positive growth-interest differential of less than 0,5 per cent by 1997, the importance of which would be appreciated if it is recalled that a debt situation is "explosive" when a negative growth-interest differential is combined with a primary deficit, whilst the debt/GNP ratio would be merely tending to a finite ceiling if the growth-interest differential is positive. This suggests that the rate of growth of the debt ratio after 1997 would be correspondingly more sensitive to the size of primary deficits than at present.

The progressive narrowing of the growth-interest differential between 1987 and 1997, would in addition have the twin effects of (a) increasing the speed at which the debt ratio increases, and (b) raising substantially the long-term equilibrium debt ratios associated with any given primary deficit ratio. (If the various 1997 situations were to be maintained, the fiscal calculus would predict the following long-term debt ratios: Scenario A - 232 per cent; Scenario B - 293 per cent; Scenario C - 465 per cent; and Scenario D - 586 per cent). The 1997 situations as such are thus clearly non-viable in the long-term. By comparison, the growth-interest differential in Scenario E remains positive throughout and equals over 3 per cent in 1997. Its long-long equilibrium debt ratio is only 75 per cent.

5. As we have seen, the speed with which inflation is reduced is of cardinal importance for the projected debt situation, because the faster the inflation rate is brought down, the faster the debt ratio would rise, and vice versa, given the assumed deficit ratios and real growth, and the difficulties of reducing the

average interest rate on debt in the medium-term.

It follows that the slower the inflation rate is brought down over the next 10 years, the larger would be the scope for increasing deficits without increasing the debt ratio to unacceptable levels. Conversely, a rapid decline in inflation over the next 4-5 years would leave the government little scope for permanently larger deficit ratios, if the debt ratio is to be kept below, say, 50 per cent by 1997 (compare Scenarios B and C), unless the real growth rate could be raised to higher levels.

The sensitivity of the prospective debt situation to the pace of disinflation could moreover present the authorities with a policy dilemma, especially if the maintenance of a relatively low debt/GNP ratio is a high priority. This can be explained as follows. Assuming that the current high tax rates have a significant adverse effect on productive activity and expectations of inflation in the economy, a reduction in tax rates may bring about a significant improvement in the situation. If government outlays cannot be lowered, permanently lower tax rates would necessitate raising government borrowing structurally to a higher level. However, if the economy responds quickly and inflation begins to fall, the stability of such a policy could be threatened by a deteriorating debt situation. For example, the projection under Scenario D suggests that to run a deficit of, say, higher than 2 per cent of GNP, when inflation is falling rapidly, would cause a rapid acceleration of the debt ratio and consequently necessitate a drastic policy reversal at a later stage. A policy of stimulating productivity and lowering inflationary expectations by reducing taxes and raising overall budget deficits could thus be relatively short-lived if the price level reacts quickly, unless the debt/GNP ratio is permitted to rise temporarily to levels which may, whilst tolerable in the short-term, be considered unacceptable from a longer-term point of view.

6. The projections also demonstrate the sensitivity of the so-called deflationary scenarios to the assumed evolution of the average interest rate on the outstanding debt. While the four deflationary scenarios allow for a certain degree of synchronisation between the fall in nominal GNP and interest rates, with the fall in the average interest rate assumed to lag behind the fall in inflation, the projected fall in interest rates could turn out in practice to be too optimistic, and the interest rate could thus remain higher for longer. In that case, relatively much more "unstable" debt situations may develop during the disinflation period, especially in the rapid deflation scenarios, with the debt ratio rising relatively faster to exceptional levels in the short to medium-term, even in Scenario A.

Table 22 suggests, however, that in the longer-term a fall of the interest rate to the lower levels normally associated with a lower inflation rate and improved growth prospects, should produce a more "stable" debt situation. But this will not happen before the actual debt ratio had risen to substantially higher levels. Fortunately, the current low debt/GNP ratio of 35,76 per cent gives the government some scope for fiscal experimentation. At the same time, the narrowing of the growth-interest differential in the 1980s, and the prospect of it becoming even more delicately balanced during and after the disinflation period, would require the authorities to become much more watchful of the situation than at present. For example, if the growth-interest differentials in Scenarios C to D do not improve after 1997, in the form of a further fall in interest rates as the outstanding debt is rolled over at lower marginal rates, there will be a rapid acceleration of debt ratios, requiring drastic policy changes to contain the situation. This prospect should serve as an inducement to the authorities to take timeous action to adjust the budget.

7. The inflationary Scenario (E) paints a paradoxical picture which illustrates the contradictory role played by inflation, for while this scenario forecasts the most favourable outcome apart from Scenario A for the debt ratio, it gives the worst outcome of all as far as the debt burden is concerned. It is consequently a scenario that the government may wish to avoid. On the one hand, the debt ratio in Scenario E rises to only 42,97 per cent by 1997, despite the fact that the interest rate remains high and rising. On the other, the budgetary situation underlying this scenario is comparatively much less favourable, for two reasons. Firstly, the combination of a primary deficit of 2 per cent of GNP (i.e., R10,037 in 1987/88) with rising inflation and a high interest rate would lift the overall deficit, as a proportion of GNP, to almost 8 per cent by 1997, and the corresponding debt service ratio to almost 6 per cent of GNP. At this latter level, the debt service burden could approach 25 per cent of current government outlays by 1997. Secondly, these ratios would continue to rise rapidly after 1997 without the prospect of a turnabout, unless the primary deficit is curtailed by reducing non-interest expenditure or raising tax rates. However, reducing non-interest outlays, in particular, should be problematical when the budget already contains such a large component of expenditure over which the authorities have little or no control in the short- to medium-term.

In other words, a scenario involving a sustained or rising inflation rate combined with, say, a 2 per cent primary deficit would be the most problematical for the budget. It would in addition continue to undermine investors' confidence in government securities, given the fact that such a scenario would rely more than any of the other scenarios on the continual erosion of the real value of the debt by inflation, in order to keep the debt ratio within bounds. Scenario E moreover implies an initial fall in the already negative real interest rate on the outstanding debt, and a return to the current situation by 1997,

compared to Scenarios A to D where the real interest on government debt will become positive again and rise/fall gradually to approximately 4 per cent by 1997, depending on the speed with which the inflation rate falls. By comparison Scenario E would thus help to sustain upward pressure on nominal and real interest rates by continuing to impose a net "inflation tax" on bondholders.

It now remains to compare the aforementioned projections with a situation in which the government attempts to maintain a constant overall deficit, in relation to Gross Domestic Product (GDP), rather than a constant primary deficit ratio.

8.5 A Constant Budget Deficit/GDP Ratio

The purpose of this last series of scenarios is to project the longer-term debt and budgetary implications of a policy of maintaining the total budget deficit constant at 3 per cent of GDP, under different assumptions about inflation, real growth and interest rates.

The projections will be made from an assumed deficit/GDP base of 6,09 per cent in 1987/88. Because of the big gap between the latter ratio and the target of 3 per cent, it will be assumed that the process of consolidation takes place in two stages, i.e., that the deficit/GDP ratio is lowered to 4,5 per cent in 1989/90 and then to its new trend level of 3 per cent in 1989/90. The projections under the three scenarios are based on the following further assumptions:

Scenario P1
The growth rate of real GDP, inflation rates and interest rates are as for Scenario A and C (i.e., GDP is assumed to grow at the same rate as GNP).

Scenario P2
The growth rate of real GDP, inflation rates and interest rates are as for Scenario B and D.

Scenario P3
The growth rate of real GDP, inflation rates and interest rates are as for Scenario E.

The results of the calculation are summarized in Table 23.

Conclusions

On average, realized total budget deficits equalled 3,83 per cent of GDP in the 1980s. Of this latter percentage, the debt service burden alone accounted for 3,72 per cent. The primary deficits as a ratio of GDP thus equalled only R100,0 million or 0,11 per cent of GDP. A careful inspection of the 1980s, however, reveal that deficits showed signs of rising during the last few years, and it is assumed for purposes of the projections in this section that the deficit as a ratio of GDP equalled 6,09 per cent in fiscal year 1987/88 (see Table 23).

Against this background, Table 23 shows that a policy of reversing the recent rise in the overall deficit would initially involve a drastic squeeze on other components of the budget. Even if, as assumed, the period of consolidation is spread over two years, the process of turning round the budget would require a reduction of the primary deficit from its (assumed) current (1987/88) level of R3 068 million, to a broadly balanced situation in 1988/89, and then to a surplus of approximately R2 900 million in the following year, thus giving an effective cutback in (non-interest) outlays and/or additional revenues of close on R6 000 million over two years . If it is assumed that no more than a small part of this total will come from so-called automatic stabilizers, unless the economy (and the gold price) picks up significantly over the next two years, the major burden

Table 23 **Budgetary and Debt Implications of Scenarios P1 - 3: 1988-1997**
(Percentages of GDP)

Year ending 31 March	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Scenario P1										
Gross Debt	35,10	34,35	32,18	30,53	29,32	28,47	27,93	27,65	27,51	27,65
Gross Interest Payments	4,22	4,32	4,16	3,85	3,61	3,37	3,17	3,01	2,87	2,74
Primary deficit	1,87	0,19	-1,16	-0,85	-0,61	-0,37	-0,17	-0,01	0,13	0,26
Overall budget deficit	6,09	4,50	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00
Scenario P2										
Gross Debt	35,10	34,89	33,47	32,75	32,37	32,03	31,73	31,46	31,21	30,99
Gross Interest Payments	4,22	4,39	4,35	4,16	4,03	3,84	3,64	3,48	3,30	3,11
Primary deficit	1,87	0,11	-1,35	-1,16	-1,03	-0,84	-0,64	-0,48	-0,30	-0,11
Overall Budget deficit	6,09	4,50	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00
Scenario P3										
Gross Debt	35,10	34,00	31,33	29,11	27,26	25,71	24,43	23,36	22,46	21,72
Gross Interest Payments	4,22	4,37	4,26	3,99	3,77	3,59	3,43	3,31	3,22	3,14
Primary deficit	1,87	0,13	-0,26	-0,99	-0,77	-0,59	-0,43	-0,31	-0,22	-0,14
Overall Budget deficit	6,09	4,50	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00

of the adjustment will have to be in the form of discretionary cuts in expenditures (or tax increases).

The further evolution of the situation after 1990 would depend a great deal on the pace of disinflation as well as the measure of success achieved in lowering the average interest rate on the growing volume of debt. However, all three scenarios considered here suggest a gradual lowering of the debt service burden as a ratio of GDP. In the gradual inflation scenario the point at which the debt burden as a ratio of GDP reaches 3 per cent (i.e., when the primary balance becomes positive again) will be reached in 1994/95, but this point will only be reached some time after 1997 in the other two scenarios. It follows that a scenario of gradual deflation (as opposed to a rapid deflation or a further acceleration of inflation) will, by offering the twin benefits of a more gradual tightening of the screw on total deficits and a better synchronisation between the interest rate and the nominal (GDP) growth rate, have the effect of alleviating the burden of adjustment on the other components of the budget.

Scenarios P2 (rapid deflation) and P3 (acceleration of inflation) give a broadly similar budgetary result between 1988 and 1997, except that budgetary aggregates, as opposed to the relevant ratios, are obviously vastly different. The two scenarios, however, differ more fundamentaly as far as the evolution of the debt/GDP ratio is concerned. Since it is the overall deficit ratio rather than the primary deficit ratio, which is now held constant, it is the growth rate of nominal GDP rather than the growth-interest differential which is the deciding factor as far as the evolution of the debt ratio is concerned.

Table 23 reflects this by revealing that the inflationary scenario gives the lowest debt ratio of all by 1997 (i.e., 21,72 per cent) while the rapid deflation scenario gives the highest ratio (i.e., 30,99 per cent). It stands to reason, moreover, that all three scenarios would indicate a decline in the debt

ratio from its present level, because of the tight rein kept on the total deficit. Indeed, using the 1996/97 situation as a base, the fiscal calculus would predict long-term equilibrium debt/GNP ratios of 18 per cent and 29 per cent, respectively, in the inflationary and deflationary scenarios.

The interest rate (and therefore the growth-interest differential) is, however, an important determinant of the mix of the interest and non-interest components of the evolving total deficit between 1988 and 1997. As the interest rate decreases over time and the growth of the total debt proceeds at a relatively slower pace, the need for primary budget surpluses would diminish.

However, a comparison of the projection under Scenario P1 with the other two projections shows again that if the policy of disinflation is either very successful (Scenario P2) or unsuccessful (Scenario P3) the need for holding the primary balance on a tight rein would be prolonged. In other words, the degree of restraint imposed on the non-interest budget by a policy of keeping the debt/GDP ratio constant at, say, 3 per cent would depend on the rate of interest vis-a-vis the growth rate of nominal GDP.

9. CONCLUSION

In the absence of traditional budget balancing norms, much depends on the government's own sense of responsibility to conduct budgetary policy in a disciplined and restrained manner. As we have mentioned, there is little support outside the United States for a return to the rigid budget balancing rules of former times, whether this comes in the form of an overall budget balancing rule, a constitutional prohibition on loan financing of current government outlays, or a legal limit on debt creation. On the contrary, in today's atmosphere of fiscal "permissiveness" it is widely recognised that norms such as these would be both politically unacceptable and economically undesirable.

In particular, an injunction against loan-financing of current outlays would continue to suffer from a lack of credibility in South Africa unless the rule is applied in a medium-term context rather than on a strict annual basis, and even then definitional problems would present serious obstacles in view of the difficulty of distinguishing between productive and unproductive outlays at this stage of the country's development. A norm that new government debt should not be created unless it is for "productive" purposes might be quite unexceptional in principle, if used as a broad but supple guide for the conduct of the public finances, especially if there already exists a relatively large "unproductive" debt to contend with. However, as a self-imposed device to rationalise the enforcement of strict discipline over recalcitrant government departments, such a rule is bound at times to conflict visibly with both the shorter and longer-term interests of the country and its peoples, and is thus likely to be no more than a fair-weather measure. The danger of treating such a rule in what may appear to be an undisciplined or "on/of" manner, is that it is likely to undermine rather than enhance the credibility of policy.

The avoidance of serious fiscal imbalances and unstable debt conditions nonetheless remain a key responsibility of government. The task is particularly difficult in South Africa as the government is subject to very strong political, economic and social pressures to both increase spending and keep taxes down. The importance of high government spending as a potential source of fiscal imbalance is likely to continue or even to grow as existing services are extended to more people against a background of continued high spending on national defence. Over the last few years, the public finances in South Africa have often been characterised by critics as undisciplined in view of the apparent unrestrained growth especially of government current spending, and the resultant relatively high tax burden on the middle and the high-income groups of the population in particular. The Government's image as a spendthrift is unfortunately re-inforced by its apparent inability to maintain budgetary discipline, as a consequence of which considerable overspending on budget forecasts frequently occurs.

There are several reasons why the South African Government could come under growing pressure to assign a more important role to its own longer-term debt situation in the annual budget presentation, and to concentrate more attention on the kind of issues addressed in this paper. These reasons include, firstly, the virtual inevitability of a long-term growth in demand for higher government 'current' as well as 'capital' expenditures to deal with the severe social and economic problems facing the country, especially if viewed against the background of the country's limited resources. There is a distinct possibility that serious difficulties might be experienced in accommodating such demands in a system which is subject to crude constraints on the financing of traditionally defined 'current' expenditure of the type referred to above. If these expected pressures on the budget materialise, the government may increasingly be forced to rationalise higher borrowing either by attempting to draw much

more relevant distinctions than hitherto between productive and non-productive current and capital expenditure, or by accepting a permanently higher level of debt as a ratio of GNP as inevitable.

Secondly, the proceeds of the sale of public assets as part of the government's programme of privatisation could reach significant levels if the objective of 'rolling back the frontiers of the public sector' is pursued with vigour. In that case, guidelines need to be worked out timeously regarding the budgetary treatment of such proceeds. In particular, what is the proper relationship of the latter to movements in the public debt, and how will asset sales affect the level and stability of taxes over time? Should asset sales be applied to debt reduction, tax reduction, or the purchase of alternative assets? Do asset sales finance the budget deficit or reduce it? The haphazard budgetary treatment of the proceeds of the sale of public assets could play havoc with the government's finances because, as a source of revenue, they would be both irregular and temporary. In addition, the sale of government assets, currently or potentially yielding regular returns to the Exchequer, would cause a deterioration in the government's net debt position and raise net debt service costs if the proceeds are used to finance, for example, a reduction in tax rates rather than a reduction of the outstanding debt. On the other hand, tax reduction may currently enjoy the highest priority as a means to stimulate increases in the productive capacity of the economy.

Since issues such as those mentioned above affect the long-term financial stability of the government, they are best examined in a longer-term context. This paper has accordingly attempted to put a medium-term analytical perspective on the inter-connection between current budgetary decisions and changes in the government's gross and net debt situations, both historically and prospectively.

Historically, the clearest picture emerging from the discussion is the almost paradoxical fall in the gross debt/GNP ratio over the last two decades and its relative stability in the 1980s, on the one hand, and the rapid acceleration of gross as well as net debt service costs in the 1980s, on the other. Both these developments are at least partially related to the rapid acceleration of inflation over the last 15 years, for, while the high growth rates of nominal GNP (mainly inflationary) have continued to erode the real value of the outstanding debt in every year since 1972, inflation and inflationary expectations were probably belatedly instrumental in raising the average interest rate on government debt from about eight per cent in 1980 to over 14,5 per cent in 1987. Simultaneously, the State's financial asset base was allowed to be seriously eroded over the last decade. The result has been a rapid acceleration of the government's net debt as well as its net debt service burden, with increases in the latter ranging from 16 per cent to 67 per cent per annum in the 1980s. The accommodation of such increases in the net debt service burden within the constraints imposed by traditional overall deficit levels, necessitated a drastic cut-back of the primary (non-interest) deficit as a ratio of GNP in the 1980s. Under pressure to increase government spending and to lower taxes, such a situation may be neither sustainable nor desirable.

Several of the scenarios considered in Section 8 are premised on the idea that the government would not be able to avoid large deficits. This study shows that the outlook over the next decade would not necesssarily be bleak if budget deficits were to rise. The current debt/GNP ratio is low by comparison with earlier years. There may consequently be scope ror expansion when, for example, the level of economic activity is low and stimulation of the economy is needed. In this connection it must, however, be remembered that the present relatively low debt ratio came about mainly as a result of its erosion by inflation. The unpleasant past experiences of investors in that regard may

very well have had the effect of increasing the reluctance of investors to invest in government stock, so that increasing volumes of debt may not be absorbed by markets unless investors are *compensated* by significantly higher interest rates. This may have raised the fiscal constraint associated with any given level of debt to GNP. Unfortunately, the historical evolution of the debt/GNP ratio to *its current* (1987) level of 35,76 per cent gives few policy guidelines on what the debt/GNP ratio ought to be in South Africa, or what levels would be tolerable in the years that lie ahead. The experiences of other countries are also not helpful, since international comparisons are largely meaningless, because of wide institutional disparities, historical dissimilarities and countries' different stages of development. Domestic debt policy would thus remain a matter of discretion and experimentation.

The results of several of the fiscal projections considered in this paper suggest that the government may have no choice but to accept a rise in the debt/GNP ratio over the next ten years, given the constraints on deficit reduction. Structurally higher debt ratios may in addition be an inescapable result of a disinflationary process. However, the medium-term projections also show that these scenarios will not necessarily lead to "explosive" debt situations. Moreover, part of further increases in debt service ratios may very well be temporary. On the other hand, the underlying conditions of stability may become much more delicately balanced than before, particularly when disinflationary policies are successful. This means that government will have to become much more watchful of the debt situation than in the past.

Of the various cases considered, the worst forward-looking budgetary situation would result from a continuation of conditions of high inflation and interest rates, combined with relatively high budget deficits. Although such an inflationary scenario would indeed offer a slow rise in the debt/GNP ratio

between 1987 and 1997, it would give the highest debt service and deficit ratios by 1997 of the various scenarios considered, and would thus clearly be unsustainable except in the very short-term.

Pegging the total budget deficit to 3 per cent of GDP would involve drastic fiscal consolidation. However, either drastically cutting outlays or raising additional taxes, in order to turn round the current rising trend of total deficits, obviously offers the best hope of returning to a more comfortable budgetary situation, especially as far as the debt burden is concerned. It would further have the additional "advantage" of lowering the debt/GNP ratio to a much lower level. In this latter connection, and inflationary scenario would paradoxically be the most effective way of achieving such an outcome. Since there is, however, nothing sacrosanct about a 3 per cent deficit/GNP ratio **per se**, the actual ratio decided upon as a norm must be determined in the light of all short-term and longer-term issues. When faced by choices such as the foregoing, it is the uneviable task of the government to weigh up the longer-term advantages to be gained with relative certainty (i.e., a more comfortable debt service burden), and those that are less certain (i.e., a lower inflation rate and higher growth), against the obvious shorter-term disadvantages of a further drag on the economy, as well as the prospect that the policy may possibly backfire, both politically and economically.

Given the prospect of a further rise in the debt/GNP ratio to a permanently higher level, as well as fluctuations of the ratio around the trend, it is almost axiomatic that movements in the country's debt situation must be assessed from a longer-term perspective in order to minimize any adverse expectational effects and to increase public acceptability of higher debt levels. Since annual fluctuations in debt and deficit levels may not be distinguishable from longer-term trends, a longer-term perspective on the annual budget is important in order to avoid

the creation of undersirable expectations and fears when budgets and debt ratios do in fact change. In the interest of the credibility of policy, the budget must therefore contain enough information for an evaluation of the effects that policy decisions made today will have on the public finances two, three or five years hence, and for an evaluation of its provisions in the context of any declared medium- or longer-term objectives.

Unfortunately, the present framework and style of presentation of the South African budget are very poorly adapted to deal with the longer-term questions which have now resumed an important role in discussions of fiscal policy. References in recent budgets to some of these issues have been unsophisticated, superficial and undisciplined. The local situation compares unfavourably with the situation in some other countries where budgets frequently supply detailed analyses of, for example, issues relating to the public debt and future debt-servicing cost. The long-maintained one-year perspective of the budget, and its failure to provide any longer-term perspectives on current policies, must therefore be viewed as a serious obstacle in the way of a more effective use of the budget as a guide to responsible fiscal conduct. The style of presentation and the content of the South African budget clearly ought to be overhauled to enable it to throw light on a wider range of issues related to the government's handling of the State's finances than at present.

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(1) The term "Central Government" refers here to the government as a political entity. There is in fact no single or consolidated budget for the combined central government, from a public financial point of view. Data for the combined central government are however published ex post in the IMF's **Government Financial Statistics (GFS)**.

(2) The annual increase in the State Debt is not necessarily equal to the budget deficit. For a fuller discussion of this aspect, see Section 5.3.

(3) Until the mid-1970s the term "public debt" was actually used officially to describe what is now designated as "State Debt".

(4) See the IMF's **Government Finance Statistics.**

(5) Incorrectly referred to as "Staatskuld" by the South African Reserve Bank. See, eg., South African Reserve Bank, Quarterly Bulletin, June 1987, S-103. A much less confusing term in that particular context would be "openbare skuld".

(6) See J van der S Heyns: **Some New (and old) Approaches to Budgetary Policy: Implications for the South African Budget**, Occasional Paper No.18, Economic Research Unit, University of Natal, 1986.

(7) For a viewpoint in favour of a constitutional fiscal limitation in the United Kingdom, see Burton (1978, 1985).

(8) The Public Debt Commissioners (now the Public Investment Commissioners) continued with this tradition in their annual report on the activities of the General Sinking Fund, right up to the time of the recent abolition of the latter fund.

(9) Specifications by different writers often differ because of diffences in basic assumptions. This paper does not attempt a reconciliation of Bispham's presentation with that of other writers such as Marriss (1985) and Chouraqui, Jones and Montador (1986).

(10) The following assumptions apply: (a) interest payments in a given year depend on the outstanding debt at the beginning of the year; current budget deficits are therefore not permitted to affect current interest payments, and (b) r is the average interest rate on new debt, the entire debt being rolled over annually at this rate.

(11) In practice, monies in the Stabilisation Account were used regularly to fund advances to the National Supplies Procurement Fund, and to alleviate temporary shortages in the Exchequer itself.

(12) Whilst interest is brought to account in the State Revenue Fund when payment falls due, discount on government stock is brought to account in the year in which the particular stock is issued. Debt service costs, as defined in this section, excludes the costs associated with realized foreign exchange losses/gains on foreign (including IMF) debt. Such losses, if any (i.e., there may also be net gains in a particular year), form a direct charge on the State Revenue Fund and are brought to account as part of total debt management charges when the loans are redeemed. Realised foreign exchange losses have been quite substantial in recent years.

(13) This section is based on the analysis in Muller and Price, 1984.

(14) See Muller and Price, 1984, p.59.

(15) This conclusion applies particularly to the conversion of outstanding loans to SATS. In the case of the Provincial Administrations, the government had always subsidised the Provincial Administrations' interest liabilities to the State under a separate vote. The conversion of the outstanding loans to the Administrations into permanent capital in 1977/78, and the concomitant abolition of the interest subsidy, were thus formalities involving no net cost (or saving) to the budget.

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