Barbados' Government Debt, 1966 to 1990

An Analytical History

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Introduction

In 1966, the year of independence, the Barbados government ran a deficit of $8m, a deficit which proved to be the first of many. One for each of the 25 years since independence. Whilst such deficits are not, of themselves, any special cause for concern, the persistent growth in national debt which they imply can be. Most particularly, if the stock of debt grows more quickly than the economy, then the government can become engaged in an increasingly desperate search for new sources of funds. Such has been the case for Barbados over most of the last decade.

As we shall see, the government's finances have exhibited what might be termed a 'structural' deficit. Whilst this does not necessarily imply profligacy on the part of the state, it may evidence a failure to appreciate fully the nature of the processes at work. If one starts with a gap between expenditure and revenue, and even if the rate of expenditure growth is restricted to that of revenue growth, the gap will be growing too, and at about the same rate. That, very roughly, is what happened in Barbados. If we take average annual rates of growth for the period 1966 to 1990: government spending grew by 14 per cent; government revenue by 14 per cent; and the deficit by 15 per cent. Necessarily, the stock of debt expanded at around the same rate too, and so the level of debt rose steeply: between independence and 1990 by a factor of 40. This paper describes the evolution of that debt.

1. The Big Picture

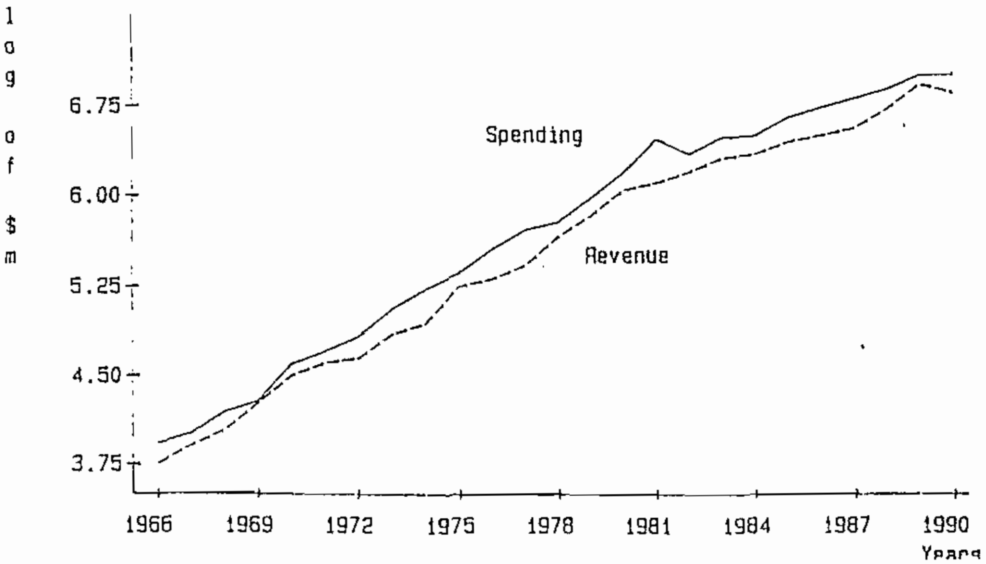
Let us start with government spending and revenue since independence which are displayed (in natural logs) on Panel (a) of Chart 1.1. What we observe are two time series which fluctuate about a trend which rises steeply from 1966 to 1981 and then flattens quite markedly from 1981 to 1990. The two seem to move pretty much in step throughout with, of course, expenditure always above revenue, although there is a perceptible widening of the gap in the early 1970's, and a slight closing from 1981 onwards.

In order to see the development of the deficit more clearly, it has been displayed separately on panel (b) of the Chart. The deficit seems to have grown relatively little from independence up to about 1972/73. It then climbed quite steeply until 1977. Thereafter, aside from an isolated jump in 1981, it seems to have remained fairly stable until towards the end of the decade.

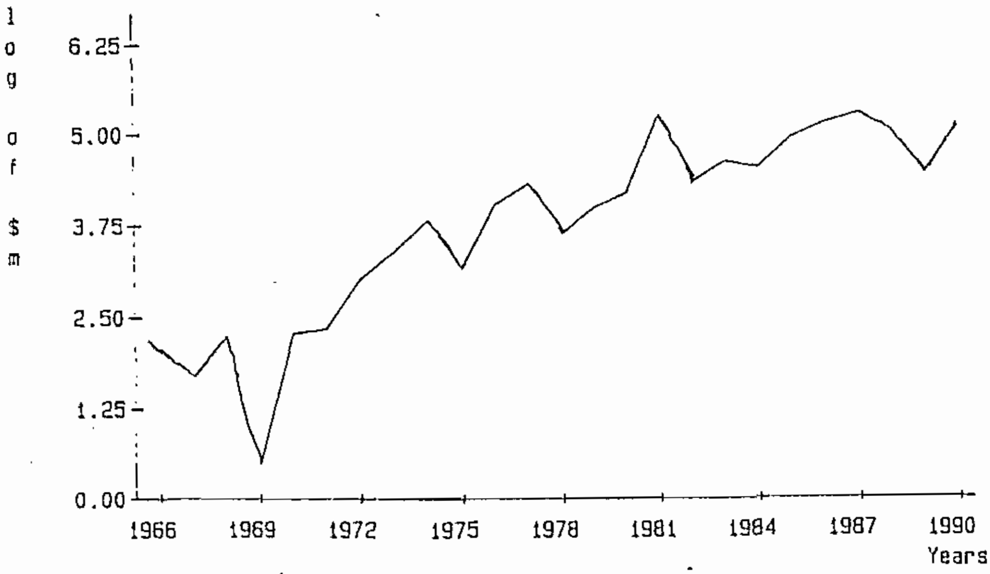
The simplest way to summarise the pattern of movement in the three series is by calculating annual average growth rates, using the plot of the deficit to distinguish sub-periods and these are recorded in Table 1.1.

Chart 1.1

(a) Government Spending and Revenue



(b) Government Deficit



Source: See Appendix for Data

Table 1.1

Government Spending, Revenue and the Deficit
Annual Average Growth Rates

Period	Spending	Revenue	Deficit
1966-1973	18	17	17
1973-1977	18	15	30
1977-1981	21	18	26
1981-1990	3	4	0

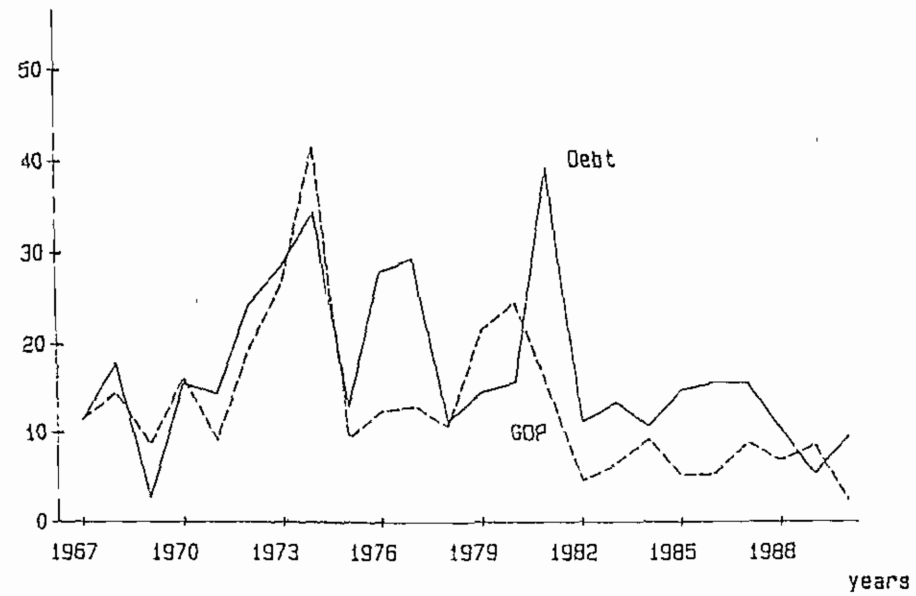
Source: The data are described and listed in the Appendix.

Whilst the detail varies a little depending on the precise choice of years, the overall pattern of growth recorded on the Table is fairly representative. A period of roughly equal growth in all three up to the early 1970's, after which a gap opens up between spending and revenue, with the deficit growing more quickly. In the later 1970's revenue growth accelerates, but so too does spending and as a result the growth of the deficit is reduced only slightly. In the 1980's spending slows quite dramatically, as does revenue, and the deficit in 1990 is at its 1981 level.

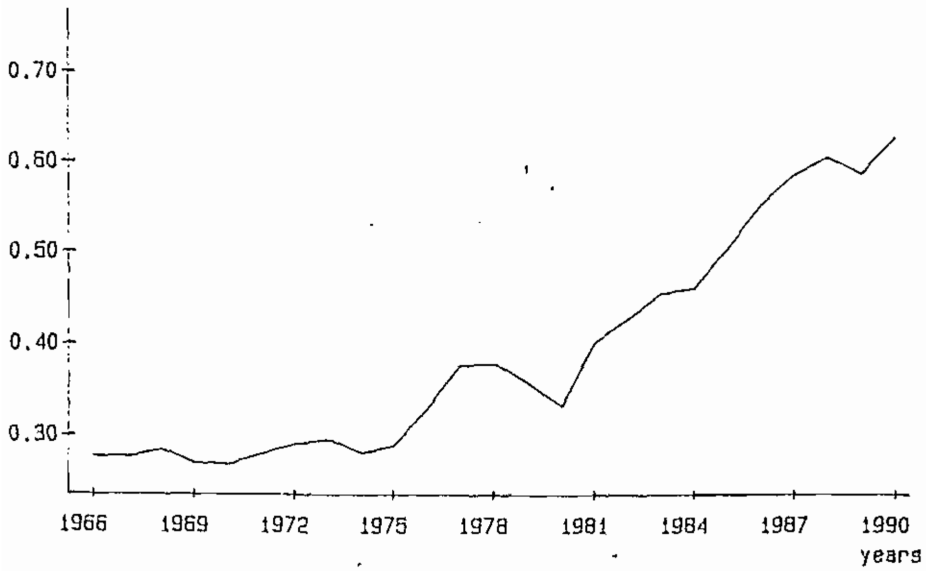
Let us now take the analysis one step further and examine the implications of the growth in the deficit for the stock of debt and this is recorded by the solid line on panel (a) of Chart 1.2 . As one might have anticipated from the pattern of growth in the deficit, the rate at which the debt stock grew increased markedly between 1966 and 1977, most particularly between 1973 and 1977. With the exception of the jump in 1981, growth after 1977 fell back to late 1960's levels, hovering around 10 per cent a year.

Chart 1.2

(a) Annual Growth in Government Debt and GDP



(b) Government Debt to GDP Ratio



Source: See Appendix for Data

Finally, let us look at the relationship between the debt stock and nominal GDP. From the same panel (a) of Chart 1.2 we can see that, apart from the two pronounced 'spikes' (corresponding to the commodity price shocks of the early and late 1970's), GDP growth fluctuated around 10 per cent up until about 1981, when it dropped to a lower growth path around 7 or 8 per cent. Apart from the periods surrounding the spikes, the debt stock grew at a faster rate than GDP (particularly in the mid-1970's) which implies, of course, a rising debt to GDP ratio.

What our analysis of the trends in spending and revenue growth has allowed us to highlight then, is the pattern of change in the government's finances and their relation to the overall growth in the economy. In particular, it has allowed us to isolate a critical period in the early 1970's, 1973 to 1977, when spending growth exceeded revenue growth by a larger margin than usual and, as a result, the deficit, and thus the debt stock, grew quite dramatically.

The other noteworthy feature of the data is the behaviour of the growth rate of debt relative to GDP in the 1980's: even though revenue grew faster than spending and the deficit stabilised, debt was still growing at a rate in excess of GDP. It appears that the process of 'unwinding' the growth of debt which occurred in the previous decade was overtaken by a slowdown in the rate of growth of GDP.

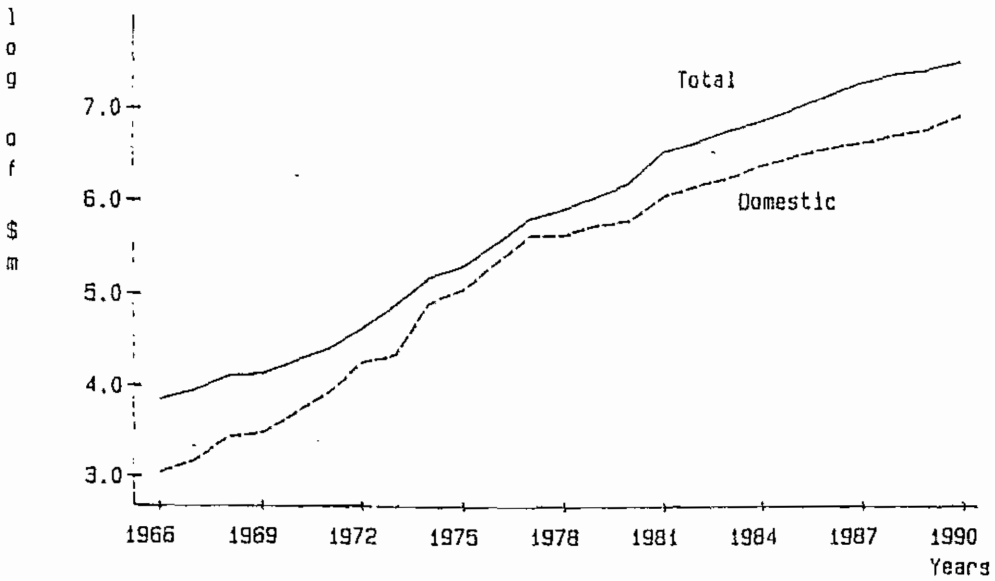
The consequences for the debt to GDP ratio are evident from panel (b) of Chart 1.2, it was relatively stable up to the mid-1970's, the rapidly growing deficit produced only a modest movement in the ratio up to 1977/78. After 1980/1981 though it climbed dramatically, almost doubling over the decade.

Against this background the post-independence period has been divided into four phases: 1966-1977; 1977-1981; 1981-1989; and 1989-1990; and we will look at each of them in turn.

2. Phase I, 1966 to 1977: The 'Independence Bonus'

An appreciation of the proximate causes of the rapid growth of the government debt after 1972 is assisted by distinguishing between domestic and foreign debt holdings. Chart 2.1 displays the logs of the value of total debt and of the domestically held component. As you will notice, the acceleration of the growth in domestic debt begins in 1973 and continues through to 1977, and indeed dominates the behaviour of the total debt in this period.

Chart 2.1
Government Debt: Total and Domestic



Source: See Appendix for Data

The data on holdings of debt by type of institution provides some insight into the processes at work and Table 2.1 records the details. In the first 5 years after independence the debt expanded at a modest rate, averaging $6m a year, and this was spread fairly evenly across the different institutions. In the first years of accelerated growth 1971 to 1973, when the annual average rate doubled, the bulk of the debt was acquired by the National Insurance Board. While this institution continued to acquire debt at about the same rate from 1973 onwards its relative importance diminished considerably as holdings by the banking sector jumped. The Central Bank, the commercial banks and the state-owned Barbados Saving Bank, acquired debt on a very considerable scale: of the $156m increase in holdings by the institutions identified in the Table, the banks absorbed $124m.

Both of these developments represent different aspects of the government's 'independence bonus'. The first reflects the increasing size of the National Insurance Board which commenced operations in 1967. In its first few years of operations, as might be anticipated, the Board's assets expanded very rapidly. Measured as a ratio to GDP they rose from .01 in 1967 to around .10 in 1972. After 1972, though, the ratio stabilised, fluctuating around .1 until the end of the decade.[1] After the initial expansionary phase

[1] In the early 1980's this ratio began to move up and has now stabilised again around .17.

the share of their assets held as government debt settled down too, between 40 to 50 percent.

Table 2.1

Major Holdings of Fixed Term Government Debt
by Institutional Category

1966, 1971, 1973 & 1977

	CBB	COB	BSB	NIB	SUM	TOTAL
Levels, end-year, $m						
1966	1.4	0.4	9.4	0	11.2	21.0
1971	5.7	9.0	12.7	6.3	33.7	51.2
1973	7.6	1.5	18.2	22.4	49.7	77.8
1977	58.6	54.1	41.5	50.9	205.1	279.5
Changes, at annual average rates, $m						
1966 to 1971	0.9	1.7	0.7	1.3	4.5	6.0
1971 to 1973	1.0	-3.8	2.8	8.1	8.0	13.3
1973 to 1977	12.8	13.2	5.8	7.1	38.9	50.4

Abbreviations: CBB, Central Bank of Barbados (before 1973, ECCA); COB, Commercial Banks; BSB, Barbados Savings Bank; NIB, National Insurance Board.
Note: "SUM" is the simply the sum of the holdings of the identified institutions. The "TOTAL" column is the figure for the government's total "Domestic Debt". It includes all government debt to the identified institutions debt whether, fixed term or not (e.g. Central Bank advances to the government) and government debt held by other categories (e.g. the non-bank private sector). See also the discussion of the data in the Appendix.

The second stage of the 'independence bonus', quantitatively much more important than the first, followed from the establishment in May 1972 of an independent central bank for Barbados, which became fully operational in 1973.

The Central Bank replaced the Eastern Caribbean Currency Authority (ECCA) which had previously administered the country's monetary affairs, and its establishment had very important implications for the financing of the government sector. The ECCA itself was a successor to a colonial currency board, and resembled its predecessor in having tightly circumscribed functions. In particular, its currency issue was required to be backed by holdings of foreign currency reserves and holdings of foreign securities. Not only did the ECCA hold only very small amounts of participating governments' debt, neither did it oblige commercial banks to do so. The ECCA's operating rules therefore limited very considerably the size of the market for government debt.

Needless to say, the advent of an 'independent' central bank transformed the situation quite dramatically. In the 1973 to 1977 period there was an 8-fold increase in Central Bank holdings and a 35-fold increase in commercial banks' holdings.

The pattern of growth in Central Bank holdings was affected by changes in its rules in respect of treasury bills, the category in which the bulk of its holdings of fixed term government debt are concentrated. In early 1974 the Board of the Bank set an upper limit of $10m on its holdings of treasury bills. This limit was increased to $12m later in the same year, to $20m in 1975, $30m in

1976, and then, in two stages, to $50m in 1977[2].

The bulk of the change in the commercial banks' holdings can be traced quite straightforwardly to policy directives issued by the Central Bank. It was towards the end of 1973 that the first policy actions were taken by the new bank and (among other things) a regulation was introduced which required commercial banks to hold treasury bills to the value of 3 per cent of their total deposit liabilities. This requirement was then increased in stages from 3 to 8 per cent by the end of 1976. Not only was the requirement increased, though, it was also augmented. From 1975 the commercial banks were also obliged to hold longer term government debt (called debentures) to a value of a further 3 per cent of their deposit liabilities. This requirement was further increased to 4 per cent in 1976. So, by 1976, commercial banks were required to hold government bonds to value of 12 per cent of their deposit liabilities.

The impact of these regulations on commercial banks' holdings of debt was very considerable. In 1973, when the requirements were first introduced, as we saw, the commercial banks held virtually no government securities. By the end of 1977 the commercial banks were required to hold $50.6m worth of government debt, and their

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[2] The last change took place after the period currently under discussion, in 1981 it was doubled to $100m.

actual holdings were $55.8[3]. So the bulk of the change in their holdings resulted directly from the 'rules'.

The last institution included on the Table is the state-owned Barbados Savings Bank which (at least since the early 1970's) seemed to have held an amount of government securities roughly equal in value to its deposit liabilities. And the increase in its holdings over the years 1973 to 1977 more or less followed the increase in the size of its balance sheet. Since, at least over the 1973 to 1977 period, the ratio of its total assets to GDP stayed more or less constant (at around .06) that means, by implication that the evolution of its holdings as a ratio to GDP stayed more or less constant too.

It appears, then, that an important part of the story of fixed term government debt over the 1970's is the once and for all changes associated with Barbados' independence: the initiation of the National Insurance Board and the founding of the Central Bank which in turn was followed very quickly by the introduction (and rapid escalation) of debt-holding requirements for commercial banks. The induced acceleration in the demand for debt slowed though in the

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mid-1970's, and by 1977 had begun to stabilise.[4] For each of the institutions (except the Central Bank) stabilisation took the form of government debt forming a fairly stable proportion of the institution's total assets, with total assets, in turn, increasing roughly in proportion to GDP.

By implication, then, we arrive at a very important proposition: the prospective growth in domestic holdings of fixed term government debt will continue to rise, but more or less in line with the growth in money GDP. In other words, the scope for financing the gap between government spending and revenue collections from sales of debt would subsequently be considerably less than it was in the period 1973 to 1977.

Having spent the 'independence bonus' of around $150m (about 17 per cent of 1977 GDP) the government's options became more tightly circumscribed. It could: try and close the gap between revenue and spending; oblige the commercial banks or the Central Bank to hold more debt (or lend to it in other forms); borrow abroad. As we shall see in the next section, the last, which was, at least superficially, the most attractive, was chosen.

[4] After 1976, the debt-holding requirements were not changed until December 1981 when they were raised to 17%.

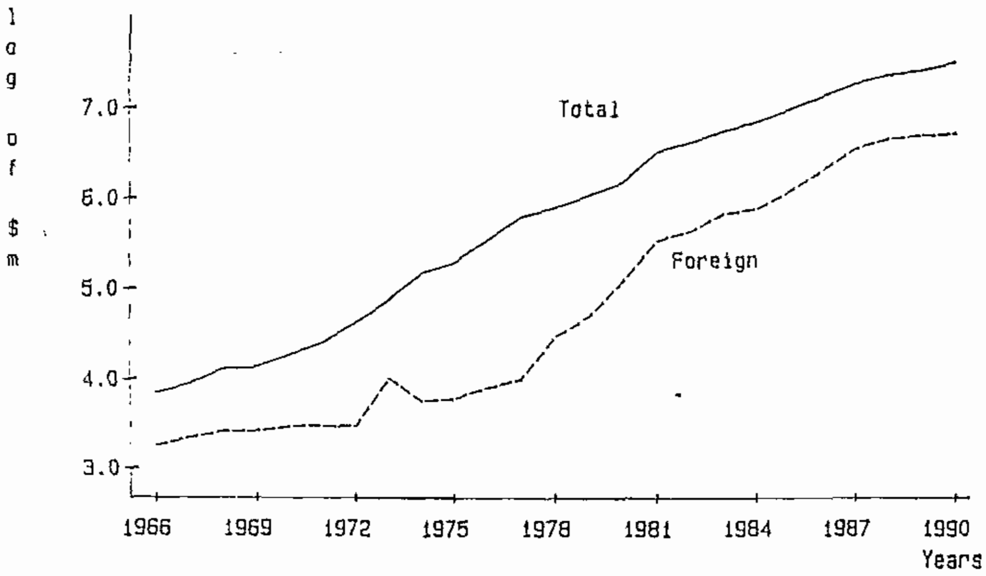
3. Phase II, 1977 to 1981: The Growth of Foreign Borrowing

At independence Barbados' foreign debt was about $25m and over the 1966 to 1977 period, when domestic debt rose by a factor of 13, it merely doubled. Since over the same period GDP had risen by a factor of 5, the external debt to GDP ratio more than halved to around 6 per cent. When domestic borrowing stopped growing in 1977 (almost literally), it was, necessarily, foreign borrowing which financed the deficit.

As we saw earlier, although the growth of government spending accelerated slightly after 1977, revenue growth did too, and the gap to be financed grew at a slower rate. Still the deficit in 1978 was $37m, and all but $3m of this sum was borrowed abroad. Since the external debt at the end of 1977 was only $55m, this borrowing resulted in a big jump in the debt stock which is clearly evident from Chart 3.1. Not only does the point of inflection in the external debt series at 1977 stand out, but it is equally obvious that a comparable rate of growth persisted up until about 1981. Indeed, over the period 1977 to 1981, it averaged close to 40 per cent a year.

In 1981 external borrowing slowed abruptly but over the four year period, 1977-1981, the foreign debt to GDP ratio had risen by almost 10 per cent of GDP and Barbados had accumulated $200m worth of external debt.

Chart 3.1
Government Debt: Total and Foreign



Source: See Appendix for Data

Notice too, that over this period, at least until 1980, external borrowing represented the bulk of the increase in the total debt. Part of the explanation of this phenomenon lies in an important institutional change which took place in 1978. In April of that year the Barbados Savings Bank, which as we noted earlier was a reliable customer for debt, was amalgamated with the Sugar Industry Agricultural Bank, to form the Barbados National Bank, a state-owned "Commercial", as opposed to "Savings", Bank. Now on the eve of its dissolution (?) the Barbados Savings Bank was holding about $38m in securities, whereas a commercial bank with the same amount of deposits would only have been obliged to hold about $5m. In other words, it had excess holdings of more than $30m. As a result of this institutional development then there was both a 'step' decline in the demand for debt and, additionally, a reduction in the amount of debt required to accompany the future expansion of its deposits. Needless to say, this may have made the recourse to foreign finance all the more necessary.

4. Phase III, 1981 to 1989: A Twin-Track Approach

After 1981, the rate of growth of both government spending and revenue slowed significantly and the deficit stabilised. Looking back to panel (b) of Chart 1.1 it is apparent that the deficit did not return to the level it reached in 1981 until 1987, and then only temporarily. Clearly, the scale of finance required, an average of $125m per year, might have seemed quite manageable had it not been for the fact, noticed earlier, that GDP growth also slowed quite decisively after 1981: it slipped to an annual average rate around 6 per cent.

If finance for the deficit were to have come entirely from domestic sources, it would have required an annual growth of 16 per cent in the stock of domestic debt. So even after allowing for holdings to increase in line with GDP, there would have had to have been dramatic increases in the proportion of government debt in the portfolios of institutional holders.

As might have been anticipated, though, domestic holders did not absorb all the increase. From Table 4.1 we can see that a little less than a half of the $1,000m increase in the debt over the period 1981 to 1989 was raised locally, the rest represented a further sizeable increase in the external debt. Between 1981 and 1989 then, domestic debt roughly doubled while the external debt more than tripled.

Table 4.1

Government Debt, 1981 - 1989, $m

	CBB	COB	NIB	SUM	DOM	FOR	TOT
Levels							
1981	80.3	156.4	81.5	318.2	426.5	259.4	685.9
1985	60.3	232.9	204.1	497.3	651.7	444.0	1095.7
1989	71.8	326.7	256.8	655.3	878.0	817.1	1695.1
Changes							
1981 to 1985	-20.0	76.5	122.6	179.1	225.2	184.7	409.8
1985 to 1989	11.5	93.8	52.7	158.0	226.3	373.1	599.4
1981 to 1989	-9.0	170.3	175.3	336.6	451.5	557.8	1009.2

Abbreviations: CBB, Central Bank of Barbados; COB, Commercial Banks; NIB, National Insurance Board; SUM, CBB+COB+NIB; DOM, total domestic debt; FOR, external debt; TOT, DOM+FOR

Note: The debt recorded for the institutional holders is only fixed term debt (i.e. Treasury Bills and Debentures), whilst total domestic debt includes both other claims on the government by these holders as well as government debt held by others.

As we can see from the bottom line of the Table the bulk (about 75 per cent) of the domestic half of the increase was taken up, in almost equal parts, by the commercial banks and the National Insurance Board. But their contributions were distributed rather differently over the two time periods, with most of the increase in National Insurance Board holdings concentrated in the early sub-period, 1981 to 1985, with the commercial banks' increase in the later, 1985 to 1989, sub-period.

The marked increase in debt holdings by the National Insurance Board reflected two factors, a growth in the size of the Board's balance sheet relative to GDP (the ratio increased from .12 to .17, about 40 per cent) and an increase in the proportion of assets held as debt (the ratio increased from .4 to .55, about 38 per cent). After 1985 both these ratios stabilised, and so the 1985 to 1989 increase in holdings (less than half that of the earlier period) represented just the normal growth in the institution's holdings.

Whilst it would appear that there was some attempt in 1981/1982 to oblige the Commercial Banks to hold more debt (the Central Bank increased the required ratio of securities to deposits from 12 per cent to 17per cent late in 1981, and then again to 19 per cent in 1982) it resulted, as the Table records in only a modest increase. Apparently because the excess holdings due to the conversion of the Savings Bank to the National Bank were still being wound down. In 1986 the required ratio was increased again, from 19 per cent to

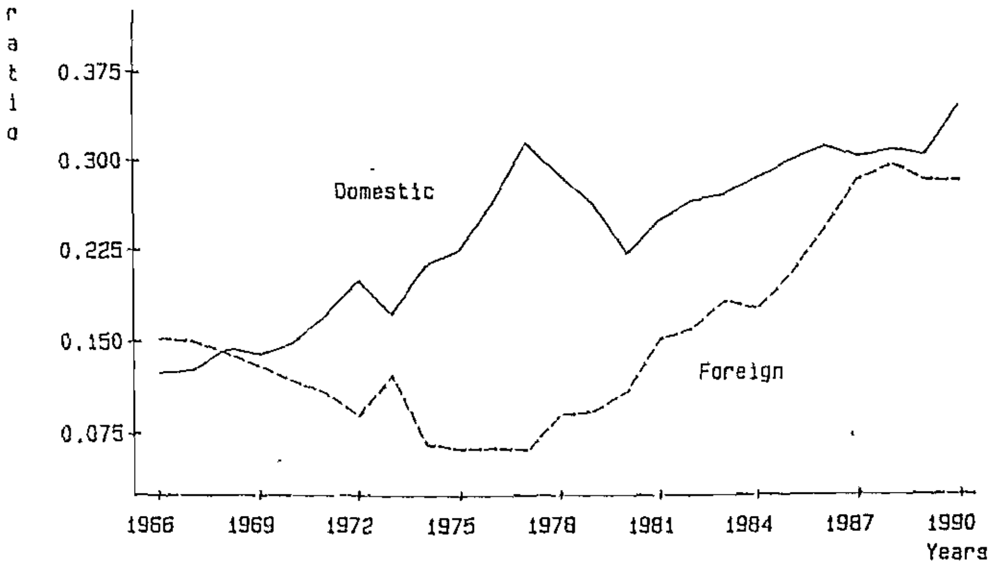
22 per cent, and this seems to be the proximate cause of the increase in holdings in the later sub-period.

As we have seen, though, the rest of the gap between spending and revenue was filled by a quite dramatic increase in the external debt, without which the government would have been obliged to act on either spending or revenue to reduce its deficit.

5. Phase IV, 1990: The End of the Road ?

The situation facing the government at the beginning of 1990 is illustrated on Chart 5.1. By the end of 1989 the overall debt to GDP ratio had risen to .6, about half domestic and half foreign. Now although government spending grew very little in 1990, by $5.6m (around 0.5 per cent), revenue actually fell in nominal terms by $71.3m (about 7 per cent) and the deficit widened to $161.4m. Whilst this is not a large deficit (it had been of comparable size or larger in three out of the preceding five years), its financing was rather more problematic because the proximate cause of the fall in government revenue was the sluggish growth of the economy (money GDP grew only by 3 per cent and real GDP declined) stemming mainly from a 20 per cent fall in long-stay tourist arrivals.

Chart 5.1
Domestic and Foreign Government Debt
Ratio to GDP



Source: See Appendix for Data

Whilst it would be unwise to regard the deterioration in the government's finances as inevitable, after all the fluctuations in tourist arrivals (the main engine of growth for the economy, and the main source of foreign exchange) are largely beyond its control. Nevertheless, it is possible to see (with hindsight perhaps) that a 'crisis' was looming. The commercial banks' required securities ratio was at 22 per cent which meant that a very considerable proportion of their assets were already tied up (if we add the 8 per cent cash reserve ratio, 30 per cent are beyond their control). Whilst the other major domestic holder, the National Insurance Board, had more than 50 per cent of its assets in the form of government debt. There seemed little scope for increased domestic holdings beyond that generated by growth in the economy.

Of course, the scope for external borrowing is not subject to the same sort of limits. But here a government's ability to sell debt depends upon the views of foreign financial institutions. Perhaps made cautious by the rapid increase in Barbados' foreign debt over the 1980's, perhaps because of increased scepticism about the country's ability to pay if the decline in tourist arrivals persisted for any period of time, for whatever reason, the government apparently found it very difficult to borrow abroad in 1990.

In the event of the deficit of $161.4m, almost 90 per cent was financed domestically, and of the domestic component roughly half came from the commercial banks. Not though as a result of increases in the size of their balance sheets, but rather being associated with a drastic 'squeeze' on other domestic lending. The $74m used to purchase treasury bills and debentures was 50 per cent more than the increase in their lending to the other sectors of the economy over the same period. For most of the rest of the necessary finance, about $46m, the government was obliged to have recourse to its lender of last resort: the Central Bank. Moreover, almost 75 per cent of this borrowing from the Central Bank took the form, not of treasury bills or debentures, but of straightforward loans. Indeed this borrowing was on such a scale that it breached the statutory limit on such loans.

In mid-1991 an IMF team arrived.