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# Working Paper

39



# MONETARY POLICY IN KENYA, 1967-88

Tony Killick and F.M. Mwega

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WORKING PAPER 39

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Tony Killick and F.M. Mwega

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## Preface and Acknowledgements

ODI Working Papers present in preliminary form work resulting from research undertaken under the auspices of the Institute. Views expressed are those of the authors and do not necessarily reflect the views of ODI. Comments are welcomed and should be addressed directly to the author.

This Working Paper is one of seven country studies prepared as part of a study of the role of monetary policy in primary product-dependent, low-income countries. The objective of the general study is to examine what monetary policy can be expected to accomplish and what are the principal constraints upon its effectiveness. The country studies examine the development of monetary institutions, the determination of money supply and demand, and the objectives and experience of governments in implementing monetary policy in individual countries. Other case studies include China, Côte d'Ivoire, Bangladesh and Indonesia. It is hoped that the final report will be published in 1991. The project is directed at ODI by Sheila Page. We are grateful for financial support from the Overseas Development Administration, The Rockefeller Foundation and the International Development Research Centre of Canada.

This Working Paper draws upon the data base and econometric analyses presented in the companion Working Paper No. 42 (forthcoming) by F.M. Mwega, 'An Econometric Study of Selected Monetary Policy Issues in Kenya'. Only the results are reported here, however, and readers requiring more information are referred to the companion paper.

The authors are respectively Senior Research Fellow, ODI, and Lecturer in Economics, University of Nairobi. We would like to express our great gratitude to all those in the public and private sectors who gave so freely of their time to discuss with us the issues which are the concern of this Working Paper and whose guidance greatly enriched our understanding of Kenya's monetary policies. We are also much indebted to Edward Nyongesa for his statistical help, and to Mohsin Khan, Chris Lane, Sheila Page, Terry Ryan and others who commented most helpfully on an earlier draft. Naturally, the authors alone are responsible for the views expressed here.

CONTENTS


| | | Page |
|---|---|---|
| INTRODUCTION | | 1 |
| I. | THE ECONOMIC SETTING | 2 |
| | I. 1 Macroeconomic performance, 1967-88 | 2 |
| | I. 2 The financial system | 10 |
| II. | THE ISSUES FOR INVESTIGATION | 16 |
| III. | RESEARCH FINDINGS | 20 |
| | III. 1 The effects of money on Kenyan economic performance | 20 |
| | III. 2 Income velocity and the demand for money | 28 |
| | III. 3 Controlling the supply of money | 31 |
| | III. 4 The influence of the budget | 35 |
| | III. 5 Consequences for the private sector | 40 |
| | III. 6 Defining money and credit: the NBFIs | 44 |
| | III. 7 Special problems of commodity dependence | 47 |
| IV. | POLICY CONCLUSIONS | 51 |
| | IV. 1 A recapitulation | 51 |
| | IV. 2 Strengthening policy | 53 |
| APPENDIX: SUGGESTIONS FOR FURTHER RESEARCH | | 59 |
| REFERENCES | | 61 |

## LIST OF TABLES


| | | Page |
|---|---|---|
| 1. | Macroeconomic Indicators for Kenya, 1969-88 | 3 |
| 2. | Indicators of Financial Deepening, Selected Years | 12 |
| 3. | Relationships between Domestic Credit and the Balance of Payments, 1973-88 | 23 |
| 4. | Short-run Money Demand Functions in Kenya, 1973:3-1988:4 | 29 |
| 5. | Predictability and Bias in Kenyan Budgeting | 39 |
| 6. | OLS Estimates of Private Credit Functions | 41 |

# INTRODUCTION

In the post-Independence economic history of Africa, Kenya has earned a reputation as one of the best performing and most stable economies. Much development has occurred, price rises have never spilled into hyper-inflation, the substantial balance of payments difficulties that have occurred have never completely halted the economy. The worst excesses of macroeconomic mismanagement have generally been avoided. Of course, many factors have contributed to this relative success, not the least being the political stability and continuity which the country has enjoyed. However, the absence of macroeconomic disasters suggests that the classical instruments of macro-management - fiscal, monetary and exchange rate policies - have made an important contribution. The purpose of this paper is to focus on the monetary elements in this package and to enquire into the effectiveness and potentialities of monetary instruments in the Kenyan context.

Not the least of the interest of this case is its relevance to the policy conditionality of the International Monetary Fund, for the Fund's approach relies heavily upon the use of credit ceilings and other monetary instruments. The record of Fund programmes in Kenya in the 1970s and early-1980s was poor, with programmes breaking down due to non-compliance with the stipulated credit ceilings.[1] The more recent experience, however, has been much happier, with a succession of programmes completed without interruption. The question poses itself, can this improvement be attributed to more effective use of monetary policies?

As a prelude to addressing these questions, Part I provides brief summary information on the economic setting within which monetary policies have been determined, including an account of the development of the financial system. Part II then provides a brief statement and explanation of the specific questions we wish to ask; and Part III - the hard core of the paper - presents our research findings. Part IV briefly considers the implications of these for the future conduct of policies in Kenya.

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[1] See Killick, 1984, for an analysis of the history of IMF programmes in Kenya during this period.

# I. THE ECONOMIC SETTING

## I.1 Macroeconomic performance, 1967-88[2]

Our discussion of the performance of the economy is organised around the key economic indicators set out in Table 1, starting with the balance of payments. Before embarking upon this, however, a general caution is in order concerning the reliability of Kenyan economic statistics. Although the range of statistics is quite good, the quality is more suspect, with surprising discontinuities and unexplained changes in many series. Fortunately, Table 1 is being used to reveal broad trends rather than fine short-term movements, so the problem is hopefully minimised. Nevertheless, the table and commentary should be read bearing this in mind, as should the results of our empirical research reported later. We have done our best to use the best available data and to ensure consistency in our series, and we have tried to be properly modest in the claims we make for the robustness of our results, but the reader should nonetheless read the paper with this caution in mind.

### □ The balance of payments

It was not until nearly ten years after Independence in 1963 that the country first began to run into payments difficulties. There had been an early warning in 1971 but it was the 1973-74 oil shock which first created serious difficulties. The position eased somewhat for a while, thanks to a boom on the world markets of the country's two principal exports - coffee and tea - but then there was a second period of acute difficulties beginning in 1978 and extending through most of the 1980s, with a brief lull, again as a result of favourable world coffee prices, in 1986.

The five-year sub-periods of Table 1 each record substantial current account deficits relative to GDP, particularly in 1974-83. The country has, however, been able to attract large amounts of foreign capital, particularly official development aid, and comparison of lines 3 and 4 of the table shows that only in 1979-83 was there a significant current deficit which could not be covered by inflows of long-term capital. From that point of view the situation appears reasonably satisfactory. This needs to be qualified in three important respects, however.

First, concentration on the current account and its financing conceals the compression of imports which was one of the chief symptoms of balance of payments difficulties. Line 1 of the table shows the downward movement in

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[2] Readers wishing to study Kenya's macroeconomic performance in greater depth are particularly referred to Bevan *et al.* [forthcoming]. Useful coverage of the 1960s and 1970s is provided in Killick (ed.) [1981]; somewhat fuller discussion of monetary and balance of payments aspects is provided in Killick [1984 and 1985].

**Table 1: Macroeconomic Indicators for Kenya, 1969-88**

| | *1969-73* | *1974-78* | *1979-83* | *1984-88*[a] |
|---|---|---|---|---|
| Balance of Payments | | | | |
| 1. Purchasing power of exports (period av.)[e] | 113 | 114 | 88 | 86 |
| 2. Change in import volumes (*% p.a.*) | 0.6 | 4.0 | -9.8 | 6.9 |
| 3. Current a/c as % GDP (period av.) | -4.2 | -6.8 | -7.8 | -3.4 |
| 4. Basic balance as % GDP (period av.) | 0.2 | -0.5 | -2.1 | 0.1 |
| 5. External reserves as months of imports (period average) | 4.3 | 4.0 | 2.8 | 2.7 |
| Inflation | | | | |
| 6. Rise in GDP deflator (*% p.a.*) | 4.1 | 14.0 | 9.6 | 9.2 |
| 7. Rise in consumer prices (*% p.a.*)[b] | 5.1[c] | 12.4[d] | 11.8 | 8.9 |
| Public Finances | | | | |
| 8. Govt. current a/c balance as % GDP (period av.) | 1.5 | 2.3 | 0.7 | -2.0 |
| 9. Overall budget deficit for financing as % GDP (period av.) | -4.9 | -7.1 | -9.4 | -5.0 |
| 10. Govt. borrowing from banking system as % GDP (period av.) | 0.7 | 1.6 | 1.5 | 1.7 |
| Monetary Indicators | | | | |
| 11. Growth in money supply (M2) (*% p.a.*) | 18.3 | 21.4 | 9.6 | 12.5 |
| 12. Growth in domestic credit (*% p.a.*) | 21.0 | 22.0 | 11.5 | 13.7 |
| 13. Growth in credit to the public sector (*% p.a.*) | 83.0 | 32.0 | 23.5 | 16.8 |
| 14. Share of private sector in total domestic credit (period av.) (%) | 82 | 71 | 65 | 58 |
| Investment, Saving and Income | | | | |
| 15. Gross domestic fixed capital formation as % GNP (period av.) | 21.8 | 22.4 | 22.2 | 19.8 |
| 16. Gross national saving as % GNP (period av.) | 17.9 | 17.5 | 18.3 | 18.4 |
| 17. Growth of constant-price GDP (*% p.a.*) | 8.3 | 4.5 | 4.3 | 4.2 |
| 18. Change in *per capita* constant-price private consumption (*% p.a.*) | +4.4 | +2.0 | -2.6 | +0.8 |

Sources: Derived from a wide range of statistical sources, chiefly publications of Govt. of Kenya and the Central Bank of Kenya.

Notes:
(a) Many 1988 figures are provisionals.
(b) Mean of lower-, middle- and upper-income indices.
(c) Mean for 1970-72, lower- and middle-income groups only.
(d) Mean for 1972-78.
(e) Export earnings deflated by import price index. Index, 1980 = 100.

the import purchasing power of exports over these years - the result of a combination of deteriorating terms of trade and of generally static export volumes. It is not surprising, therefore, that between 1974 and 1983 an index of import volumes relative to constant-price GDP fell by a remarkable 60%, and even though there has been an increase in this ratio more recently there remains both an unsatisfied demand, held down by quota and credit restrictions, and a question about the ability of the system to sustain the volume of imports established in the late-1980s.

A second qualification is that it has only been possible to finance the current account deficits by running up a rapidly-increasing external debt.[3] According to the figures in the World Bank World Debt Tables, Kenya's stock of externally-owed debt increased about eightfold in dollar terms between 1975 and 1988, and as a proportion of GNP from 19% to 61%, with a rapid growth throughout. Fortunately, many of these loans were obtained on highly concessional terms so that the debt servicing burden remains manageable (depending on which figures one uses - see footnote 3), with a total debt service-to-exports ratio of about 25% in 1988 (but compared with 4% in 1975) and an interest-export ratio of around 10%. Kenya is one of the few African countries which has not so far had to resort to Paris Club debt reschedulings. However, all sources of debt statistics are agreed in showing the ratios to be rising rapidly, so that the government faces the prospect of ratios becoming unmanageably large and/or of credit-worthiness being eroded unless it can either reduce its dependence on such receipts or strengthen the economy's debt servicing capacity.

Thirdly, despite this large-scale external borrowing, it has often not been possible to maintain desired levels of international reserves. The Central Bank of Kenya Act, 1966, enjoins the CBK to endeavour to maintain reserves at least equivalent to four months-worth of imports[4] and the Bank still accepts this as its policy target. However, even if reserves are defined without netting out liabilities to the IMF, there have been extended periods when it has not been possible to achieve this, as can be seen in the table. Indeed, it has been possible only for brief periods in the 1980s, and at the end of 1988 they were only about half the target level. By that date, reserves net of liabilities to the IMF were substantially negative. Indeed, frequent recourse to stand-by and other high-

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[3] Kenya's external debt statistics are a morass of widely varying figures. The government's annual Economic Survey provides data showing total debt stock figures which are far below those contained in the World Bank's standard World Debt Tables. On the grounds that it follows definitions that are standard across countries and is a more readily available source outside Kenya, we have preferred to use the latter. However, the Bank's own 1989 Adjustment Lending: An Evaluation of Ten Years of Experience contains debt statistics for Kenya which are very much larger than those contained in its own Debt Tables, which makes it all the harder to know which is the best series to use. World Debt Table data have been extended to 1988 by assuming that debt grew in 1987-88 at the same rate as that given in the government's Economic Survey, 1989.

[4] Calculated on the basis of a rolling average of the last three years' imports.

conditionality credits from the Fund has been a further symptom of balance of payments distress. There were programmes in 1975/76 and then throughout the 1980s except for FY 1986/87, about which more later.

The payments situation by the late-1980s was still far from satisfactory. While the long-standing stagnation of the export sector had apparently at last been broken[5], probably in response to the real depreciation of the Kenyan shilling which had been engineered in later years, and import volumes were also beginning to recover, coffee prices and the terms of trade were worsening sharply, and 1987-88 recorded exceptionally large current account deficits (equivalent in the two years to nearly 6% of GDP), reserves were well down and reliance on external capital was particularly large.

### □ Inflation

The most notable fact about Kenya's price history is that the inflation rate has never gone above 25% and has usually been far below it. Within this overall record of relative stability there have been distinct phases, however. The first decade of Independence saw only very moderate price increases, with rates of between 0% and 3% throughout 1966-72. There was then a steep increase during 1973 and Table 1 records average rates of around 12% for the two sub-periods covering 1974-83, which was followed by a fall to about 9% in 1984-88. In fact, the decisive break in this latter period was a very sharp fall in 1986, from about 13% to under 6%. Since then, however, the rate has been rising again, to about 11% in 1988, but it is unclear whether the movement of the last two years marks the establishment of a new upward trend. As with the balance of payments, we shall be offering an interpretation of these movements shortly.

It might be added that associated with inflation - and reflecting changing labour market conditions - has been a remarkable decline in real wages. According to government statistics, real average earnings in the manufacturing sector declined by no less than 50% between 1969 and 1986, recovering slightly thereafter. It might well have been true in the early post-Independence years that urban employees constituted a labour elite, but that had become much less the case by the end of the 1980s.

### □ The public finances

We turn now to what has become an Achilles heel of the economy. The record of the early Independence years could scarcely have been better. The government was able to respond to pent-up frustrations from the colonial period

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[5] In 1985 the official export volume index stood at 99, with 1982 = 100, continuing a much longer record of stagnation. By 1988, however, the index had risen to 116. See Killick [1985] for a discussion of the longer-term record.

by rapidly expanding its provision of education, health and other services while at the same time actually improving the overall budget situation and greatly reducing dependence on grants-in-aid from the United Kingdom. Line 8 of Table 1 shows a substantial and growing surplus on the budget current account and if the overall deficit was growing (line 9), this reflected a heightened development effort and increased investments in infrastructure and other facilities, which could be largely financed by non-inflationary borrowing.

Things began to go wrong in the late-1970s, for reasons we will return to later. Within two years a large current surplus had been turned into a scarcely less large deficit, and the government's current account has remained in deficit ever since. The overall deficit grew, relative to GDP, in 1974-83, and it became more difficult to avoid inflationary borrowings from the banking system. The figures for the final period are more difficult to interpret, showing a worsening on current account and a small increase in monetary deficit financing but a rather large improvement in the overall deficit. The overall fiscal situation remained weak, however, and this weakness will feature prominently later in this Working Paper.

Part of the problem has been a great reluctance on the part of the government to use the tax weapon. Tax revenues rose as a proportion of GDP from 16% in 1964/65 to 24% in 1973/74 and have been around that proportion ever since. Inadequate expenditure control has been another part of the problem, for over the same period total government spending has risen relative to economic activity - from 23% of GDP in 1964/65 to an average of around 35% in the later 1980s, with serious budget financing difficulties emerging in the later-1970s. Not the least of the difficulties here is that the two main components of government spending are the salaries of the civil service (which make up nearly 70% of recurrent spending) and the local-currency costs of servicing the public debt - a cost which has been accelerating particularly fast because of the effects of the depreciation of the Kenyan shilling. Both these items are difficult to cut. Annual budget statements characteristically contain a mixture of statements of determination to bring expenditures under better control in the future, marginal modifications of existing taxes and systematically over-optimistic estimates of fiscal out-turns.

### □ Monetary indicators

Since the monetary situation is treated in some depth later and the development of the financial system is described in the next section, we will here confine ourselves to a few observations on the data in lines 11-14 of Table 1. As would be predicted from the generally moderate inflation record, we see first that the expansion of money supply has never been extremely rapid and, indeed, was rather moderate in the latter decade covered. Domestic credit grew rather faster in that decade, however, reflecting the decline in the foreign-asset component of the money supply resulting from the balance of payments deficits.

The most significant statistics are in line 13, however. Even discounting the entry for 1969-73 as the statistical result of a small absolute increase from a tiny initial base, we see throughout that the expansion of credit to the public sector has been considerably more rapid than the growth of total credit. This has led to the marked decline in the share of domestic credit going to the private sector, shown in line 14.

□ **Investment, saving and income**

This brings us to the national accounting indicators in the final four lines of the table. They serve usefully to put the macro performance of the economy into perspective. First, it can be seen that the investment and savings ratios have been fairly high, and remarkably consistent, throughout (although there have been year-to-year fluctuations masked by the averages in the table). The record on national savings is particularly notable for it shows slightly higher ratios in the 1980s despite accelerating interest payments on external debt.[6] The fixed capital formation figures are perhaps less a cause for satisfaction, for ratios of around 20% of GNP are certainly no higher than they should be to sustain economic development in a country where the population is growing at about 4% annually. On the other hand, the apparent dip in the final period is rather misleading, with low ratios in 1984-85 followed by a recovery to a little over 20% in the final three years.

Partly in consequence, the growth of GDP since the mid-1970s has barely kept abreast of population growth, and there has been a near-stagnation of *per capita* incomes during those years. The figures on *per capita* private consumption in line 18 show greater movement between the periods, but the figures imply that by 1988 average private living standards were almost exactly the same as they were in 1973, although there was much more noteworthy progress in the preceding decade. The balance of payments constraint described earlier has taken its toll of the economy's ability to develop and to sustain high investment levels. To loosen that constraint and to maximise the development that can be achieved within it are the key policy challenges facing Kenyan policy-makers. Of course, economic progress cannot simply be read from national accounting statistics. Health and mortality indicators show major improvements up to the earlier 1980s but a moderate tendency for worsening in the later years of the decade. To go into these matters here would, however, be to digress from our macroeconomic focus.

The perspective offered by the national accounting data is, then, of an economy performing moderately well. Certainly its performance has been better than the average for all African countries. Equally certainly, it has been well below

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[6] It should be added, though, that the savings data are particularly likely to be unreliable, being derived as a residual in the national accounts and thus incorporating errors on other entries in the accounts.

the record of non-African developing countries over the same period. Growth has never been totally halted but for the last fifteen years has rarely done much more than keep pace with the phenomenal rate of population growth.

### Vulnerability

One key feature of the economy which cannot be conveyed by the averages and growth rates in Table 1 is its vulnerability to 'exogenous shocks' - large unforeseen changes in key economic variables which are beyond the direct control of Kenyan policy-makers. One reason for this is that the economy remains a very open one, with the combined value of imports and exports equivalent to 49% of GDP in 1988. There is a continuing dependence on coffee and tea as the principal exports, which made up 47% of total export earnings in 1988 and which are subject to highly unstable world prices, although there has been a welcome diversification of exports in recent years and tourism has also become a large earner of foreign exchange. The country is wholly dependent on imports of oil (although it earns useful revenue by re-exporting some of this after processing to neighbouring countries). Moreover, it remains essentially agro-based, which leaves it open to the vagaries of the weather.

Consider now this catalogue of shocks experienced since the early-1970s:

- 1973-74: the first oil shock, which was associated with a 20% deterioration in the terms of trade in 1973-75.
- 1976-77: very large increases in the world prices of coffee and tea leading to a 54% improvement in the terms of trade in 1975-77 and to big increases in foreign exchange availabilities.
- 1979-80: a drought which seriously affected agricultural output.
- 1978-82: a reversion of world beverage prices to more normal levels plus the second oil shock, which combined to produce a 44% worsening in the terms of trade.
- 1982: an attempted military *coup* against the government of President Moi. In a country noted for political continuity, this dented confidence, contributing to a fall in investment in 1982-85, and led to some capital flight.

- 1984: a major drought, hitting agricultural output and necessitating a major (and widely praised) relief programme to the most seriously affected segments of the population.

- 1986: a coffee boom, with a 39% rise in the realised price between 1985 and 1986, followed by a 37% fall in the following year.

- 1989: a coffee slump. By December 1989 the world price of *robusta* coffee had fallen by two-fifths on the 1988 average and was under half of the 1987 average, following the collapse of the international coffee agreement. This brought the real price far lower than it had been in 1987, which had been the lowest level in more than 40 years. Unfortunately, the effects of this slump were too recent to be incorporated in this paper.

The word 'shock' implies temporariness. In addition to such movements, however, the economy has been exposed to a serious long-run deterioration in its commodity terms of trade. In this it shares a common experience of many other primary product exporting countries. Although, as already shown, the terms of trade are subject to rather violent swings, the existence of an underlying deteriorating trend is clear and a curve fitted for commodity terms of trade for 1964-88 yielded a trend deterioration of 3.4 points *p.a.* (with 1980 = 100).[7] By 1988 the import purchasing power of a unit of exports was a mere half of the 1964 level.

It is evident that the tasks of economic management in an economy so vulnerable to large swings in variables beyond the control of the policy makers is particularly daunting, and this is part of the context in which our evaluation of monetary policies should be set. However, we should also note that there are swings as well as roundabouts: booms as well as slumps. One of the key questions to ask of the government in such an economy is, how well has it managed the booms? We address this in relation to the 1976-77 and 1986 booms later.

---

[7] The adjusted $R^2$ obtained was 0.82 and the t-value of the trend term was highly significant at -10.404.

## I.2 The financial system

The financial system inherited at the time of Independence in 1963 was typical of the colonial heritage of most British colonies in Africa: a Currency Board, in this case serving Tanzania and Uganda as well as Kenya; a commercial banking sector wholly dominated by two London-based banks; a Post Office Savings Bank (POSB) and a small number of more specialised institutions providing insurance, housing finance and other financial services. The government subsequently set up a government-owned bank, the Kenya Commercial Bank, which has grown to be the largest of the three major banks. Following the breakdown of the East African Currency Board arrangements, the Central Bank of Kenya (CBK) was created in 1966.[8] This had most of the powers usually associated with central banks at that time, except that a statutory limit (repealed in 1972) was placed on the amount of credit it could provide to the central government.

From the powers set out in its 1966 Act and from subsequent practice, four chief instruments of monetary policy can be identified:

[a] The stipulation and variance of legal minimum reserve ratios that must be observed by the commercial banks. Minimum liquidity ratios (chiefly comprising cash, inter-bank balances and Treasury Bills) have been in operation throughout. Minimum cash ratios, on the other hand, have been laid down only rarely but were reintroduced in 1988 and show signs of becoming more permanently and actively used.

[b] The laying-down by the CBK of quantitative ceilings for the expansion of domestic credit (or credit to the private sector) by the commercial banks.

[c] The control and variance of interest rates. As at mid-1989 minimum rates were specified for banks' time and savings deposits, and for their loans and advances. Similar controls were in force for 'non-bank' financial institutions (NBFIs), for building societies, the POSB, *etc.*

[d] The laying-down of guidelines by the CBK for the sectoral allocation of bank credit - a provision chiefly used to favour agricultural credit.

Various other devices have been used by the CBK from time to time, but chiefly in furtherance of non-monetary policy objectives.

Throughout much of the period with which we are concerned, Kenya's financial system exhibited most of the features associated with financial repression, but in fairly mild form. Interest rates have been controlled throughout, and at negative real rates in

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[8] For a valuable account of the functions and workings of the CBK see Central Bank of Kenya [1986].

most of the 1970s and into the 1980s. This is shown by the following figures showing period averages of real deposit rates of interest.[9]

| | | | |
|---|---|---|---|
| 1966-70 | +1.90 | 1981-85 | -0.75 |
| 1971-75 | -7.20 | 1986-88 | +4.8 |
| 1976-80 | -7.74 | | |

A fixed exchange rate policy was maintained during the 1960s and 1970s, with the currency gradually becoming over-valued, although not grossly so. Exchange controls have been in place throughout and the Kenyan shilling has never been a freely convertible currency. Another feature of repression, as we shall see later, has been a substantial volume of involuntary lending by the banking system to the central government and parastatal organisations. These features, plus occasional ceilings on bank lending and non-market CBK attempts to manipulate the sectoral composition of bank lending, have created disincentives to the development of the banking system, although the distortions have rarely been acute.

There has in recent years been a substantial easing of various aspects of financial repression. It has become stated government policy to move towards a liberalised system and towards the use of market-determined interest rates as the chief instrument of monetary policy. While they remain controlled and the subject of discontent within the banking community, interest rates have already been raised substantially and since the early-1980s have been positive in real terms (see above). There has also been a very important change to a policy of exchange rate flexibility over the same period. As a result, there has in recent years been a major depreciation of the currency, as can be judged from the following figures:[10]

| | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|
| Kshs per SDR | 15.19 | 17.74 | 19.14 | 23.43 | 25.03 |
| Real effective exchange rate (1983 = 100) | 107 | 106 | 92 | 83 | 77 |

Between 1984 and 1988 there was a 39% depreciation of the SDR rate, with a real effective depreciation of 28%.

In light of the above account, the indicators set out in Table 2 seem rather puzzling. What is shown there is substantial financial deepening in 1968-80, with various monetary magnitudes growing rapidly in real terms and rising relative to GDP, even though these were the years in which financial repression was most fully in evidence. Deepening seems, however, to have been halted, perhaps even reversed, during the 1980s despite liberalisation in those years. Part of the explanation is that much of the

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[9] Source: International Financial Statistics; Kenya, Economic Survey, 1989.

[10] The Kshs/SDR rate is taken from IMF International Financial Statistics and the real rate is taken from Lynn and McCarthy [1989, Table 6] based on IMF sources.

**Table 2: Indicators of Financial Deepening, Selected Years (values in K£ mn)**

| | *1968* | *1973* | *1980* | *1984* | *1986* | *1988* | *Growth rates 1973-80* | *1980-88* |
|---|---|---|---|---|---|---|---|---|
| 1. Assets/liabilities of banking system | | | | | | | | |
| (a) in constant prices[(b)] | 105 | 221 | 328 | 352 | 425 | 438 | 5.8 | 3.7 |
| (b) as % of GDP[(a)] | 22 | 26 | 34 | 33 | 35 | 32 | - | - |
| 2. Money supply (M2) as % GDP[(a)] | 24 | 32 | 31 | 31 | 31 | 28 | - | - |
| 3. Total deposits of commercial banks in constant prices[(b)] | 11 | 187 | 257 | 277 | 318 | 333 | 5.4 | 3.3 |
| 4. Total deposits of NBFIs in constant prices[(b)] | 7 | 28 | 89 | 152 | 169 | 174 | 18.0 | 8.8 |
| 5. (4) as % of (3) | 64 | 15 | 35 | 55 | 53 | 52 | 12.9 | 5.1 |

Sources: Govt. of Kenya publications, including National Development Plan, 1989-93, Table 2.1.

Notes: (a) GDP at current market prices.
(b) Deflated by GDP deflator (1968 = 100).

development of the financial system in the 1980s occurred outside what is counted as the banking system, as is illustrated in the bottom two lines showing the rapid absolute and relative growth of the NBFI sector.

If we take all financial institutions together, from the small very basic system that existed at Independence the sector by 1988 had grown into a substantial, relatively sophisticated one, comprising:

- The Central Bank of Kenya
- 24 commercial banks with over 400 branches, agencies and other outlets throughout the country
- 54 NBFIs with 94 branches, chiefly in Nairobi and other major cities
- 22 building societies providing housing finance
- 39 insurance companies

- 207 hire purchase companies
- The POSB, with a large network of offices around the country.
- About ten development finance institutions, providing longer-term capital
- Over 900 savings and credit co-operative societies

Lest the statistics on the commercial banks mislead, however, it should be added that the commercial banking industry remains essentially oligopolistic, being dominated by four banks[11] with a long tradition of working together rather than of aggressive competition with each other.

To some extent, the expansion outside the banking industry has been a response to the disincentives faced by the banks. This is particularly true of the NBFIs, many of which were created during the 1980s specifically to escape the tighter regulation then exercised by the CBK over the banks.[12] The relative growth of these institutions is shown in Table 2, and leaving aside the special case of the 1968 figures, which are from a time when the whole system was tiny, line 5 of the table shows that the deposit liabilities of the NBFIs grew very rapidly relative to those of the banks between 1973 and 1984, reaching over half of the banks' deposits by the latter year. They had become big business. Each of the major commercial banks created at least one NBFI subsidiary precisely in order to take advantage of the less restrictive regulatory framework within which they operated. On paper, the institutions in question appear to be constituted as merchant or investment banks, which would normally be undertaking much of the wholesale end of the banking business and providing longer-term finance than is normal for commercial banks. We understand, however, that in practice they operate at least as much at the short end of the market as the banks, taking deposits and making short-term loans, with a particularly heavy exposure to parastatal bodies.

The NBFIs will feature prominently in our discussion of monetary policy in Part III. Their rapid expansion within loose regulatory rules predictably led to difficulties and a number of them (and a small commercial bank) got into serious liquidity difficulties during 1986. Some of them declared bankruptcy and the government set up a commission to assist those with prospects of future viability. This crisis led to withdrawal of deposits and abruptly halted the previous relative growth of this industry, as can be seen from Table 2. However, the impact of the reversal on total NBFI

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11 Barclays; the Kenya Commercial Bank; the National Bank of Kenya; and Standard-Chartered.

12 The Banking Bill, 1989, implicitly defines NBFIs as institutions which accept deposits from the public and on-lend them but which do not offer chequing facilities. However, statistics on the NBFIs exclude building societies, insurance companies, the Post Office Savings Bank, development finance institutions, private pension plans and a large number of savings and credit societies.

deposits was small and already by end-1988 the real value of deposits with NBFIs was above the level of two years earlier. By 1989 the signs were that expansion had resumed, although some of them remained precariously dependent on the deposits of one or a few parastatal agencies, particularly the National Social Security Fund (NSSF).[13]

The growth of this sector is unlikely to be as explosive in the future as it was in the 1980s, however, because CBK supervision of such institutions has been greatly strengthened. Already in 1985 major amendments were introduced to the 1968 Banking Act to strengthen the powers of the CBK over NBFIs and a study of the changes introduced then provides a graphic indirect account of the malpractices that had grown up in parts of this industry.[14] The 1985 amendments and further strengthening of the CBK's powers have since been consolidated into a new Banking Act, 1989. The Central Bank has also moved to narrow the differential in the maximum lending rates which the banks and NBFIs are allowed to charge, and this too will tend to weaken their growth relative to the banks.

Despite the relative sophistication of Kenya's financial system, its capital markets are still in their infancy.[15] The market for short-term securities is dominated by the Treasury Bill, and the introduction in 1986 of longer-dated Treasury Bonds has yet to change this situation. Despite government encouragement, there is still virtually no secondary market in government paper and almost none at all in commercial paper, although there is an active inter-bank market. There is also a Stock Exchange, but most dealings on this are in a limited number of stocks and it has scarcely been used as a source of new capital. The government wishes to foster the growth of capital markets but the position for the period we are studying was that there were severe limits on the extent to which the government could finance budgetary deficits by non-monetary domestic borrowings, and that private agents had available to them only a narrow range of income-yielding financial securities which they could hold as alternatives to monetary assets.

It would be desirable at this juncture to say something about informal financial arrangements in Kenya but unfortunately this is a seriously under-researched sector, particularly as it relates to its possible macroeconomic significance. There are, of

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[13] Investigations of the 1986 crisis had revealed both that some NBFIs carried sizeable loans to parastatal bodies on their balance sheets, some of which were of dubious value, and that they were, in turn, heavily reliant for their continued solvency upon large deposits from parastatal agencies, notably the National Social Security Fund. Some of these situations were said to be based upon personal relationships between the heads of the NBFIs and parastatals, and a number were believed to be associated with off-the-record transactions between them.

[14] See CBK [1989, pp. 47-51] for an account of the changes in banking legislation prior to 1989.

[15] An excellent discussion of this topic is contained in an unpublished 1984 'Report and Recommendations on the Money and Capital Markets in Kenya', prepared jointly by the Central Bank of Kenya and the International Finance Corporation.

course, local money-lenders in both rural and urban communities. There are also 'rotating credit' schemes, credit unions and similar arrangements. No doubt these are important for particular individuals and groups, especially those without access to the formal sector, but it is less clear that they are important in macroeconomic terms. The basic research has not been done.

If forced to guess, we would be inclined to the view that the informal sector is relatively unimportant in this context. To judge from studies elsewhere in the region[16] and from our knowledge of the local scene, we would hypothesise:

[a] that its aggregate importance is significant but not huge;

[b] that most of its services are complementary to, rather than competitive with, the formal system, catering for the needs of groups effectively excluded from the formal sector and not offering a feasible alternative to those not so excluded;

[c] that virtually no money creation is involved, with intermediaries simply passing on the savings of others, although it is possible that money-lenders derive some of their resources from loans from the banks and NBFIs, thus affecting the domestic demand for credit;

[d] that most of informal sector credit is very short-term and little used to finance capital formation, except, perhaps, to a limited extent in farming.

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16 We are referring here to on-going work currently underway under the *aegis* of the African Economic Research Consortium.

## II. THE ISSUES FOR INVESTIGATION

Before providing an account of our research and its results, it may be helpful briefly to set out in systematic fashion what we regard as the chief issues for investigation and why we regard these as important. We are concerned here with the use of monetary policy in pursuit of macroeconomic objectives, as distinct from what might be termed financial policy which is concerned more with micro-level objectives of ensuring that economic agents have available to them the financial services they need as producers and consumers (although the distinction is admittedly only rough-and-ready, with what is happening in each of these branches of policy interacting in various ways with the other). Our starting point is a presumption that money matters, that the behaviour of monetary magnitudes, particularly their rates of expansion, will have a major bearing on the inflationary and balance of payments records of a country, as well as upon investment and other aspects of the 'real' economy. Without such a presumption this area of policy would scarcely be worth much research effort. It is, however, an uncontroversial presumption.

If monetary variables are important the question arises of how they may be regulated in pursuit of policy objectives. Here it is useful to distinguish the demand for money from its supply. Standard theory tells us that macroeconomic stability will be served if the supply of money (M) is expanded at approximately the rate at which the demand for it is growing. Two questions may be asked of the demand for money: [i] is it amenable to policy manipulation? and [ii] is it stable, predictable? Even if the answer to [i] is negative, there is still scope for effective monetary policy provided the demand for money can be predicted with reasonable confidence and its supply kept in approximate balance with demand.

This brings us to the policy manipulation of supply. This is often - but not solely - attempted by policies to influence the supply of 'high-powered' money (H), the reserve base upon which the credit creation of the monetary system is based. In the context of a low-income country dependent upon exports of primary products, various issues arise concerning the control of M via H.

H can be thought of as made up of two components: the net foreign assets (NFA) and the net domestic assets (NDA) of the monetary authorities. Changes in NFA will reflect movements on the overall balance of the balance of payments. These, in turn, will result from various external and domestic factors, including changes in the terms of trade, the exchange rate, capital movements and so forth. Short-term terms of trade influences may be particularly large in the type of economy with which we are concerned, for it will be heavily trade-dependent and the prices of the primary commodities on which it depends for its exports are more volatile than for industrial goods. In the Kenyan case, not only is trade dependence large but the world prices of its chief export commodities - coffee and tea - are among the most unstable. The issue that arises in this case, then, is whether it is feasible (or even desirable) for the authorities so to vary the value of NDA as to sterilise unwanted monetary movements

resulting from short-term changes in NFA. The larger the size and unpredictability of NFA the harder and more costly it will be to achieve offsetting movements in NDA in order to keep total H at the desired level.

Assume now that it is possible for the authorities to control H. What is then necessary is for H to bear a stable, predictable relation to M - known as the money multiplier (k) - so that the stock and rate of change of M can indeed be controlled via H. Whether k has this property is another empirical issue for investigation, and we shall additionally be concerned with whether there is any alternative way of regulating M other than the manipulation of H.

With changes in foreign assets largely beyond their direct control, monetary authorities' control over M is largely achieved via their impact on domestic credit (DC). DC may be extended to broadly three types of borrowers: the central government, to finance a budget deficit; public enterprises (or parastatals) in pursuit of their normal commercial needs and perhaps also as a substitute for government subventions; and the private sector. One of the biggest problems for central bankers the world over is that they are ultimately answerable to one of their chief debtors, the Treasury. In the majority of countries (including Kenya) central bankers have ultimately to do what the government asks of them, even though their Governors may advise otherwise. In the end, the central bank, and the rest of the monetary system, must fill the budgetary gap by deficit financing. If determination of the volume of lending to the government is beyond the powers of the central bank it is only left with credit to parastatals and the private sector upon which to operate. This may easily narrow down to the private sector, with decisions on lending to parastatals also determined politically. This, in effect, becomes the residual demander of credit. Issues that arise for investigation here include:

- Whether there is adequate co-ordination of fiscal and monetary policies, so that the government's deficit financing requirements are consistent with the objectives of monetary policy. Often this boils down to the question whether budget deficits are too large to permit proper monetary control.

- Even if there is co-ordination and consistency in policy intentions, there is the further question whether fiscal out-turns are sufficiently predictable for it to be meaningful to set targets for the government's credit requirements and, therefore, for the rest of the economy.

- What are the economic consequences of the residual nature of lending to the private sector and, in particular, does 'financial crowding-out' occur, with the private sector being squeezed between overall monetary targets and excessive credit demands from the public sector? Even in the absence of systematic crowding-out, we can also enquire into the consequences for

production and investment of the unpredictability of credit to the private sector which may result from its residual status.

In principle, the central bank could seek to control M indirectly by influencing changes in its NFAs, *i.e.* by manipulating the balance of payments. In practice, however, its ability to regulate the balance of payments will be constrained by the payments effects of changes in NDAs and by various other exogenous influences. The extent to which the authorities are able indirectly to manipulate NFA is another issue for investigation.

Two further problem areas remain to be mentioned. The first concerns the nature of money and what, therefore, should be counted as domestic credit for the purposes of monetary control. This is a lively issue in Kenya. It is best to think of the qualities of money as attributes possessed in greater or lesser degree by a variety of instruments. Currency possesses them most fully. Bank chequing accounts come a close second. Time and saving deposits with the banks are more marginal cases for they are a good deal less liquid. Nevertheless, they are included in broader measures of money (M2). However, one of the features of modern life is that other institutions are increasingly offering bank-like services, so that their liabilities also have some monetary attributes. The NBFIs in Kenya are in this position. Indeed we understand that this acronym was originally used in Kenya to mean Near-Bank Financial Institutions.

How money should be defined for policy purposes and where the line should be drawn are essentially arbitrary decisions, to be taken on pragmatic grounds. If too narrow a view is taken, it is possible for the intentions of the monetary authorities to be frustrated by offsetting changes in near-money substitutes. So a further issue we shall investigate is where the line should be drawn for monetary policy in Kenya and, specifically, whether the NBFIs should be brought within the net.

Finally, we should note that the manipulation of aggregate demand in an economy via changes in M depends for its effectiveness on a relatively stable income velocity of circulation of money (V). If this is unstable or is itself responsive to changes in M then the macroeconomic effects of a given change in M become problematical. The behaviour of V is hence one of the variables that must be studied.

To sum up, evaluation of the possibility of effective monetary policies in an economy such as Kenya's requires us to study:

- The stability of the income velocity and other specifications of the demand for money, and its amenability to policy manipulation.

- The feasibility of controlling H, given the largely autonomous nature of changes in NFA; the stability of k; and other ways of regulating M.

- The co-ordination of monetary and fiscal policies and the predictability of the government's deficit financing requirements.

- The consequences of monetary policies for the private sector, as residual demander of credit.

- The appropriateness of the way M and DC are defined for policy purposes, and the behaviour of non-bank near-money substitutes.

Effective monetary policy is thus dependent on the satisfaction of rather a large number of conditions, and our next task is to examine whether enough of them are satisfied in Kenya for monetary policy to be feasible and, if so, whether this instrument has been used as well as it might. We shall follow roughly the same order of presentation as that set out above.

# III. RESEARCH FINDINGS

*[Note: The following section draws extensively on econometric tests undertaken by F.M. Mwega. Full specification of the tests undertaken, of the data used and of the results obtained are set out in Mwega, forthcoming. The following concentrates on presenting and interpreting the results obtained.]*

## III.1 The effects of money on Kenyan economic performance

At the beginning of Part II we stated that our work was based on the presumption that money matters, that it has a significant effect on the performance of the economy. We are, however, able to go beyond presumption to offer evidence on the Kenyan case, and it is with this that we commence. We comment on the impact of monetary variables on inflation, the balance of payments and saving and investment.

### □ Money and inflation

Controversy about the sources of inflation in Kenya has tended to centre around the relative strengths of inflationary shocks emanating externally in the form of rising import prices, which tend to be emphasised by the government, and of monetary expansion and its sources. A more recent point of interest is whether expectations, as conventionally represented by past inflation rates, have exerted a significant independent influence. We have therefore estimated a model which seeks to explain changes in the consumer price index with the growth of real income, changes in money supply (M2), changes in import prices and changes in the previous year's inflation rate as the explanatory variables, utilising data for 1971-88. The results obtained were as follows:

| | 1971-82 | 1971-88 |
|---|---|---|
| Constant | 0.028 | 0.055[(b)] |
| | (0.957) | (2.981) |
| $\Delta$log y | -0.601[(a)] | -0.574[(a)] |
| | (3.497) | (4.635) |
| $\Delta$log M2 | 0.304[(b)] | 0.253[(a)] |
| | (2.583) | (3.166) |
| $\Delta$log Pm | 0.269[(b)] | 0.208[(a)] |
| | (2.767) | (3.402) |
| $\Delta$log $P_{-1}$ | 0.139 | 0.076 |
| | (0.723) | (0.581) |
| $R^2$ | 0.78 | 0.79 |
| DW | 2.68 | 2.21 |
| DF | 7 | 13 |

Notes: (a) significant at the 1% level;
(b) significant at the 5% level.

Focusing for the moment on the complete period, 1971-88, the result obtained gives us quite a good statistical explanation of the behaviour of prices with an $R^2$ of 0.79 and a plausible set of results.[17] The strongest influence of all is a negative association between inflation and the growth of real GNP: when the economy expands rapidly the demand for money increases and inflation goes down. Both monetary expansion and import price inflation provide powerful - and statistically highly significant - offsetting factors, however. For the period as a whole we find that a percentage point increase in M2 is associated (without time lag) with an 0.25% increase in the price level; and that a 1% increase in import prices will raise the domestic price level by about 0.21%. Expectations, as represented by $\Delta \log P_{-1}$, were not a significant influence. This latter result may perhaps be due to the absence of a strong trend in the inflation rate during the period in question, with temporary fluctuations around a rather flat trend line which Kenyans have learned to discount in making their decisions. It is also likely that the relative absence of a strong independent trade union movement and other organised interest groups that could provide a 'propagation mechanism' through which expectations could be translated into future inflation contributes to this result.

Both monetary expansion and import prices thus provide powerful explanatory variables. However, their relative strengths have been changing over time. In particular the potency of import prices has been declining, as can be judged by comparing the two columns in the results given above. This is presumably because of the tendency for the value of imports to decline relative to GNP during periods of balance of payments difficulties, and because of the import-substitution that occurred in this period.

Between 1985 and 1986 there was a sudden fall in Kenya's inflation rate. In the series used for our testing, it went down from 12.3% to 3.9% and marked a sharp break from rates generally in the 10-12% range for most of the earlier years of the decade. We therefore examined whether our model could retrospectively simulate such a fall given the behaviour of the independent variables. The simulated values for the two years were 11.9% and 4.8%, so it was indeed successful in tracking much of the decline. The same was true, although in varying degrees, with earlier turning points in the inflation rate. Specifically we explain the sudden fall in 1985-86 as chiefly the result of a fall in import prices in that period.

The finding that GNP growth, monetary expansion and import prices are significant explanatory variables is consistent with the results of other studies of inflation in Kenya. Thus, using a different model, Kiptui [1989] found both money and import prices to be significant, but (surprisingly) not real income growth. Nganda [1985] found money growth to be significant and also real

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[17] The general nature of our results was also similar to those recently obtained by Tegene [1989] for six other African countries.

income (negatively), but he unfortunately did not include a term for import prices. In common with our own results, both of the tests just reported found past inflation to be non-significant. Despite variations in the models' tests, all studies of inflation in Kenya are unanimous in finding monetary expansion among the most important variables explaining Kenya's inflation, which is the outcome most pertinent to our present purposes. On the presumption that causality principally runs from money to prices, the regulation of money supply appears to be a prerequisite for any adequate control and reduction of inflation in Kenya.

Causality does not run uniquely from money to inflation, however. If, for example, government expenditures are more elastic with respect to changes in the domestic price level than its revenues, inflation will bring a tendency for budget deficits to widen and hence for a larger volume of inflationary money creation [Aghevli and Khan, 1978]. We therefore also tested for the influence of the feedback from inflation to monetary growth and this provided us with a yet stronger statistical explanation of the process. In particular the strengths of the coefficients for the income, money and import price variables was increased, with the impact of a percentage point of monetary growth on inflation going up from 0.25% to 0.44% - a result which reinforces the importance, and difficulty, of monetary control as an anti-inflationary weapon.

### □ Money and the balance of payments

There has been some controversy in the literature on the Kenyan economy about the influence of monetary variables on the balance of payments.[18] King [1979] and an unpublished paper by Grubel and Ryan [1979] reviewed the evidence for the 1960s and 1970s and, for different periods, both found monetary variables, particularly domestic credit to the government, to have a strong impact on the balance of payments, defined as the balance on monetary account. Others, notably Maitha *et al.* [1978] and Killick [1984 and 1985], while not denying the negative influence of domestic credit expansion, have placed more emphasis on the effects of external shocks and of structural weaknesses, particularly the poor past performance of the export sector. The monetary model of the balance of payments, of course, underpins the central role in the IMF's stand-by programmes of domestic credit restrictions, so it is of considerable policy importance to obtain the best understanding possible of the sources of Kenya's balance of payments difficulties.

A comprehensive examination of this subject is, however, outside the scope of a paper focused on monetary policy, so our researches have been confined to examining the relationship between changes in international reserves (which can

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*18* This is reviewed more fully in Killick [1984, pp. 170-82].

be used as a proxy for the condition of the balance of payments[19]) and domestic credit. This can shed light both on the determinants of changes in the balance of payments and on the feasibility of effective monetary policy.

The approach taken in our work has been to test for causal relationships between changes in net foreign assets (ΔNFA) and the supply of domestic credit by the banking system (ΔDC).[20] Taking quarterly data from 1972 to 1988, the results obtained are summarised in Table 3 (ignore lines 4(a) and (b) for the time being).

**Table 3: Relationships between Domestic Credit and the Balance of Payments, 1973-88**

| | *Direction of Causality* | *F Stat* | *Sign* |
|---|---|---|---|
| 1. (a) | ΔDCP to ΔNFA | 0.45 | Negative |
| (b) | ΔNFA to ΔDCP | 3.13[(a)] | Positive |
| 2. (a) | ΔDCG to ΔNFA | 2.81[(b)] | Negative |
| (b) | ΔNFA to ΔDCG | 0.70 | Negative |
| 3. (a) | ΔDC to ΔNFA | 2.16[(b)] | Negative |
| (b) | ΔNFA to ΔDC | 0.90 | Indeterminate |
| 4. (a) | ΔNBFIC to ΔNFA | 0.93 | Negative |
| (b) | ΔNFA to ΔNBFIC | 1.80[(c)] | Positive |

Notes: (a) Significant at the 1% level;
(b) significant at the 5% level;
(c) significant at the 10% level.

How should these results be interpreted? Looking first at line 3(a), we see a significant negative correlation between ΔDC and ΔNFA with causality running from the former to the latter. That is, an increase in DC will lead to a

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[19] Only an imperfect proxy, however, for it represents only the 'bottom line'. Movements on monetary account can mask important changes occurring on the current account and in non-monetary capital movements, and thus should only be used as one of a number of bop indicators.

[20] See Mwega and Ngola [1988] for an earlier version of these tests. The tests for causality use the well known Granger [1969] technique which is based on identification of the sequencing of changes in associated variables, with changes in causal variables taken as preceding changes in the dependent variable. More formally, a variable X is said to 'cause' variable Y relative to a given information set if past Xs are jointly significant (using the F-test) in explaining Y when the past behaviour of Y is taken into account in a regression model.

reduction in NFA, as predicted by the monetarist model. A breakdown of DC into credit to the private sector (DCP) and credit to the government (DCG) provides a further insight, and one which is also strongly consistent with the IMF's stress on the control of budget deficits. Line 2(a) shows a particularly strong negative correlation running from ΔDCG to ΔNFA, while line 1(a) shows a much weaker (and non-significant) negative correlation from ΔDCP to ΔNFA. Credit to government, then, is particularly likely to weaken the balance of payments, as was earlier found by King and Grubel and Ryan. The reason for this is that credit to the government is mostly extended by the central bank in forms that increase the high-powered money base and which are thus more expansionary than credit to the private sector.

There are complications, however. In particular, there are feedback effects between ΔNFA and ΔDC. Line 2(b) shows that there is a (non-significant) tendency for changes in NFA to be correlated negatively and causally with changes in DCG. That is, economic conditions leading to a worsening in the balance of payments (reducing NFA) tend to cause a widening of the government's budgetary deficit and thus to an increase in DCG. When, say, the balance of payments worsens because of a collapse in export earnings, this will reduce the domestic level of economic activity and the volume of imports. In turn, both developments will depress tax revenues and widen the budget deficit, although the relationship shows up as rather weak in our results.

Of much greater strength is the feedback mechanism from ΔNFA to ΔDCP, shown in line 1(b), but in this case the correlation is positive. What is shown there is a highly significant causal correlation between ΔNFA and ΔDCP: reductions in NFA are associated with reductions in DCP. In this case the mechanisms are easier to understand (although they would also merit further study). We suggest there are two principal mechanisms. First, reductions in NFA reduce the quantity of high powered money and thus diminish the reserve base upon which commercial banks undertake their lending. To some extent, therefore, the causal connection is automatic. However, we shall later suggest that bank lending is not highly sensitive to changes in their reserve ratios because they tend always to hold reserves in excess of the required minima. Of greater potency, we suggest, are the policy responses of the government. When the balance of payments is in difficulty and NFAs are declining the government is likely to seek the assistance of the IMF and to impose (or tighten) credit ceilings. Since credit to the government itself (and possibly to parastatal bodies) is determined by the fiscal situation and is outside the direct control of the central bank, it is credit to the private sector which is cut, thus producing the positive relationship shown in the table.

The two feedback effects described above work in opposite directions, with a reduction in NFA leading to <u>increased</u> lending to government and <u>reduced</u> lending to the private sector. They thus tend to cancel each other out, leaving the net result indeterminate. This is confirmed in line 3(b) of Table 3, which

shows a non-significant relationship between ΔNFA and changes in total DC, with an indeterminate sign.

The picture that emerges, then, is that increases in DCG are particularly prone to weaken the balance of payments, which is consistent with the monetarist position and with the thrust of IMF programmes which seek to strengthen the payments position by limiting bank credit to government. What we have also found, however, is that increases in DCG are, in turn, likely to result in reductions in DCP. We thus have *prima facie* evidence of a tendency for the financial 'crowding-out' of the private sector - a subject to which we return later.

A further complication - not shown in Table 3 - is, however, that the explanation provided above produces statistically much stronger results for the 1970s than it does for the 1980s. Application of the same methodology to 1981-88 produced only non-significant results, although the signs were as expected. It appears that there was a much weaker tendency for the mechanisms described above to operate in the eighties, for reasons we have been unable to investigate. Some suggestions can, however, be offered. During that decade the government introduced a variety of 'structural adjustment' policy changes that are liable to have affected the ways in which the domestic economy interacts with the balance of payments. Probably the most important was the shift to a flexible exchange rate policy, leading to a major real depreciation in recent years. It is likely that this change, in turn, contributed importantly to improved export performance (and tourism) and thus addressed a major structural weakness affecting the balance of payments. At the same time, increased amounts of external aid were received in support of these adjustment policies,and this too would have weakened the influence of domestic monetary variables on NFAs.

Our conclusion, then, is that non-monetary forces continue to exert major, perhaps increasing, influence on balance of payments out-turns - but that monetary variables matter too, especially the volume of central bank lending to the government. We should add that the process summarised in Table 3 has implications for the feasibility of an effective monetary policy in Kenya. If a given balance of payments target is taken as the policy objective, it would, in principle, be possible to promote this by manipulating DC to achieve the desired ΔNFA. However, the most potent element in DC for this purpose is ΔDCG - the government's deficit financing. We have suggested that DCP is already being manipulated in order to promote balance of payments objectives. ΔDCG is, however, determined by the behaviour of fiscal variables, including policy variables, and is thus outside the direct control of the central bank. What emerges as crucial, therefore, is the co-ordination of fiscal and monetary policy to achieve agreed objectives - another subject to which we return later.

## □ Money, saving and investment

It was shown in Part I (page 11) that real interest rates became positive during the 1980s, in contrast to the negative rates experienced in most of the 1970s. It was also recorded that it is government policy to liberalise interest rates further and to move towards market-determined rates in the early-1990s. In the face of unsatisfied private sector demand for credit and a continuing large demand from the public sector, it is widely expected that the result of such liberalisation will be a sharp upward movement in the structure of nominal interest rates. It is also, of course, government policy to reduce inflation. There is thus a prospect of a major upward shift in real rates in the early-1990s and the question arises of the likely consequences of such a movement, particularly for saving and investment.

The effect of real interest rates (hereafter $I^*$) on saving in Kenya has been investigated by Mwega *et al.* [1989], who tested for its effects on both total and financial private sector saving.[21] Their results in both cases were negative, despite the significant changes that had occurred in $I^*$ during the period covered. Neither total private saving nor that part of it channelled into the financial system were significantly influenced by $I^*$; indeed, for the most part the signs were 'wrong'. The strongest influences on total private saving were the real growth of the economy and a dummy variable representing a variety of 'structural adjustment' measures (other than the changes in $I^*$) adopted during the 1980s. There was also an apparently negative relationship between private saving and inflows of capital from the rest of the world, although that may have been a statistical artefact. Finally, a variable for the savings-income ratio lagged by one year was also found to have a strong influence, implying the existence of a strong desired level of saving on the part of private individuals and firms to which real saving rates adjust rapidly and strongly. The influence of these other explanatory variables completely swamped whatever effect changes in $I^*$ may have had on saving decisions. One possible contributory factor to the relative unimportance of $I^*$ is that savers have few alternative reasonably liquid assets available to them; we suggested earlier that the informal financial system is unlikely to offer much of an alternative.

There is a similar story to tell on tests for the determinants of that part of total saving being channelled into time and savings deposits with the commercial banks and into the NBFIs (for which the data base is more reliable). Here real income is by far the strongest determinant and $I^*$ is again insignificant. Mwega *et al.* went on, however, to study the effect of $I^*$ on private sector demand for credit and found the expected negative correlation, although $I^*$ was only significant at the 10% level. According to their results, a 1% increase in $I^*$ reduced the demand for credit by about 0.2%. There is a presumption from

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[21] It should be noted, however, that national accounting data on aggregate saving are not very reliable, being derived as a residual and thus reflecting errors on other items.

the results of empirical studies of other developing countries that total investment would respond in the same direction.[22]

It follows from these results that a shift to higher real interest rates is not likely to make much difference to the saving rate but is likely to have a negative effect on the level of investment. The net effect will thus tend in some degree to be stagflationary, raising costs and retarding future economic growth by inducing reductions in investment.

Two important qualifications should be added, however. The first is that the tests could only be conducted on the relatively modest changes in $I^*$ that have actually occurred since Independence. The results reported would not necessarily provide good predictions of the outcome of much larger increases in $I^*$, which might occur as a result of liberalisation, although evidence from other countries provides at best mixed support for the proposition that aggregate saving is interest-elastic.[23] Secondly, while it is predictable from theory that investment will be a negative function of $I^*$, theory also predicts higher productivity from that investment which is undertaken, as the interest price discriminates more efficiently between high- and low-return investments.[24] In this event, the productivity effects would tend to offset the deflationary effects of reduced investment levels, leaving the net outcome indeterminate.

We shall be coming later to further discussion of the impact of monetary movements on investment, in the discussion of the possible 'crowding-out' effects of government fiscal deficits (see pp. 40-44).

To sum up, it is clear that monetary behaviour does indeed matter in Kenya. Its influence is perhaps strongest and most direct on domestic inflation, but we have also shown it to contribute importantly to balance of payments outcomes. In turn, inflation and the availability of foreign exchange will have important effects on the performance of the 'real' economy. In addition, even though $I^*$ may have little effect on the volume of savings, it probably does have an effect on investment, and we have also suggested there is *prima facie* evidence that monetary policy operates in ways that crowd-out the private sector. It is evident, then, that effective monetary policies could make a significant contribution to the progress of the economy. Let us now turn to examine the feasibility of such policies.

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22 See Blejer and Khan [1984], who find for a sample of 24 developing countries that private sector investment is positively correlated with the availability of credit.

23 See Arrieta [1988] for a recent survey of this literature.

24 See Gelb [1989], who particularly emphasises the potential importance of this productivity-raising effect and who finds substantial econometric evidence of it.

## III.2 Income velocity and the demand for money

Monetarist policy models are based on the standard assumption that the velocity of circulation (V) is either constant or at least predictable. Without that, the macroeconomic effects of a given change in money supply are problematical. We have therefore examined the behaviour of the income velocity of circulation in Kenya over 1967-87 to test for its stability. We have found three results, which in combination seriously question the validity of the monetarist assumption:

[a] There was a clear and rather rapid decline in V in 1967-79, followed by an upward movement in the early-1980s and a flat trend thereafter. For the period as a whole there was a trend term of -2.14, significant at the 5% level, although that was strongly influenced by results for the earlier years.

[b] There was a tendency, although only significant at the 20% level, for $\Delta V$ and $\Delta M$ to be inversely correlated - when M rises V tends to go down. This, then, provides an automatic stabiliser in the economy. However, it also reduces the impact on aggregate demand of a given change in M or, to put it another way, means that a larger change in M is needed to achieve a given effect on aggregate demand.

[c] The most important finding, however, was that V is unstable, with unpredictable fluctuations around the trend value. We found that, ignoring signs, the mean annual percentage deviation of V from its trend value was $\pm 7\%$, with minimum and maximum deviations of 0.3% and 15.3%.

A mean deviation of $\pm 7\%$ is substantial for effective monetary control. As an illustration, assume that the government adopts a growth target for current-price GDP in 1989 of 10%, of which about 5% is expected to be real growth, and that this target is consistent with its balance of payments objectives. It may decide that the $\Delta M$ that is consistent with those targets is +10%. Now let V increase unexpectedly by 7%. It can be calculated that if M goes up by 10% and V by 7% the resulting growth in nominal GDP will be almost 18%. With real output growth virtually predetermined in the short run (say at 5%), this would imply an inflation rate of 13% rather than the intended 5%. However, some of this inflationary pressure would spill over into import demand, so that the government's inflation and payments targets would both be seriously breached. Examination of the income velocity of circulation provides only a first approach to the stability of the demand for money. It is of interest to explore whether a more sophisticated specification would alter the results reported above. As stated earlier, there are two aspects of the demand for money of particular relevance for policy. One is whether it is amenable to manipulation by the use of policy, for example through the use of interest rates. A second is whether it is predictable, for without predictability the central bank cannot know of the net expansionary or contractionary effects of a given change in the supply of money.

We have therefore tested a model for the demand for money (m, the dependent variable) which goes beyond a simple velocity approach and takes as its explanatory variables:

- Expected real income, taken to be determined by past real incomes (y[t]);
- Expected inflation, represented by past inflation ($\pi$[t]);
- The expected rate of interest on Treasury Bills, taken as representative of the opportunity cost of holding money (r[t]); and
- The demand for money in the previous period, to catch lagged adjustments to past discrepancies between the demand for and supply of money (m[t-1])

This was estimated in the log form for real M1, M2 and M3:

$$\log m[t] = a_0 + a_1 \hat{} \log y[t] + a_2 \hat{\pi}[t] + a_3 \log \hat{} r[t] + a_4 \log m[t-1]$$

where a is a constant term. The results obtained for M1 and M2 were as set out in Table 4 (ignore the M3 results for the time being).

**Table 4: Short-run Money Demand Functions in Kenya, 1973:3-1988:4**

| *Dependent variable* | *Log M1* | *Log M2* | *Log M3* |
|---|---|---|---|
| Constant | 0.945<br>(1.524) | 0.196<br>(0.535) | 0.173<br>(0.583) |
| Log^y(t) | 0.040<br>(0.697) | 0.074[(b)]<br>(1.682) | 0.020<br>(0.561) |
| $\hat{\pi}$(t) | -1.280[(a)]<br>(3.033) | -1.319[(a)]<br>(5.026) | -1.206[(a)]<br>(5.522) |
| Log^r(t) | -0.037[(a)]<br>(3.091) | -0.017[(a)]<br>(2.687) | -0.009<br>(1.574) |
| Log m(t-1) | 0.839[(a)]<br>(12.752) | 0.905[(a)]<br>(19.686) | 0.964[(a)]<br>(30.909) |
| $R^2$ | 0.82 | 0.92 | 0.97 |
| DW | 2.03 | 2.00 | 2.00 |
| F(4,57) | 72.06[(a)] | 174.017[(a)] | 534.02[(a)] |

Notes: (a) Significant at the 1% level;
(b) significant at the 5% level.

The results contain surprises. Past demand for money, the lagged adjustment term, is easily the largest influence (with the speed of adjustment working out at about 1.5 years). Expected inflation is also a significant variable, consistent with our earlier finding on the influence of money on the price level. More interestingly, the rate of interest is also significant at the 1% level. The income variable has much weaker explanatory value - it is non-significant in the M1 test - and the income elasticities derived, of 0.25 for real M1 and 0.78 for real M2 are smaller than expected. The adjusted $R^2$s are large throughout.

What is most pertinent for present purposes is the influence of the policy variable, the rate of interest (r[t]), to which the demand for money is shown to be sensitive. If our results are valid, the implication is that it would be possible for the government to influence the demand for money by shifting interest rates. It should be added, however, that other studies of the demand for money in Kenya have produced markedly differing results from those described above. Thus, Kanga [1985] found the income variable to be a statistically significant determinant, although his elasticity for M1 was almost identical to ours, and found the rate of interest an insignificant determinant. Ndele [1990] similarly finds income to be a highly significant explanatory variable, but also finds the interest rate significant in some of his results. Both these studies differed from ours in the variables used, the period covered and the models employed, and we present our findings rather tentatively, despite the statistically robust results obtained. It is nonetheless possible that the authorities could influence money demand by using the interest rate weapon. What we can be firmer on is that the influence of the interest rate is likely to grow as the financial system develops and the range and liquidity of instruments available to the public increases.

This then brings us back to the stability of the demand for money. We tested this, using the Gujarati method[25], with the result that the demand for money function of the type set out in Table 4 appears to be stable, although it is more so with narrow definitions of money (M1) than with broader definitions. This finding of stability was markedly different from the behaviour of the income velocity reported earlier but was consistent with the results of an earlier study by Dharat [1985]. Stability does not mean constancy, however, for our tests also revealed a tendency for the income elasticity of demand for money to decline over time. In other words, it would not be appropriate to take a money demand function estimated for a long period such as ours as representative of the present-day situation. Estimates for a shorter, more recent period would be desirable (despite the resulting loss of degrees of freedom), with periodic re-estimations to catch changes in the income elasticities (and perhaps other coefficients).

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[25] This test involved adding constant and slope shift dummies for the second half of the period (1981:2 to 1988:4) to short-run money demand functions for the whole period, 1973:3 to 1988:4. The Gujarati test then examines whether these shift dummies are jointly significantly different from zero using the F-test. In our tests they were not significant even at the 10% level for any of the measures of money.

The question arises of how we can reconcile the unpredictable behaviour of V reported earlier with the relative stability of the money demand function shown above. One reason is that our money demand function includes non-income variables as explanators, and finds the income variable to be unstable. Inclusion of the (highly significant) lagged variable in the money demand function probably had a particularly large influence, with the results implying a lag of about 1.5 years. Demand stability over this longer period is consistent with instability while adjustment is occurring and may mean that long run stability may never actually be achieved - a conclusion which is, however, unfavourable to the use of monetary instruments for the short-term 'fine-tuning' of the economy.

## III.3 Controlling the supply of money

### □ The high-powered money base

High-powered money (H) is the reserve base upon which the credit creation of the banking system is undertaken. Money supply (M) is a function of H and the money-multiplier k, so if the authorities are able to regulate H they are in a strong position to control M, assuming k to be reasonably stable. What we wish to do in this section, therefore, is to examine the determinants of the size of H and its amenability to policy manipulation.

We therefore tested a model which sought to explain changes in the real high-powered money base ($\Delta H^*$). To concentrate on the two explanatory variables which proved to be significant, we found $\Delta H^*$ to be positively correlated with changes in real income, a result which is probably achieved via changes in NFA; and to be highly significantly negatively correlated with $\Delta k$, with a 1% increase in k reducing the growth of $H^*$ by about 0.8 or 0.9%. The overall significance tests for the equations fitted were satisfactory and the results appeared robust. The relationship we see between $H^*$ and k is that if k increases, meaning that a larger volume of credit can be created on a given H base, this will weaken the balance of payments, through the mechanisms explained earlier, reducing the NFAs of the monetary authorities which, in turn, will reduce H and tend then to lead to some credit contraction. This result is similar to a finding for 1968-73 by Bolnick [1975]. A form of sequenced automatic stabilisation process is at work, with shifts in k tending partially (but only partially) to offset $\Delta H$ and thus to moderate $\Delta M$. We ran tests for the validity of the money multiplier model for Kenyan conditions and found, *inter alia*, that there was a significant negative correlation between the behaviour of H and k, but that H was far more volatile than k.

But while the behaviour of k does tend partially to counteract the effects of $\Delta H$, this behaviour pattern suggests that discretionary interventions by the CBK to regulate M may be frustrated by countervailing movements in k unless k is itself amenable to control by the CBK, on which more shortly.

Leaving the behaviour of k to one side, whether H can be used as a policy tool for regulating M depends on the extent of the CBK's control over the components of H which, in the Kenyan case, are its net foreign assets (NFAs) and its lending to the government (CBG). We have already discussed the behaviour of these, to some extent, in the discussion of the balance of payments effects of money, and we will be returning again to the extent of CBK control over its lending to government. Briefly, we see the position as follows.

The degree of CBK control over NFAs is slight. To a substantial extent what happens to such balance of payments variables as the terms of trade, export volumes, long-term capital flows, *etc.*, is beyond its control, except through the longer-term (but very important) use of the exchange rate, on which the CBK probably does have an important say. For any given period, however, the effect of any change in the real exchange rate on NFAs is problematic, to say the least, so the most the CBK can do on this is to exert a general pressure (chiefly through the exchange rate) in the 'right' direction.

Of course, monetary variables do have an important influence on the payments situation, as we showed earlier, but the process we described was one in which the behaviour of NFA was chiefly driven by $\Delta$DCG. We shall argue shortly that the CBK has only slight influence over the planned level of DCG and that, in any case, budgetary outcomes are not very predictable. The CBK arguably has even less control over the domestic asset component of H than over the foreign asset. We are thus deeply pessimistic about its ability to manipulate H in order to achieve some target level of M. This is not the end of the story, however, for it can still seek to control M by using its powers over the commercial banks to manipulate domestic credit. Let us therefore examine this possibility.

### □ Regulating the commercial banks

Our starting point here is pioneering research by Bolnick [1975], who also addressed the question of the controllability of M. Like us, he found k to be relatively unstable and he went on to explore the reasons for this. He broke k into two components: $\alpha$ and $\beta$, where $\alpha$ = the ratio of public holdings of currency to bank deposits, and $\beta$ = the ratio of the commercial banks' liquid assets to their deposit liabilities. Although there were movements in $\alpha$, these were relatively small and had a limited impact on k. The behaviour of $\beta$, on the other hand, was both more unstable and had a more powerful effect on k. The reason for this, Bolnick found, was that the banks were slow to adjust their lending to changes in their liquidity ratios, thus dampening the effect of changes in liquidity and tending to produce the type of automatic stabiliser described in the previous section, with $\Delta$k tending to offset $\Delta$H.

Bolnick's work was confined to quarterly data in 1967:4 to 1973:4 and we have therefore tested a similar model for 1971-88. The nature of our results was

very close to his, with shifts in $\beta$ inducing changes in k of the type already discussed.[26] We developed a model to try to explain $\Delta\beta$ and the strongest result we obtained (significant at the 5% level) was changes in the banks' liquidity. In other words, if (say) the banks experience an increase in their liquidity ratio, due to an increase in H, this does not induce them to raise their lending by the full amount that would be permitted by the increase in their reserve base. The relationship between bank liquidity and bank credit was not stable or predictable, thus making the outcome of any CBK attempts to regulate M by manipulating bank liquidity distinctly uncertain. This result is consistent with the findings of Kanga [1985], who tested for the elasticity of bank lending with respect to changes in their liquidity. He found that bank lending was not responsive to changes in their liquidity ratios as defined by the CBK. Specifically, he found that they did not regard their holdings of Treasury Bills (the largest single component of the statutory ratio) as liquid assets in the sense of using them as a basis for credit creation, and that this is still the case was confirmed to us during interviews in 1989. On the other hand, Kanga did find lending highly sensitive to other components of the banks' reserve base (cash, inter-bank deposits, *etc.*). This suggests, then, that much of the variability of k is due to an inappropriate specification of liquidity in Kenya and that modification of this could both stabilise k and increase CBK control of bank lending.

An alternative interpretation is that the observed unresponsiveness of bank lending to changes in their liquidity (conventionally defined) is due to the CBK's unwillingness to use its powers to vary minimum liquidity requirements in order to force the required ratio above the level that the banks would, in any case, choose to hold for prudential purposes.[27] Had they been willing to use this weapon more aggressively, raising enforced ratios above prudential minima, it seems likely that the banks would then have been more responsive to shifts in their liquidity.

We should mention other explanatory variables which our tests showed help to explain banks' liquidity ratios, although these were significant at only the 10% or 20% levels. We found a positive correlation with changes in lending rates, with liquidity rising when rates were raised, because of its effects on the demand

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[26] Some instability in k could be predicted for our later period, when quantitative credit ceilings were in force. However, the similarity of our results with those obtained by Bolnick for a period when ceilings were rarely used suggests that the instability of k cannot simply be explained in terms of the 'shocks' imposed by observance of credit ceilings.

[27] For example, as at the end of 1988 the commercial banks collectively held liquid assets equivalent to 23.5% of their deposit liabilities, while the prescribed minimum was only 20% (Economic Survey, 1989, Table 5.10). This was a typical situation. Table 1.6.3. of the CBK [1989] shows that in every year since 1971 actual bank liquidity has been in excess of statutory requirement, although by fluctuating margins. Taking end-of-year statistics, the mean excess of liquidity in 1971-99 was 37% of the statutory requirement. The mean for 1980-88 alone was 31%.

for credit. Changes in the composition of deposit liabilities - as between current, time and savings deposits - also had an effect in some years, with shifts in favour of time and savings deposits associated with reduction in liquidity. For some periods we also found changes in the statutory minimum ratio to have an effect, which is odd given the persistent holding of reserves in excess of statutory minima. It seems that the banks may actually have a policy of maintaining a prudential cushion of liquidity over and above their legal obligations, although the revealed size of this varies quite a lot from year to year.

Before leaving this topic we should also note that both Bolnick's and our results indicate that substantial changes can be engineered in M by shifting government deposits between the central bank and the commercial banks. Thus, we found that a one million shilling movement of a government deposit from the commercial banks to the CBK would reduce M2 by Kshs 2.2mn. We mention this because it would be possible for the government (no doubt on the advice of the CBK) deliberately to manage the placement of its deposits in the furtherance of monetary policy.

Notwithstanding this last point, the general conclusion we draw from the above analysis is that the behaviour pattern of the banks and its effects on k increase the CBK's difficulties of exerting reasonable control over M. Some degree of control is nonetheless achieved, for we noted at the beginning of this paper that Kenya has never experienced a prolonged period of grossly excessive credit creation. How has that been achieved, given all the difficulties in the way of monetary control?

First we should record the key role of the IMF, with which there have been programmes throughout the 1980s, with the exception of FY 1986/87. The laying-down of maxima for the expansion of DCG and total DC is, of course, at the centre of Fund programmes, so agreement on a Fund programme implies acceptance of monetary ceilings. In the past the government and CBK have not laid down credit ceilings when there is no Fund programme. They have, of course, taken an active view of the ceilings proposed to them by the IMF but have taken a very relaxed view in conditions when IMF programmes were either not needed or not feasible. This tells us that the government has not so far attempted very seriously to define and execute an independent monetary policy. It also means that monetary policy tends to be driven by the balance of payments in the sense that it is only in times of payments difficulties that a Fund programme will be requested.

Observance of Fund ceilings on credit to the government has to be attempted by means of fiscal measures, and the budgetary aspects of the monetary process are discussed in the next section. But since the Fund stipulates ceilings both for DCG and total DC there is also an implied ceiling for DCP plus credit to the parastatals. The requisite control over DCP is then pursued by the

stipulation of ceilings above which the commercial banks may not lend. For example, the government in December 1987 laid it down that bank credit to private and parastatal borrowers must not increase by more than 0.8% per month.

How effective these ceilings are as a policy instrument is unclear. They are certainly not totally impotent, as witness the fact that it has been possible to remain within Fund ceilings in all programmes since 1982. On the other hand, there is known to be a good deal of evasion of them, by a variety of routes. One, as we will show later, has been to use credit from NBFIs as an alternative to bank credit - a possibility which seems to us seriously to undermine the economic rationale for having credit ceilings at all. Another device, we were informed, is that there is a good deal of inter-company lending, with some firms helping out others which are short of credit, the economic effects of which remain to be established. There is also a good deal of manipulation of the figures in order to bring them within the IMF performance criteria on the benchmark dates, although this is only possible so long as the underlying values are not too far out of line.[28] We suspect that the Fund has been willing to turn a blind eye to some of these practices in order to keep programmes on track and avoid the turmoil created by suspending them. A final thing that should be said is that Fund ceilings on total DC have not been very restrictive, permitting an average annual increase in the six programmes since 1982 of 12.4%.[29]

In the use of a non-market instrument like the imposition of absolute ceilings a key question is what are its efficiency effects? How do decisions about whose credit lines should be reduced get made and do they discriminate well between high- and low-productivity borrowers? We have no way of answering those questions but we do return to them briefly in the discussion below about crowding-out, in which we allege the Fund is an active colluder.

### III.4 The influence of the budget

It is already evident from the foregoing that credit to government looms large in the overall behaviour of the monetary system. We now wish to examine this more closely.

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[28] One of our correspondents, for example, refers to a practice by Government "*which causes most acute and direct damage to the private sector, i.e. the habit of not paying its bills on time ... [I]t is believed that directives have gone out from the Treasury to delay payments for up to 3 months at the end of the financial year, and ... preference has been given to contractors etc prepared to submit invoices dated 1st July.*" We were also told of jugglings in the portfolio holdings of parastatals and other agencies around the benchmark dates of IMF programmes in order to maintain the appearance that the government was keeping within credit ceilings.

[29] Killick [1984 pp.206-8] observed for the previous generation of IMF programmes in Kenya that the ceilings did not seem excessively restrictive.

We are here interested in the influence of different ways of financing the budget on total credit and the supply of money; and on the feasibility and extent of co-ordination between fiscal and monetary policies. We subsequently turn to consider the implications of our results for the private sector.

The data in Table 1 (lines 8-10) have already signalled the existence of sizeable budget deficits and significant government borrowing from the banking system. Unfortunately, the period averages presented there are too coarse to give more than a rough picture of developments over time. If we take the overall deficit, *i.e.* total government spending less current revenues and external grant receipts, the historical development can be seen as falling into a number of distinct periods:

- 1965/66-1973/74: a period of modest overall deficits.
- 1974/75-1979/80: a period of substantially increased deficits but with no particular trend over time.
- 1980/81-1981/82: a period of large and rapidly increasing deficits.
- 1982/83-1987/88: the absolute value of the deficit was cut by two-thirds in 1982/83 over the previous year (following the attempted *coup* and a strong speech by President Moi stressing the need to restore fiscal discipline) but thereafter a strong upward trend was resumed until 1986/87, by which year it was equal to 8% of GDP, but with a substantial fall in the following year.

We are interested, first, in the extent to which these deficits were correlated with changes in banking system credit to the government ($\Delta$DCG) and then in the effects of this deficit financing on overall credit and money supply aggregates. We therefore tested for correlations between these variables during 1967-87 and obtained strong results. Taking the period as a whole, we found that changes in the overall deficit were strongly and positively correlated:

[a] with $\Delta$DCG, with an $R^2 = 0.88$ (against a minimum $R_2$ value for 5% significance of well under 0.4);

[b] with changes in total domestic credit ($\Delta$DC), with $R^2 = 0.96$; and

[c] with broad and narrow definitions of money, with $R^2$s of 0.99 in both cases.

It is evident, therefore, that government financing needs exert a powerful influence on the overall monetary situation. We moreover obtained strong correlations of the nature just described for all periods commencing about 1972. Only in 1967-71 did the relationships fail to hold.

The government can, of course, seek to finance its budget deficits by borrowing either domestically or from abroad. It is plausible to think of these potential sources as alternatives, and also to regard external financing as non-expansionary, since external finance comes in the form of foreign exchange which can be utilised within the economy to purchase additional imports. Our tests of relationships between these two sources throw these expected relationships into question, however. Taking 1967-87, we found that the use of external financing (F) was positively and highly significantly correlated with $\Delta$DCG ($R^2 = 0.76$). Once again the early years were an exception, so that in 1967-71 these sources of finance were indeed substitutes. Thereafter, however, the correlation was consistently and strongly positive. Moreover, we found that almost throughout $\Delta$F was strongly and positively correlated with $\Delta$DC and $\Delta$M1 and $\Delta$M2. For 1967-87 the $R^2$s were 0.88, 0.95 and 0.94 respectively.

The position that apparently emerges here is a process in which when the Treasury finds itself with an increasing budget deficit it responds by borrowing more both from abroad and from the domestic banking system - with the process going into reverse when the deficit declines. The positive association between $\Delta$F and the credit and money supply aggregates presumably comes about [i] because of discretionary policy decisions which cause $\Delta$F to be positively correlated with $\Delta$DCG, but also [ii] because $\Delta$F automatically alters the size of the foreign asset component of the high-powered money base. This latter consideration explains why the correlations between $\Delta$F and $\Delta$M are stronger than between $\Delta$F and $\Delta$DCG. The nature of this transmission mechanism serves to underline yet further the central importance of control over the budget deficit for the behaviour of monetary magnitudes and for the feasibility of meaningful monetary policy.

From our understanding of the budgetary process, it is unclear how much conscious and interactive co-ordination there is between the fiscal and monetary authorities. It seems fairly clear that the process is driven by the budget, but with the Ministry of Finance subjected to various constraints. One important constraint throughout most of the 1980s has been the ceilings on budget deficits and bank credit to government incorporated in agreements with the IMF (although we have suggested that these have not been particularly restrictive). Others were referred to earlier: the heavy presence in government expenditures of two large items which it is virtually impossible to cut (the wage bill of the civil service and the cost of servicing the public debt); and political reluctance to use the tax weapon. The combination of these constraints leaves the budget-makers with perilously few degrees of freedom and the domination of the Treasury over the central bank which exists in Kenya means that the management of the CBK is not normally in a position to exert any decisive influence on the overall arithmetic of the budget.

If this is correct - and it is consistent with our observations - it leaves the official Monetary Policy Committee with little option but to take the government's domestic financing requirements as given, leaving it the tasks of deciding the best ways of raising the necessary loans and of reconciling the government's financing needs with those of

parastatal bodies and of private industry whilst remaining within the overall credit ceilings incorporated in IMF agreements.

A recent experiment in the marketing of Treasury Bonds, with maturities of one to five years and bearing interest of 15% to 16.5%, illustrates this aspect of the role of the CBK. These were introduced in 1986, with the principal objective of providing a non-inflationary form of financing for the government while at the same time mopping up some of the excess liquidity in the economy due to the coffee boom of that year. By using its control over bank interest rates and offering more attractive rates on the Bonds, the CBK hoped to attract liquidity out of the banks and to tap the savings of the private sector. By mid-1988 a total of £458mn-worth of this paper had been sold, equivalent, for example, to the size of the exceptionally large budget deficit of 1986/87. However, this exercise was not the success that these figures might indicate because we understand that by far the largest single purchaser was the National Social Security Fund (NSSF), whose purchases chiefly consisted of a switch in portfolio from shorter-dated Treasury Bills, with probably only rather small effects on overall liquidity. The general public has remained reluctant to invest in the Bonds, partly because they are illiquid, there being no established secondary market, and because the interest they pay attracts tax at 20%.[30]

We have suggested that the CBK is largely in the position of having to accept government deficit financing requirements as a given and then of having to make the best disposition of the remainder of its responsibilities given this (and other) constraints. The issue we wish to take up now is whether the Treasury is in a position to give the CBK reliable information about its financing requirements so that the CBK can at least plan the remainder of monetary policy realistically. The answer appears to be that the Treasury is not in that position. In Table 5 we set out indicators of predictability and bias in the budgetary system for 1973/74-1980/81 and 1981/82 to 1987/88.[31] The first two columns provide measures of the predictability of key budgetary magnitudes, based on comparisons of original budget estimates and final outcomes, of which the entries for the deficit for domestic financing are of the chief interest for present purposes.

We see there that in the earlier period this variable was subject to extremely large deviations from budget intentions, with a coefficient of variation of ±259% of the original budget estimate. By this standard, the result for the later period shows a large improvement, with a coefficient of 'only' ±83%. Nevertheless, this is a large degree of unpredictability and cannot fail to mean that the CBK's Monetary Policy Committee do not have firm grounds upon which to base their decisions about credit to the rest of the economy.

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[30] See CBK [1989 pp.10-11] for an interesting and candid account of the difficulties with this experiment.

[31] It should be noted that, although taken from official Economic Surveys, the data employed do not seem very reliable, with a number of unexplained discrepancies.

**Table 5: Predictability and Bias in Kenyan Budgeting**

| | Coefficient of variation[a] | | Direction of bias[b] over-estimate | | under-estimate | |
|---|---|---|---|---|---|---|
| | *A* | *B* | *A* | *B* | *A* | *B* |
| 1. Current account balance[c] | 119 | 302 | 6 | 7 | 2 | 0 |
| 2. Capital expenditure | 40 | 26 | 5 | 6 | 3 | 1 |
| 3. External grants and loans | 29 | 44 | 6 | 4 | 2 | 3 |
| 4. Deficit for domestic financing | 259 | 114 | 2 | 1 | 6 | 6 |

Sources: A: Killick, 1984, Table 5.7;
B: Economic Surveys (various issues).

Key: A = 1973/74 to 1980/81;
B = 1981/82 to 1987/88.

Notes: (a) In percentages of original budget estimates.
(b) Number of observations.
(c) In this case 'over-estimate' means either an actual surplus smaller than budgeted or an actual deficit larger than budgeted.

The right-hand part of Table 5 tests for systematic biases in budget estimates - and finds them. As can be seen, there is a bias towards optimism in all the budget magnitudes shown except for external aid receipts in the later period. There are strong biases towards underestimation of the current deficit, over-estimation of capital expenditures and under-estimation of the residual deficit for domestic financing. Admittedly, the presentation in Table 5 does not provide an indication of the absolute size of the errors in question, relative to other economic magnitudes. In fact, for the 1981/82-1987/88 period the mean size of the deviation on the deficit for domestic financing was equivalent to 9.0% of average money supply (M2) over the period, so we are writing of magnitudes that are substantial but not huge.

Of course, the Kenyan government is not alone in taking a consistently over-optimistic view of likely budgetary out-turns. It is likely that Treasury officials are aware that their forecasts tend to be over-optimistic, although to a degree the Treasury may nonetheless be systematically deceiving itself about likely budget outcomes. In principle, the consistent nature of the biases could be an aid to monetary policy makers, allowing them to adjust for the over-optimism of the budget. However, the Monetary Policy Committee is manned exclusively by officials, including a strong representation from the Treasury, and we doubt whether they would feel free to disown their Minister's figures.

To sum up, we have shown that the overall budget deficit has a powerful influence on trends in domestic credit and money supply, and that this is true both of deficits financed by borrowing from the banking system and of deficits financed from external grants and loans. We have suggested, however, that the CBK has little influence over these major determinants of the monetary situation, thus seriously weakening its ability to determine overall monetary outcomes. Finally, we have shown that the Treasury is not in a position to give the CBK even approximately reliable estimates of what their financing needs are likely to be over the coming fiscal year, and that their estimates are systematically over-optimistic. None of this bodes well for effective monetary policy.

### III.5 Consequences for the private sector

One of the dangers inherent in the situation just described is that the government establishes a first claim on a substantial part of total domestic credit and, given a policy objective of avoiding excessive total credit creation, that this will pre-empt some of the credit needs of the rest of the economy to an extent which is inconsistent with the government's own stated objectives of encouraging the growth of the private sector. We referred earlier to the likelihood that much of this squeeze would fall upon the private sector and provided statistics (Table 1, line 14) showing that, indeed, the share of the private sector in total credit has consistently and substantially diminished over the years. We might also recall the discussion of the effects of monetary variables on the balance of payments. To simplify, the process we discovered was one in which banking system credit to the government was causally correlated with a weakening of the payments situation (declining NFAs) and that this weakening, in turn, induced a reduction in credit to the private sector.

The process just described implies a 'financial crowding-out' of the private sector, and we now propose to examine this more explicitly. In our research we approached this subject in two ways. First, we used Granger-causality tests to measure the possible influence of banking system credit to the public sector ($\Delta$DCU) on its credit to the private sector ($\Delta$DCP), and *vice versa*. The result was unambiguous. It supported the crowding-out hypothesis, with $\Delta$DCU significant at the 5% level in causing (in the Granger sense) $\Delta$DCP in the opposite direction, whereas $\Delta$DCP was found to have no significant effect on $\Delta$DCU, implying that the public sector is given priority in the allocation of credit. The $\Delta$DCU coefficients summed to -0.36, implying that a Kshs 1 million increase in banking system credit to the public sector would result in a Kshs 0.36 million reduction in credit to the private sector.

This result is strongly supported by earlier work by Koori [1984], who used a more structural model to test for crowding out. Among the differences between his approach and ours, are that he confined himself to credit from the 'competitive' part of the banking system, *i.e.* excluding the CBK, and that he focused on credit to the non-household part of the private sector. Despite these and other differences, his results were strikingly similar to ours. He too found the crowding-out hypothesis to

be supported with a coefficient very close to ours (-0.40) and with high levels of significance.

We then supplemented our Granger tests with an alternative approach which differentiated between alternative sources of credit to the public sector. The rationale for this is that when the public sector (*i.e.* the central government in this case) borrows from the CBK, this does not directly compete with credit to private enterprises, who do not have access to central bank loans. Competition between the two sectors is thus likely to be strongest when the public sector borrows from the banks. (We also incorporated NBFIs into the tests, with result reported later.) The equations were tested for 1969-88 and the results obtained are summarised in Table 6 (disregard equations 3 and 4 for the time being).

**Table 6: OLS Estimates of Private Credit Functions**

| *Dependent variable* | *Constant* | $\left[\frac{Y}{P}\right]_t$ | $[L\text{-}\Pi]_t$ | $\left[\frac{\Delta CBU}{\Delta DCU}\right]_t$ | $\left[\frac{\Delta DCU}{P}\right]_t$ | *Lagged dep. variable* | $R^2$ | DW | *Period* |
|---|---|---|---|---|---|---|---|---|---|
| 1. $\left[\frac{\Delta DCP'}{P}\right]_t$ | -1937.93$^{(c)}$ | 0.080$^{(a)}$ | -7243.06$^{(b)}$ | 48.901 | -0.315$^{(b)}$ | -0.146 | 0.46 | 2.12 | 1969-88 |
| | (1.460) | (2.728) | (1.974) | (0.868) | (1.817) | (0.586) | | | |
| 2. $\left[\frac{\Delta DCP'}{P}\right]_t$ | -1830.56 | 0.075$^{(a)}$ | -6444.04$^{(b)}$ | 41.63 | -0.337$^{(b)}$ | | 0.44 | 2.19 | 1969-88 |
| | (1.506) | (2.867) | (1.994) | (0.749) | (2.032) | | | | |
| 3. $\left[\frac{\Delta DCP''}{P}\right]_t$ | -7419.90$^{(a)}$ | 0.202$^{(a)}$ | -7959.13$^{(a)}$ | 12.220$^{(b)}$ | -0.371$^{(a)}$ | 0.085 | 0.75 | 3.16 | 1974-86 |
| | (4.870) | (5.943) | (4.419) | (2.308) | (5.030) | (0.680) | | | |
| 4. $\left[\frac{\Delta DCP''}{P}\right]_t$ | -7859.30$^{(a)}$ | 0.215$^{(a)}$ | -8459.28$^{(a)}$ | 12.137$^{(b)}$ | -0.363$^{(a)}$ | | 0.73 | 3.09 | 1974-86 |
| | (5.867) | (7.698) | (5.288) | (2.367) | (5.140) | | | | |

Notes: (a) Significant at the 1% level;
(b) significant at the 5% level;
(c) significant at the 10% level.

Where $\left[\frac{\Delta DCP}{P}\right]_t$ is real credit flow to the private sector;

$\left[\frac{Y}{P}\right]_t$ is real GDP;

$[L\text{-}\Pi]_t$ is real lending rate as measured by nominal deposit rate minus the rate of inflation;

$\left[\frac{\Delta CBU}{\Delta DCU}\right]$ is central bank credit to the public sector (ΔCBU) relative to total domestic credit to the sector (ΔDCU) from the "competitive" financial system;

$\left[\frac{\Delta DCU}{P}\right]_t$ is real credit to the public sector;

$\left[\frac{\Delta DCP}{P}\right]_{t-1}$ is lagged dependent variable; and

$u_t$ is a random error term.

Equations 1 and 2 relate to credit by the banking system; equations 3 and 4 also include credit by NB FIs.

These results show that:

[a] The real GNP coefficient is significant at the 1% level, so that the real flow of credit to the private sector increases with output.

[b] The real lending rate (L-π) is significant at the 5% level, confirming that private sector demand for credit is interest elastic.

[c] The higher the proportion of public sector needs that is satisfied by the central bank (ΔCBU/ΔDCU), the less the competition faced by the private sector for funds. Although the sign is as expected, this variable is not significant in equations 1 and 2 (although it becomes so in equations 3 and 4 when NBFIs are incorporated).

[d] The crowding-out coefficient - $(\Delta DCU/P)_t$ - is significant at the 5% level, again confirming the results already reported. The coefficient value in equation 1 (-0.315) is very close to the -0.36 found in the previous test.

[e] There are no significant adjustment lags in the real flow of credit to the private sector, with the lagged dependent variable insignificant throughout.

Econometric findings of a crowding-out process are supported by other evidence that such a process does operate in Kenya. King [1979] and Killick [1984] both record episodes in the 1970s; and Brough and Curtin [1981] have described a similar result as an aftermath of the 1976-77 coffee boom.

In a more developed financial system crowding out will tend to occur via the interest rate: when the public sector's credit requirements rise this will push up interest rates and choke off some private sector demand for credit. It does not operate in this way in Kenya because interest rates are not yet market determined. The potential for this process to become operative is present, however, since our results do show private

sector demand for credit to be interest-elastic. It occurs instead in other ways. The CBK's control over the minimum levels and composition of the liquid reserves of the commercial banks and NBFIs is one of them. Liquid assets are defined rather narrowly, *e.g.* excluding commercial bills, so as to leave the institutions limited alternatives to holdings of Treasury Bills and, in any case, the banks are required to hold not less than half of their liquid assets in Treasury Bills. We have already mentioned another example, where since 1986 the CBK has used its powers over interest rates to attempt to transfer lending power from the banks into holdings of Treasury Bonds, although with limited success. Yet another way of channelling involuntary finance to the government is through its use of its *de facto* powers over the NSSF and the POSB to require them both to invest extensively in government paper - sums that otherwise would potentially be available for on-lending to private borrowers.[32] Probably the most powerful mechanism of crowding-out, however, is through the use of ceilings on bank credit to the private sector, in order to accommodate the financing needs of the government. At the time of our research, in 1988-89, it seemed to be agreed that the ceilings then in force were adversely affecting private businesses.

One of our biggest surprises, however, was to discover that the IMF apparently connived at this process during the 1980s. We mentioned earlier that the mean permitted increase in total DC in its six programmes since 1982 was 12.4% *p.a.* However, the equivalent value for DCG was 24.1% (or 18.9% excluding one particularly high value). This implies that DCP was restricted to growth well below the overall ceiling and far below the permitted expansion in DCG (although the 1988 programme reversed this). This being the case, it is perhaps scarcely surprising that the government has been able to keep within the DCG ceilings.

In some degree, the rapid growth of the NBFIs has offered an escape route for private borrowers unable to satisfy their credit needs through bank borrowings, and has thus limited the degree of crowding out. To the extent that this has happened, it has imposed a cost on the private sector in terms of the substantially higher interest rates that have been charged by NBFIs. Perhaps more to the point, though, is that the extent of private sector access to this escape route may have been quite limited, for we suggest later that a large proportion of NBFI lending has been to parastatals. Including NBFIs in our econometric tests for crowding-out actually strengthens our results, and it seems possible that their lending to the private sector may actually go down in periods of credit stringency. In principle, it is also possible that informal sector credit could have provided a safeguard against the effects of crowding out but we would be very surprised if it did so in practice, particularly as this relates to any other than the smallest businesses.

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[32] Indeed, the government's insistence that the NSSF buy government paper, particularly Treasury Bills, at sub-market interest rates, creates a strong conflict of interest with the Fund's obligations to maximise the returns on contributions received in order to be able to pay improved pensions and other benefits in the future. In the case of the POSB, the chief result is to limit its ability to offer attractive interest rates to its customers.

But while some crowding out has undoubtedly occurred we are less sure of its effects on the private sector. For one thing, it does not appear that really draconian credit restrictions have been imposed - it has rather been a matter of slowing-down the rate of expansion. It may well be that shortages of credit are for the private sector as a whole of secondary importance by comparison with difficulties created, say, by price controls or foreign exchange restrictions. Nevertheless, there is a strong presumption that crowding out has had some discouraging effect on the output and expansion of private enterprises, particularly among small-scale, locally-owned businesses and those seeking to become established for the first time. And, quite apart from crowding-out *per se*, the fact that credit to the private sector tends to be treated as the residual must increase the uncertainties and riskiness of business, again discouraging investment. All such effects would be strongly contrary to stated government objectives.

### III.6 Defining money and credit: the NBFIs

In the discussion of Table 2 we showed how the NBFIs had grown rapidly in the 1980s relative to the banking system proper, so that by end-1988 their deposit liabilities were equivalent to 52% of those of the banks. We further suggested that their operations were not very dissimilar from those of the banks, in that they too were operating at the short end of the credit market, and we raised the question of whether it might not be better for monetary management to include their deposit liabilities in a broad definition of money and to bring them within the CBK's credit policies. We now wish to take this issue further.

First, we undertook econometric tests of the proposition that NBFI credit is a substitute for bank credit by examining whether changes in their credit are competitive with or complementary to movements in bank credit. Alternative equations were fitted [i] with credit to the private sector and [ii] with total domestic credit as the dependent variables and with NBFI credit as one of the explanatory variables. Both were run on two alternative bases, in one case relating to credit from the entire banking system and the other confined to credit by the commercial banks. Unfortunately, continuous data series were available only for 1973-86 which, of course, restricted our degrees of freedom. The total 'explanations' of the various dependent variables were only moderately strong, with $R^2$s of between 0.34 and 0.60, but the results for the NBFI credit variable were consistent in all four tests.

The tests showed that bank and banking system credit to the whole economy and to the private sector were all negatively correlated with changes in NBFI credit, significant at the 20% level and in one case at the 10% level. Moreover, the coefficients in each case were close to unity[33], implying an approximately exact offset between credit from the two alternative sources. In other words, if the CBK seeks to reduce total commercial bank lending any reduction achieved is likely to be matched approximately shilling-for-shilling by an increase in NBFI credit.

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[33] 0.932, 1.145, 0.936 and 0.851 respectively.

Although we would have liked a longer time series to work with and would have wished for statistically more robust results, we regard this finding as important, for it implies that government credit control policies are likely to be undone if the NBFIs are left outside the control net. This policy conclusion is strongly supported in recent work by Ndele [1990], who obtained substantially stronger results when deposits with NBFIs were included in the definition of money, and who concludes (p.29) that, " ... conduct of monetary policy without considering NBFIs will be in error and is likely to provide uncertain results."

However, whether the NBFIs should be brought within the coverage of monetary policy remains controversial within official circles. Those who defend the present practice of leaving them outside argue that it is possible indirectly to control NBFI credit because to a substantial extent they are simply on-lending monies lent to them by the banks themselves and bank lending to NBFIs is counted within credit ceilings. However, this argument overlooks the fact that (as at end-1988) over three-quarters of total NBFI liabilities were to depositors, with only rather modest liabilities to the banks. It seems unlikely in this situation that mere control over total bank lending could prove an effective way of regulating the NBFIs, and that is what the results just reported confirm. If NBFI credit were controlled via the banks we would expect it to go up and down with bank credit, but we have found exactly the opposite. (We should also mention another argument that is used in defence of the present policies, namely that the NBFIs cannot be engaged in anything akin to money creation because they are not permitted to operate chequing accounts. This seems a very questionable argument. After all, the time and savings accounts of the commercial banks are similarly not chequing accounts but it is conventional in Kenya (as elsewhere) to use the M2 measure of money which includes these accounts. Indeed, if M2 is regarded as a useful measure of money then the strength of the analogy between these accounts and those of the NBFIs seems to us to add to the case of including the latter.)

In addition to the test reported above, we also examined the results of incorporating a broader (M3) definition of money, which includes NBFI deposit liabilities, in various of the other tests reported above. This also threw up some interesting results.

Recalling the earlier discussion of the influence of money on inflation (pp.20-22), we re-estimated our results using an M3 definition of money instead of the M2 reported earlier. The differences in the results obtained were not large, but they were consistently in the direction of providing a stronger explanation of inflation in Kenya. The $R^2$ was increased and so were the t-values of most of the explanatory variables. The influence of $\Delta M$ on inflation (significant at the 1% level for M2 and M3) was somewhat increased, with the coefficient value rising from 0.324 to 0.361. We also examined whether adoption of an M3 definition would change the stability of the correlation between money and inflation and found that it did so. Here again, then, we find support for the incorporation of NBFI deposits in the definition of M for the purposes of monetary policy.

The results of bringing NBFIs into the analysis of the influence of money on the balance of payments are set out in lines 4(a) and (b) of Table 3. We see there a non-significant tendency for changes in NBFI credit to weaken the balance of payments (reduce foreign assets) but a stronger (significant at the 10% level) positive relationship from foreign assets to NBFI credit. The salient thing about this result is that it is qualitatively identical to the results obtained for the commercial banks (see lines 1(a) and (b) - credit to the private sector is dominated by the commercial banks so these entries are, in effect, results for the banks). This result further strengthens the case for treating the operations of the NBFIs as analogous to those of the banks.

We also incorporated M3 into our research on the demand for money, although in this case the results pushed in a different direction (see Table 4). In this case the interest rate variable ceased to have significant explanatory power when the broader definition of money was used, with the presumption that depositors with the NBFIs do not perceive Treasury Bills as an alternative to their NBFI deposits. Moreover, the tests undertaken for the stability of the money demand function showed that instability was greater the broader the definition of money (although even for M3 it was still relatively stable). The policy implication of these results, then, was that the use of a narrow (M1) definition of money might be more suitable for monetary policy in Kenya if it was to be chiefly directed to manipulating the demand for money than either of the broader alternatives, although the results were not strong.

We further examined the consequences of incorporating the liquid assets of the NBFIs into our study of the behaviour of the money multiplier. The result was that it made no difference to the variability of k, with virtually identical coefficients of variation with either definition of H. What the inclusion of NBFI liquidity did do was to eliminate (in econometric terms) any tendency for negative correlation between $\Delta H$ and $\Delta k$. This follows from our other finding that NBFI credit tends to be negatively correlated with bank credit. In this case, if bank lending behaviour tends to produce a $\Delta k$ which is inversely related to $\Delta H$ the counter-cyclical activities of the NBFIs will tend to cancel this out. This suggests, in turn, that the task of predicting the consequences of a given change in H may be a little easier for the authorities if they use the broader definition. This assumes, however, that the NBFIs would still be allowed to operate in this counter-cyclical way.

Another topic on which we tested for the influence of NBFIs, was with regard to the crowding out hypothesis (see Table 6). Equations 3 and 4 of that table incorporate NBFI credit and we can see that the crowding-out variable is particularly strong (and significant at the 1% level) in these two equations. That is to say, inclusion of the NBFIs results in a particularly strong tendency for credit to the private sector to be reduced when banking system credit to the public sector goes up.

On the face of it, this seems at variance with the result reported earlier that NBFI credit is negatively correlated with bank credit. If that were the case, would they not tend to dilute any crowding-out, with frustrated private borrowers turning instead to the NBFIs? We do not pretend to have a firm answer to this but we can suggest a

hypothesis. Our understanding is that a great deal of NBFI lending is to parastatal agencies and, if so, they would not provide so much of an alternative for would-be private borrowers.[34] Moreover, a time of fiscal difficulty, when the government is making substantial claims for credit from the banking system, is also likely to be a time when the Treasury is particularly reluctant to provide subventions to meet the financial needs of ailing parastatals. If so, these agencies' credit needs and borrowings from the NBFIs would tend to increase in parallel with government requirements and counter-cyclically with the availability of credit to private borrowers. Depending on the relative magnitudes of the two influences, this might produce the complementarity effect reported earlier without alleviating the crowding-out effect. Indeed, it may strengthen it if the NBFIs reduce their lending to the private sector in order to meet the needs of the parastatals. The results in Table 6 imply that this is what happens. We stress, however, that this explanation is more a hypothesis than a research result.

### III.7 Special problems of commodity dependence

The project of which this Working Paper is part is addressed particularly to the special problems of monetary policy in countries dependent on exports of primary products. We have already shown that Kenya falls squarely into this category and that it is specially reliant on revenues from two commodities with particularly volatile world prices - coffee and tea. What now are the implications of this condition for the possibilities of monetary control?

The general answer can be stated briefly. Reliance on commodities with unstable world prices will bring volatility to export earnings and cause marked fluctuations in the condition of the balance of payments. In monetary terms, this will show up as unpredicted changes in NFAs. If we now refer back to our discussions of the influence of money on the balance of payments and of the behaviour of high-powered money, we envisage the following situation. Assume, first, that the beverage prices fall unexpectedly and induce a reduction in NFAs. We would predict from the relationships summarised in Table 3 that this would have some tendency also to weaken the government's budgetary situation and increase its requirements for credit from the banking system. However, we show $\Delta$DCP to be strongly and positively correlated with $\Delta$NFA, so the fall in external reserves will induce a cut-back in credit to the private sector, with DCG tending to increase. Whether or not it is feasible, or even desirable, so to manipulate DCP as to restore the previous payments position is a moot point, however. There is a practical limit on the extent that DCP can be squeezed without having unwantedly detrimental effects on output, particularly in the short run. There is no doubt a strong efficiency case for bringing in DCG and also manipulating that to achieve payments and other objectives. Leaving aside the politics of that, we have also pointed out some practical difficulties of treating DCG as if it

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[34] CBK data admittedly show a high proportion of NBFI credit as going to the private sector. We understand, however, that a good deal of lending to parastatals is, in fact, included in these statistics.

were a policy variable fully under the control of government. The main point, however, is that in the Kenyan system as it has worked over the last two decades DCP is the residual that bears the brunt of unexpected movements in NFA.

What if, instead of slumping, the beverage prices boom? In principle the process described above is reversible, but we need not remain with such general presumptions and can instead study what actually happened during the booms of 1976-77 and 1986 mentioned earlier.

In fact, the first of these was seriously mismanaged.[35] World coffee, and subsequently tea, prices rose steeply, due principally to a frost in Brazil, export earnings and NFAs rose steeply, greatly increasing the lending power of the banking system (NFAs went up by nearly half between end-1976 and end-1978). The political decision was made not to tax the windfall proceeds in order to neutralise their effects.[36] These were passed on to the farmers and there were large consequential increases in investment and imports. In the face of a boom which was obviously only temporary (being due to abnormal weather in Brazil) and large increases in NFAs, an appropriate, stabilising, response would in these circumstances have been to exercise fiscal restraint, in order to absorb purchasing power, and to raise bank liquidity ratios and take other measures to restrict the growth of DC (although whether it would have been feasible to do more than partially neutralise the expansionary impulses coming from the export sector must be doubted). In the event, no such attempt was made. The government embarked upon a huge increase in expenditures (mostly of a consumption nature) and took the view that DCP should actually be stimulated. Liquidity ratios were therefore lowered and DC rose by 76% in 1977-78. It was not until during 1978, when it was apparent that the boom was over, that an attempt was made to rein back on DC by raising liquidity ratios, but this had little effect.

Why the government should have acted in this way remains unclear. It is possible, however, that this episode illustrated a feature which is of long-term significance for the effectiveness of monetary policy, relating to the nature of Kenyan politics. It is generally believed that the decision to pass on virtually all the windfall gains to the farmers was taken personally by the then President Kenyatta. No doubt this was partly because the coffee and tea farmers are politically powerful, but it may not also have been unrelated to the fact that many key politicians and senior officials themselves own coffee and tea farms! More generally, it is a long-standing feature of public affairs in the country that those who are powerful in the apparatus of state are positively encouraged to be active in private business, notwithstanding the large potential for conflicts of interest. It may be, therefore, that the subsequent decision to stimulate credit to the private sector was in some way related to the strength of representation

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[35] On this see the major study by Bevan *et al.* [forthcoming]; and Bevan *et al.* [1989]. For a brief earlier analysis see Killick [1984, pp.179-80].

[36] In fact, a modest export tax was imposed late in the boom, but it absorbed only a negligible proportion of the windfall proceeds - and the revenue was, in any case, spent by government.

of private business interests in government - although we have suggested earlier that this has not prevented a long-run crowding-out tendency.

Be that as it may, the consequences of this episode were major and long-lasting. Despite import controls, a very large import boom was triggered which led as early as 1978 to a major payments crisis and left controls even tighter than they were at the beginning of the boom. The payments position was also more indirectly weakened by a relative rise in the price of non-tradeables. There were also serious fiscal effects. Government expanded its own spending dramatically during the boom years, when revenues were also very buoyant, but was then unable to scale them back again when world prices returned to more normal levels. A ratchet effect was at work. This was aggravated by the fact that the boom years had seriously weakened the control of the Treasury over the spending ministries and it was not until 1982-83 that this was properly restored.[37] Moreover, the increase in government current expenditures depressed private sector investment both by absorbing resources and by its destablising effects.

In a retrospective evaluation the CBK [1981, p.34] stated that the lesson to be learned from this episode was that 'next time a bonanza of the 1976 and 1977 magnitude occurs, the authorities would be well advised to pay out the resulting incomes to society gradually in an orderly manner rather than in one season as was the case at that time', (although Bevan *et al.* [1989] point out that in view of its low revealed marginal propensities to save and invest, it is not self-evident that the situation would have been improved by taxing off more of the windfall gains). This Central Bank assessment adds particular interest to the way the 1986 boom was handled. This was both smaller and shorter than the 1976-77 boom, with the world coffee price rising 'only' about 40%, against 310% in the 1970s, and with earnings from coffee going up by about two-thirds against a nearly fivefold increase in 1976-77. It should, therefore, have been an easier boom to sterilise, had that been the objective.

It was not, however. Although the windfall was again passed on to the farmers, *pace* CBK, the government seized the payments relief brought by the boom as an opportunity for freeing itself from the restrictions of an IMF programme and greatly expanded its own spending, which went up by 29% in FY 1986/87. In 1986 alone DCG rose by no less than 55%, to be followed by a 30% rise in the following year. Credit to the rest of the economy rose at far more moderate rates, although no credit ceilings were imposed and we are aware of no other attempt to engineer a restraint on credit to non-government borrowers other than the (rather unsuccessful) sale of Treasury Bonds reported earlier. Total M2 rose by 33% in 1986. Relative to the (much smaller) size of the boom, the expansion of DC and of imports was even greater

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[37] Bevan *et al.* particularly emphasise the longer-term effects of the boom through its weakening of Treasury control. However, it was not until the early-1980s that budget deficits really threatened to get out of control, and it seems implausible to attribute this to a delayed reaction to the coffee boom. Perhaps a stronger clue is provided by the fact that the holder of the office of Minister of Finance in 1980-83 did not reveal as strong a commitment to fiscal discipline as as his immediate predecessor or his successor.

than in 1976-77. In consequence, and as in the earlier episode, enlarged balance of payments difficulties reappeared, illustrated by a huge decline in international reserves during 1987.

As in 1976-77, the CBK and others advised the government to adopt a prudent, sterilisation approach, and once again that advice was largely rejected. It is, in short, difficult to see the 1986 boom except as again having been poorly managed in macroeconomic terms. There was one very important difference, however. It appears that most of the items on which the government so dramatically increased its spending in 1986/87 were of a one-off nature, with expenditure levels and budget deficits reverting to more normal levels thereafter. On this occasion there does not seem to have been a ratchet effect.

It is difficult to assess the extent to which the record of these episodes illustrates difficulties which are inherent in primary product dependence. If economic stabilisation is taken as the criterion, there clearly was serious mismanagement in both cases. It is less clear whether the government and CBK would technically have been able to sterilise the booms had they been minded so to do, for we have pointed out the difficulties - and potential costs - of using DC to offset impulses emanating from abroad.

# IV. POLICY CONCLUSIONS

## IV.1 A recapitulation

Let us now briefly recap the most salient points that have emerged above.

- The behaviour of monetary variables is important both for inflation and the balance of payments. Through its impact on these, and more directly through the influence of interest rates and credit policies on investment, money also impacts importantly on the real economy. The quality of monetary policy is therefore important to the performance of the Kenyan economy.

- We have found the income velocity of circulation not to be constant, to have some tendency to offset changes in money supply and, above all, to be unstable year-to-year. This latter aspect is particularly unfavourable for the effective use of monetary policy. A more fully specified model found the demand for money to be fairly stable but with an adjustment lag (representing the speed with which past discrepancies between the demand for and supply of money are rectified) of about one-and-a-half years. Such a substantial passage of time would render the short-term effects of monetary policy instruments highly uncertain. More favourable for effective monetary policy is our finding that money demand is elastic with respect to the rate of interest, although we view this finding as rather tentative only.

- We arrive at 'deeply pessimistic' conclusions about the ability of the central bank to manipulate the high-powered money base (H) for the purposes of controlling the overall supply of money, for it has scant control over the two most important determinants of H: the balance of payments and the credit requirements of government.

- We are also pessimistic about the feasibility of regulating domestic credit through the mechanism of the money multiplier (k), *e.g.* by varying bank reserve ratios. We found strong confirmation of earlier research results that k is unstable and that, in the short run at least, the credit creation decisions of the commercial banks are not very sensitive to variations in their reserve ratios, as conventionally defined. This is partly because statutory minima have consistently been below the levels that the banks wish to hold in any case for prudential reasons. A degree of control has been necessary, nevertheless, in order to conform to IMF ceilings and, so far as the private sector is concerned, this has chiefly been achieved by the imposition of credit ceilings. These, however, are an imperfect instrument, liable to have adverse efficiency effects.

- Examining the influence of the fiscal situation, we have shown that the overall budget deficit has a powerful impact on trends in domestic credit and money supply, and that this is true both of deficits financed by borrowing from the banking system and of deficits financed from external grants and loans. We have suggested, however, that the CBK has little influence over these determinants of the monetary situation, thus seriously weakening its ability to determine overall monetary outcomes. Finally, we have shown that the Treasury is apparently not in a position to give the CBK even approximately reliable estimates of what its financing needs are likely to be over the coming fiscal year, and that its estimates are over-optimistic.

- We have found evidence, econometric and other, that credit to the public sector is crowding out private borrowers. A variety of devices have been developed to secure involuntary lending by financial institutions to the state, and the use of credit ceilings in the face of large government credit requirements is a further important influence. Moreover, we found that the IMF has at least acquiesced in this process, with more generous provisions for credit to the government than for total domestic credit. How important this credit squeeze has been as a constraint on private enterprise development is a matter for further investigation, however.

- Although there is still much to learn about the behaviour and consequences of NBFIs, several of our tests indicated that they were similar in their effects to the banks. We found that overall their credit tends to act as a substitute for bank credit; that including them in our tests for inflation gave us stronger and more stable results; that the nature of their impact on the balance of payments is similar to that of the banks; and that their inclusion in our tests on crowding-out also strengthened our results. Only in one respect did our results point in a different direction: in finding that a narrow definition of money provides a better basis for predicting the demand for money. The results reported above utilised an M2 definition of money, not least because it is this magnitude to which policy is directed. The results obtained are generally satisfactory, but in most cases are stronger when re-worked on an M3 definition.

- Finally, we have considered the consequences for monetary policy of Kenya's dependence on coffee and tea exports. Given the volatility that this imparts to the foreign assets of the banking system, we doubt whether it would be feasible, and perhaps not desirable, so to manipulate the domestic asset component of H as to neutralise the instability of the foreign asset component. More firmly, we have shown that stabilisation objectives tend to be abandoned during commodity booms; and that the two most recent ones have been seriously mismanaged from a stabilisation standpoint.

What now are the inferences that might be drawn from these findings for the improvement of policy?

## IV.2 Strengthening policy

Since we have shown that monetary variables have an important influence on the behaviour of the economy, monetary policy should be as effective as feasible. The general nature of the changes that would be necessary for policy to become more effective can be inferred from the foregoing: greater short-run stability in the demand for money; greater stability in balance of payments outcomes (possibly through a successful export diversification programme); a more predictable commercial bank response to changes in their liquidity, or the development of better ways of regulating bank lending; improved forecasting of budgetary out-turns and a generally lower public sector borrowing requirement; steadier government adherence to the precepts of macroeconomic management. Assuming for the moment that the government wishes to pursue an active and effective policy, it is worth considering in a little more detail specific steps which the government might take to this end.

So far attempts to use monetary instruments have been directed almost exclusively at manipulating the supply of money or credit, but a possibility that is today less academic than it used to be is to seek to operate on the demand for it. If this were feasible, it would cut through many of the difficulties that stand in the way of controlling supply. The principal possibility here is for an active use of the interest rate weapon in order to raise or lower the opportunity cost of holding money. Even though we are not very confident about our results on the demand for money, they do indicate that this demand is interest elastic. If so, when, say, there was an excess supply of money it would be possible to reduce this by lowering interest rates; with the reverse possibility in the case of an excess demand.

Kenyan conditions would have to change in a number of respects for such a possibility to become a reality, however. Capital markets would need to be further developed so that the public would have available a wider range of financial instruments, which would have to be readily marketable, so as to increase the interest-elasticity of money demand.[38] Interest rates would probably have to be de-regulated, or at least allowed to move over a wider range. And the government's own dependence on borrowings from banks and financial institutions would have to be restricted more than it is at present.

It is, in any case, unlikely that the tasks of monetary policy could be achieved simply by influencing money demand. The need would remain also to operate on supply, but

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[38] It is, as noted earlier, government policy to encourage the development of the capital market. There has been at least one major report on that subject and the government currently has a financial sector adjustment loan agreement with the World Bank for this purpose.

we have shown that at present there are many obstacles to the accurate control of M. How might control be strengthened?

One possible avenue would be to try to exert greater leverage over k by operating more effectively on the banks' reserve base. Although at the time of writing there are statutory minimum cash and liquidity ratios, we have shown that these have rarely, if ever, been raised to levels at which they begin to affect the lending decisions of at least the major banks, whose voluntary prudential reserves are usually greater than the minima laid down by the CBK. One simple proposal, therefore, is to raise them above prudential levels until they bite. An important obstacle here is that the banks are of unequal financial strength, so that to enforce minimum ratios well in excess of prudential levels could embarrass some of them. However, we cannot think that this could be a more than temporary difficulty, especially if sensible transition arrangements were made. It is, in any case, a difficulty that would be reduced if interest rates were freed, for it is likely that the underlying lending rate would then rise and with it bank profitability.

We should also like to recall Kanga's [1985] suggestion that liquidity be redefined by the CBK to include only those types of asset which the banks themselves regard as liquid, which boils down to excluding Treasury Bills from the present definition. Treasury objections that this would cut off a badly-needed source of deficit financing could be met - if they had to be - by additionally requiring the banks to hold certain minimum levels of Treasury Bills which, however, would be treated as an 'above the line' bank asset rather than as part of their reserves.

A further policy change suggested by our results is that they have established a strong *prima facie* case for bringing the NBFIs within the definitions of money and credit for the purposes of monetary regulation.[39] This follows directly from our findings on the NBFIs so we will not elaborate on it here. Indeed, we would go further to suggest that if this were done, and given the greatly strengthened powers of CBK supervision that now exist, the present prohibition on NBFIs offering chequing facilities should be lifted. This would widen the range of choice open to the public and strengthen competition in a banking system still dominated by an oligopolistic cartel of the three major banks.

The development of the capital market advocated above would throw open another possibility: of manipulating bank liquidity (and interest rates) by means of open market operations: the purchase and sale of financial instruments by the CBK intended to influence the liquidity of the financial system in the pursuit of monetary objectives. Were it possible to move in these directions and in this way to increase CBK control over aggregate bank lending, it would simultaneously be possible gradually to move away from the present reliance on clumsy and inefficient quantitative credit ceilings.

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[39] See also Ndele [1990], who reaches the same general conclusion.

We showed that such ceilings were one of the principal instruments by which the crowding-out of the private sector's credit demands has been achieved. In principle, moving away from them should reduce crowding-out (assuming that to be desirable). Without some downward shift in the government's demand for credit, however, this advantage could prove illusory. If the capital market developed and interest rates were freed without any such shift in the government's demand, its continuing large appetite for funds would drive interest rates to high levels and would crowd out the private sector through that mechanism instead.

One of the strongest messages emerging from our research is: the budget dominates. Given some limit on the extent to which it is possible and desirable to accumulate further external debt, and in the absence of any major expansion of capital markets, allowing the government to undertake more non-expansionary borrowing, continuation of the large overall budget deficits that marked most of the 1980s would effectively remove the possibility of a meaningful monetary policy. A strengthening of the fiscal situation (which would surely involve a rise in the tax ratio) is a pre-requisite for a stronger monetary policy.[40] In addition to narrowing the budget gap, we have additionally pointed to the desirability of improving the predictability of budget outcomes and, especially, of removing the systematic over-optimism that mars the annual budget.

A reconsideration of the constitutional position of the CBK has also been suggested, with a view to reducing or removing its subordination to the Treasury and to increasing its independence, on the models of the Bundesbank in West Germany and the Federal Reserve authorities in the USA. In principle, this would allow the CBK to limit banking system credit to the government, thus forcing the government to strengthen fiscal policies. However, such a suggestion is open to the charge of naivety in a highly centralised political structure and we doubt whether realities in Kenya will develop in ways which make an independent central bank a serious option.

We have mentioned earlier that there is a government commitment to the development and liberalisation of the financial system. Perhaps surprisingly, when this occurs it is likely to widen the possibilities of monetary control. The CBK [1989, p.60] has remarked that, 'there are signs that direct controls such as ratio requirements, interest rate controls, exchange controls and lending guidelines are gradually becoming less effective as policy instruments' as the financial system becomes more diverse and sophisticated. The controls are easier to evade and attempts to close loopholes are only partly successful, as well as causing misunderstandings of government intentions. 'It seems inevitable', the CBK states, that they will be moved instead towards more market-based interventions. The government's important Sessional Paper No. 1, 1986 (p.34) similarly states that 'monetary policy will continue to move towards greater reliance on market forces.'

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[40] Action may well also be necessary to strengthen the finances of parastatal agencies and thus reduce their credit requirements. We have been unable to get much information about this important aspect of the monetary situation.

This commitment notwithstanding, officials and politicians continue to see major obstacles in the way of movement in this direction. One is that some of the more fragile existing banks and NBFIs might find it hard to survive in a more competitive domestic climate. Their bankruptcy could both cause political embarrassments and set back the development of the financial system itself. The most important obstacle, however, is the universal expectation that freer interest rates would mean higher rates. Among the unwanted consequences of this would be:

- Its possible stagflationary effect, as described earlier, and the likelihood that this would have particularly adverse consequences for small, Kenyan-owned businesses.

- The costs to the Treasury of its own borrowing would rise, adding to claims on government revenues.

- There are fears that the dominant major banks would collude to raise rates above free market rates. (More generally, the oligopolistic nature of the banking system weakens the case for a purely market approach.)

- Some politicians and other 'influentials' are net borrowers who gain from the present artificially low interest rate structure.

This brings us straight back to the dominance of the budget. The reason why it is reasonable to expect that rates would rise if they were freed is that there is excess private sector demand for credit at present rates. This excess is a consequence of the crowding-out already described, resulting from the budget deficit. Were the government's own borrowing requirements to be reduced the net result of liberalisation on the rate structure is indeterminate. In other words, the government's desire to liberalise and move towards market-based rates is inconsistent with its own present fiscal stance.

However, even with the present credit requirements of the public sector we doubt whether liberalisation would send interest rates through the roof. The NBFIs have, after all, acted as a safety valve, as lenders of second resort, and their rates (in recent years) have not been enormously higher than those of the banks proper. Moreover, the scale of the excess demand mentioned to us by the banks was relatively modest, with a number of them saying they would increase their lending by about 12% in the absence of restrictions.

Even if all our suggestions were adopted, however, there would remain severe limitations on what it is reasonable to expect of monetary policy in Kenya. The obstacles in its way, summarised in the previous section, are formidable and could give way only slowly. For the foreseeable future, the use of monetary instruments to 'fine tune' the economy is out of the question, not least because of the lengthy adjustment lags. Probably the most that it is realistic to hope for is to mitigate the larger

destabilising influences and to provide a useful supplement to the more powerful tools of fiscal policy.

Given existing circumstances, there is very little indeed that monetary policy alone can achieve in the management of the economy. In this connection, we are sceptical about the economic rationale in Kenya for the stress placed in IMF programmes on the control of DC in pursuit of balance of payments goals. Our results suggest that it is a considerable over-simplification to regard DC as a variable which is under the control of the authorities. We have suggested that instability in the velocity of circulation and adjustment lags makes the short-term macroeconomic outcome of changes in money supply rather unpredictable. Lastly, we have shown the relationships between DC and the balance of payments to be rather complex. On the other hand, our results are strongly supportive of programmes that see the limitation of the government's budget deficits as of key importance to the balance of payments, although in practice the Fund's ability to influence them seems rather confined.

Finally, we turn to the government's policy objectives. We made the distinction earlier between monetary policy, concerned primarily with the macro management of the economy, and financial policy, which we defined as being intended to ensure that economic agents have as wide as possible a range of financial services available to them. In confining ourselves to the former we were implicitly assuming that macro-management was important among the policy objectives of the Kenyan government. Such an assumption may not be fully justified, however, for we have seen that monetary policy, in the sense of an official view of the desirable extent of the expansion of M and DC, exists only at times when there are IMF programmes (which, admittedly covers almost all the 1980s) and has been effectively abandoned during the two major commodity booms of recent history. Moreover, we suspect that during the currency of a Fund programme the operative monetary ceilings were largely defined by the Fund rather than the government, even though it no doubt argued its own view during negotiations. It is thus perhaps not stretching things too far to ask whether there has ever been a national monetary policy, in the sense of one principally defined by the government. To explain this it may be necessary to go well beyond our own professional expertise, to delve into the nature of Kenyan politics. As suggested earlier, it is possible that the interests represented within the ruling party stand in the way of action in this area, particularly the heavy engagement of key public figures in private business. At the same time, the party is able to adopt restrictive credit policies without any great drama when under pressure from the IMF to do so, so it is not obvious that political realities foreclose the possibility of an effective national policy.

Observing the record of the 1970s and the beginning of the 1980s, one of us made the following comment [Killick, 1984, p.212]:

> *The Kenya government has yet to demonstrate a steady adherence to the objective of economic stability . . . It is important here not to confuse the conservatism and responsibility which has generally characterised government*

*policies with the conscious pursuit of policies for short- and medium-term economic management.*

That conclusion seems to us to be no less valid now than when it was written. If that is accepted, it is obvious that there can be no question of an effective monetary policy unless and until the government raises the weight which it attaches to the type of objective which monetary policy can help to achieve. We hope it will do so because we cannot think that the national interest is best served by leaving an important set of policy instruments essentially in the hands of an external agency, however well intentioned that may be.

## APPENDIX: SUGGESTIONS FOR FURTHER RESEARCH

In writing this paper we have been conscious of the large *lacunae* that remain in our understanding of monetary processes in Kenya. It may, perhaps, help to put our own efforts into perspective to set out some of the topics on which we think further research would be particularly valuable.

1. **The NBFIs:** There is much more to be known about the nature and consequences of these, and their negative definition - non-banks - does not provide much illumination. What kind of business do these institutions actually undertake? To what extent are they providing near-bank services? Is any kind of credit multiplier involved or is their lending really controlled via the commercial banks, as some argue? If credit creation is involved, on what base and how large is the multiplier?

2. **The parastatals:** We have been able to say very little about the flow-of-funds situation of the non-financial parastatals. Would it, for example, be better to treat the public sector (government plus parastatals) as a single entity for the purposes of monetary analysis? What relationships exist between their credit needs and the fiscal situation? Is it the case that many of their credit needs are met by NBFIs and, if so, what are the implications of this?

3. **Portfolio decisions of savings institutions:** It appears that the NSSF and the POSB exert a strong influence on the workings of the system through their portfolio decisions and, in particular, that they are powerful instruments for involuntary lending to the state. Are these perceptions correct? How do these agencies make their portfolio decisions - or are they simply dictated by the Treasury?

4. **Demand for money:** We think there is much scope for further work on the demand-for-money function, to test the validity of our work and to explore the possible amenability of this function to policy manipulation.

5. **Modelling:** The various aspects of our econometric work (as elaborated in Mwega, forthcoming) could be regarded as building blocks for the construction of a comprehensive policy-oriented monetary model of the Kenyan economy. It could be valuable to see how the various aspects of the system interact in a more formal framework and to see whether additional policy insights could be derived therefrom.

6. **Real effects:** It will be evident from a reading of this Working Paper that there is ample scope for much additional work on the effects of monetary variables and policies on the 'real' economy, *e.g.* for the quantity, productivity and nature of investment. This would include investigations of the consequences of the

crowding-out which has been such a recurring theme of this paper, and of the consequences for output and investment of the use of quantitative credit ceilings.

7. **Informal sector:** We have been unable to say anything at all substantial about the significance of informal financial arrangements and this is a wide open research field. Our interest is particularly in the macro effects of the informal financial sector but no doubt this would have to be preceded by the collection and analysis of basic information about how this sector works, who it caters for, the scale of its transactions, *etc.*

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