



**ORGANIZATION FOR SOCIAL SCIENCE RESEARCH
IN EASTERN AND SOUTHERN AFRICA
(OSSREA)**

**Monetary and Fiscal Actions: A Test of Their
Relative Importance in Economic Stabilization in
Tanzania**

A. L. Kilindo*
(Submitted in ?)

Research Report Series No. 8

October 1996

P.O. Box 31971, Addis Ababa, Ethiopia
Tel 119705, Fax 551399

* Economic Research Bureau, University of Dar Es Salaam



519990084

On OSSREA's Research Report Series

The Organization for Social Science Research in Eastern and Southern Africa (OSSREA) has been running two research competitions - the Social Science and Gender Issues Research Competitions - for a number of years now. Winners of these competitions are required to submit their findings in the form of final research reports.

This Research Report Series presents papers selected from these reports and is intended to disseminate the results to a wider audience. The papers are published unedited as submitted by the authors and errors that remain are the sole responsibilities of the authors. Also the views expressed in the papers are those of the authors and do not, in any way, reflect those of the Organization.

TABLE OF CONTENTS

Abstract.....	i
1. Introduction.....	1
1.1. Introductory Remarks.....	1
1.2. Background to the study.....	2
1.3. Statement of the Problem.....	5
1.4. Purpose and Significance of the Study.....	6
1.5. Organisation of the Study.....	9
2. A Brief Background of the Tanzanian Economy.....	9
2.1 General Features of the Economy.....	9
2.2 Trends in Economic Performance.....	11
2.2.1 The real sector.....	11
2.2.2. The monetary sector.....	14
2.2.2.1 The Trends in the Tanzanian Money Stock.....	15
2.2.2.2. Money Supply Determination.....	18
2.2.3 The Government Sector.....	20
2.2.3.1. Government Expenditure.....	21
2.2.3.2. Recurrent Expenditure.....	23
2.2.3.3. Development Expenditure.....	23
2.2.3.4. Government Revenue.....	24
2.2.3.5. Government Deficit.....	25
3. Literature Review.....	28
4. Methodology.....	31
4.1 The macro-variables.....	32
4.2 The Regression Models.....	33
5. The Empirical Findings.....	34
6. Conclusion.....	36
6.1 Summary.....	36
6.2 Policy Implications.....	36
6.3 Limitations.....	37

Abstract

This study has assessed the potency of monetary and fiscal actions in economic stabilisation in the Tanzanian Economy. The analysis used both statistical and econometric procedures. It has been found from statistical analysis that monetary and fiscal actions are closely related bringing about an identification problem on whether which of them is actually in operation. This has been seen to arise from the money supply process where by claims on government on the central bank play a major role. This again is a result of an underdeveloped financial system forcing the absence of open market operations and therefore reliance on banks as a source of filling the government budget deficit.

In such circumstances, fiscal actions and monetary actions are out of control of the authorities as government expenditure has not grown proportional to tax revenues. Fiscal actions have therefore been among the destabilizing factors in the economy as far as inflationary pressures are concerned. For purposes of comparison, reduced form equations relating changes in selected monetary variable and fiscal variables were run to test the potency of both actions. Results indicate that both policies cause growth of nominal GDP, but fiscal actions are supreme to monetary action as hypothesized.

These conclusions should however be taken with caution. This is because of the observation above, that fiscal actions in an economy with an underdeveloped money market would be destabilizing as due to their impact on monetary growth, which brings about inflation. In that regard, reduced form models render themselves inadequate, calling for structural modeling of the monetary sector.

1. Introduction

1.1 Introductory Remarks

Monetary and fiscal policies are the two broad categories comprising macroeconomic policy. However, there is still controversy among economists on the definition of these two terms. Monetary policy is defined by some economists as all monetary decisions, irrespective of whether their aims are monetary or non-monetary, and all non-monetary decisions and measures that aim at affecting the monetary system. Johnson (1962), defines monetary policy as a policy employing the central bank's control of the money supply as an instrument for achieving certain given objectives of economic policy.

Fiscal policy is defined by Bluchler (1974) as the use of public finance or expenditure, taxes, borrowing and financial administration to further national economic objectives. However, Smithies (1949) refers to fiscal policy as a policy which government uses in its expenditure and revenue programmes to produce desirable effects and avoid undesirable effects on national income, production and employment.

In aspiration towards the achievement and maintenance of full employment, balance of payments equilibrium, accelerated economic growth and development, governments have pursued these broad policy goals through the application of either fiscal or monetary policy or by the simultaneous utilization of the two mutually complementary economic policies. Despite the general agreement among economists that both monetary and fiscal policy individually or jointly affect the level of economic activity, the degree and relative superiority of one of these policy measures over the other in influencing economic activity has been a subject of prolonged and heated controversy among economists and policy makers.

Classical economists accorded prominence to the relative superiority of monetary policy until it was swept away after Keynes (1936) which marked the beginning of the "Keynesian Revolution" with its emphasis on fiscalism. Fiscal policy was then regarded as relatively more potent and reliable for economic stabilisation. This belief met a strong opposition from Milton Friedman and other renowned

economists who launched the "Monetarist Counter Revolution". This group challenged the fiscalists to an empirical study test to ascertain the relative importance of fiscal and monetary actions in economic stabilisation. Friedman and Schwartz carried out comparative statistical tests to see whether the Keynesian Income-Expenditure model predicted better for the US. Their findings were that changes in the behaviour of money stock have closely been associated with changes in economic activity, money income and prices; the interrelation between monetary and economic changes has been highly stable; and monetary changes have often had an independent origin and they have not been simply a reflection of changes in economic activity. This revived monetarism, professing the relative efficiency of monetary policy.

More theoretical and empirical interest has been shown in the area since the advent of the "Monetarist Counter Revolution". However, most of the studies which have undertaken an attempt to resolve the controversy were concentrated on experiences of developed countries. Such studies include those by Friedman and Meisman (1963); Dee-Leeuw and Gramlich (1969); Andersen and Jordan (1968); Corrigan (1970); Teigen (1975); and Lybeck and Teigen (1975), to mention but a few.

In developing countries the studies to our knowledge are those by Ajayi (1974); and Ubogu (1985) Tanzania, having experienced some economic shocks has applied both of the policies in order to achieve economic stability.

1.2 Background to the Study

Since 1979, Tanzania has been affected by serious economic problems. They affect all sectors of the economy and have required several structural adjustment measures. There are three major macro-economic manifestations of the crisis:

- (1) extreme shortage of foreign exchange;
- (2) very large budget deficits; and
- (3) imbalance between productive and non-productive activities.

All these are closely associated with large balance of payments deficits, high rates of inflation, declining domestic savings, growing government expenditures, falling agricultural production, decreasing utilization of industrial capacity, poor transportation infrastructure and difficulties in maintaining high levels of social services.

The government's response to the crisis came in 1981 with the launching of the National Economic Survival Programme (NESP) (UTR 1981). The main elements were geared towards both internal and external balance restoration. Monetary and fiscal measures were among the elements of the government attempt towards economic stabilization¹. Monetary policy consists of actions by the government aimed at achieving stability of employment and prices, economic growth, and balance of payments through control of the monetary system and by operating on such monetary magnitudes as the money supply, the level and structure of rates of interest and other conditions affecting the availability of credit. Money supply exerts influence on aggregate output through changes in interest rates liquidity and availability of credit.

On the other hand, fiscal policy is concerned with the taxing and spending actions of the government. Government devices include variation in tax collections and variations in expenditure levels and subsidy levels. Consequently through budgetary manipulation fiscal policy exerts its influence on aggregate demand via its impact on output, employment, savings, investment and other fiscal variables.

It should however, be noted that in a country like Tanzania there is a very close relationship between fiscal policy and monetary policy. This is due to absence of a well developed financial system and the bulk of government deficit is financed through borrowing from the Central Bank. As a result, any actions by the government that aim at controlling expenditure so as to balance the budget would have an implication on money supply growth.

In NESP money supply was to be restricted to a growth rate of 20% while government expenditure control was enhanced.

By 1982 the aspirations of NESP were not forthcoming, thus prompting the government to launch another programme, the structural adjustment programme

(SAP) for three years i.e. 1982/83 - 1984/85 (UTR 1982). The SAP had four main objectives:

- to reduce the rate of inflation through adjusting the government's budget to levels consistent with the growth of the national economy;
- to achieve a balance of payments adjustment;
- to achieve an increase in the productivity of parastatal enterprises and an improvement in public sector management; and
- to maintain equity in income distribution.

By 1986, the internal and external economic imbalance continued in the economy. The government launched, still another programme, the Economic Recovery Programme (ERP) with a mix of measures such as exchange rate adjustment, price and interest rate changes, credit and budgetary controls (UTR 1986).

From the above it is seen that both monetary and fiscal policies have been used as part of the adjustment programmes. This shows recognition by policy makers of the effect of monetary and fiscal measures on economic activity. However, the degree, timing and relative superiority of one of them or components of each on economic activity has still been an issue of doubt. This is evident by the fact that some of the measures taken had negative impact on the economy which were not aspired.

Taking the evaluation of the ERP as a case in point, the government has successfully carried through its commitment to adjust the exchange rate, improve incentives, control the growth in government budget and government borrowing from the banking system². However, government has been less successful in keeping control over the impact of the policies as the expected results among sectors have varied. While agriculture, and industrial output have experienced some revival, some industrial firms have had their difficulties increased due to devaluation and credit tightening.

Policy makers, therefore, are faced with the problem of identifying the policy measure that exerts a greater impact on the economic activity of the country.

Lack of this identification might result into causing undesirable changes in economic activity that are likely to result from wrong choice of a stabilisation instrument.

1.3 Statement of the Problem

Tanzania is a typical LDC with the most significant feature of economic dualism, that is, the coexistence of a modern sector and a traditional sector within the economy. The modern sector may be identified with the exchange economy (the monetized sector) and the traditional sector with the subsistence economy (non-monetized sector). The monetized sector is again divisible into the organized and unorganized market. A significant part of national income originates in the non-monetized sector. The predominant sources of non-monetized income are agriculture, small enterprises, households, property and domestic services.

The organized money market consists of institutional agencies of credit. These are the Bank of Tanzania (the central bank), the National Bank of Commerce and the People Bank of Zanzibar (Commercial banks); the Cooperative and Rural Development Bank; and financial intermediaries such as insurance companies and long-term lending institutions, the Tanzania Investment Bank and the Tanzania Housing Bank. These are also credit societies in urban and rural areas.

The Bank of Tanzania which is at the apex of the superstructure apart from its central banking functions, exercises the roles of internal and external monetary management and that of fostering development albeit in a limited way. The commercial banks and near banks are engaged in mobilising savings by accepting various types of deposits. The Tanzania Housing Bank finances investment in building construction and related areas while the Post Office Saving Bank invests only in government securities.

These developments in the financial institutions are in accordance with the importance of financial development in fostering economic development. However, the above objective can only be possible if the relevant variables in the extent of economic growth-money supply and government expenditure - is well analysed as far as their role in influencing economic activity and all aspects related to that. Therefore, the problem facing the authorities is (1) lack of control of monetary expansion; (2) uncertainty on the effectiveness of the components of

money supply on economic activity; (3) lack of knowledge on the incidence of money among different sectors (4) doubt on the transmission process of monetary influence and (5) lack of knowledge on the magnitude and timing of a change in money supply and government expenditure on economic activity. The same problems apply to fiscal measures.

Due to the above problems the authorities have applied different ways of influencing the economy by changing the relative quantities of the components of money supply and fiscal measures. For example, in 1986, a credit squeeze was applied. The consequence was that some industries' liquidity problems were highlighted, despite some improving their performance.

In summary the problem is to identify exactly what role monetary and fiscal measures play in the economy and what components of the money stock and fiscal actions are more influential in stabilisation of the economy.

The problem under investigation is therefore:-

- (1) the role of monetary and fiscal measures in influencing economic activity;
- (2) a comparison among different measures of monetary and fiscal actions on economic activity; and
- (3) relationship between monetary and fiscal actions in the economy;

1.4 Purpose and Significance of the Study

A number of developments in the field of monetary theory occurred in the fifties and sixties, three of which are silent in discussing the role of money in developing countries (LDCs). First was the formulation of monetary theory as a part of capital theory which treats money as an asset, that is an alternative to other financial and real assets. This capital theoretical approach to monetary theory stresses substitutions among assets and view monetary policy as operating initially by changing the relative quantities of money and of other assets, these alterations in turn causing changes in the rates of return on these securities and eventually influencing the demand for real assets Johnson (1969). The demand

for money has also developed along the same lines as the demand for other assets, commodities and services Friednab (1976, 1971).

With this development, there was the integration of monetary theory with the theory of economic growth. This inspired a number of growth models in which the role of money is explicitly incorporated. These growth models of Keynesian and neoclassical nature show that changes in the growth rate of money supply do influence the time profiles of the capital labour ratio; the real wage rate, and the real rate of return on capital.

The analysis of the nature of connection between financial development and economic development by the pioneering work of Gurley and Shaw was the third development. Gurley and Shaw and elaboration of their work by others showed that financial development (1) encourages savers to hold their savings in the form of financial rather than unproductive tangible assets; (2) ensures that real investment is allocated efficiently to the socially more productive uses; and (3) provides incentives to increased savings, investments and production. The policy implication of financial development in LDCs is that policy makers should encourage the proper formation and expansion of financial institutions³.

These developments in monetary theory would call for attention to the role of money in LDCs like Tanzania. There have been impressive developments in the economy of Tanzania but little attention appears to have been given to the role of money. Most economists would probably accept the general proposition that monetary expansion will not only create inflationary pressure and cause the balance of payments to deteriorate but also, particularly when it is unanticipated, increase real income. However, the actual operation of the transmission mechanism in developing countries and the relative size and timing of the effects of a change in policy are a matter of considerable doubt.

There is now an extensive literature on some of the more important individual relationships. For example work has been done on the links between monetary growth and inflation, and between money and the balance of payments (Patrick 1966).

There has been no formal analysis of the effects that a stabilization programme may have on the economy. Broadly defined, a stabilisation program (or financial

program) is a package of policies designed to eliminate disequilibrium between aggregate demand and supply in the economy, which typically manifests itself in balance of payments deficits and rising prices⁴. Thus the fundamental objective of a financial programme is to find a suitable relationship between resource availabilities and needs that causes minimum strain on the internal price level and produces desired balance of payments result.

While there is a fairly defined relationship between money, the balance of payments and domestic prices in which the supply and demand for money play a central linking role, the effects of policies on the real sector are treated less explicitly.

It is difficult to say apriori whether a given programme will have undesirable consequences for growth and employment, something that has worried policy makers and academic economists alike.

The purpose of this study is to make a statistical analysis of monetary and fiscal developments in the economy and latter apply reduced form model to compare the efficacy of monetary and fiscal actions in economic stabilisation. Our main target is the impact of monetary and fiscal actions on economic activity.

This study is expected to contribute to policy making by enabling policy makers to identify the policy measure that exerts a greater impact on the economic activity of the country. This is important so as to prevent undesirable changes in economic activity that are likely to result from a wrong choice of stabilization instruments.

Monetary and fiscal policies exert their influence on aggregate demand via their impact on output, savings, investment and other variables. A comparative test would help to see whether changes in the behaviour of money stock and fiscal measures have closely been associated with changes in economic activity.

Tanzania as pointed above, suffers from twin problems of inflation and increasing unemployment. These problems are more pronounced because of the inadequate and underdeveloped economic and financial institutions. Poor fiscal and monetary management exacerbates the problems. As a result of the inadequacies, the country finds it difficult to predict and estimate accurately the impact of these

policy instruments on key economic variables. The relevance of the ensuing study therefore lies in the light it will shed on the potency and dependability of each policy measure.

1.5 Organisation of the Study

The rest of the study is organized in five sections. Section 2 gives a background of the economy on the real, monetary and government sectors. Major policy components, i.e. money supply and government expenditure and revenue are covered in detail. In the third section a review of literature on our subject of study is briefly summarised. The fourth section deals with the method of analysis. Section five the empirical findings and the last, conclusion.

2. A Brief Background of the Tanzanian Economy

2.1 General Features of the Economy

The United Republic of Tanzania was born in 1964 when the People's Republic of Zanzibar merged with the Republic of Tanganyika (referred to as Mainland Tanzania). The economy is characterised by a large traditional rural sector and small urbanised sector. The rural sector is concerned with the growing of food and cash crops while the urban sector is concerned with manufacturing and service activities. In addition to export crops, the agricultural sector produces a bulk of raw materials for domestic industry. Industry is a source of supplies of some inputs for agriculture as well as consumer goods for the rural population.

The openness of the economy is greatly reflected by the fact that most economic activities, cash crop farming, manufacturing, mining, transportation and construction activities rely heavily on imported inputs. At the same time foreign exchange earnings depend on the export performance of a small group of primary commodities. Such developments like slumps in commodity prices and steady deterioration of terms of trade have very negative repercussions on the economy.

Agriculture currently contributes more than 40 per cent to GDP and 83 per cent of agricultural production is carried out by small farmers on privately owned plots averaging less than 2.2 hectares and relying mainly on manual labour and hand

implements. Major food crops include maize, rice, wheat, cassava, millet, beans, sorghum, bananas, a variety of vegetables, fruits potatoes and other root plants (Maro *et al* 1990). Export crops comprise coffee, cotton, sisal, tobacco, tea, cashnut and pyrethrum which together account for more than 75 per cent of total foreign exchange earnings⁵. Low level of technology, insufficient supply of inputs and tools and poor agricultural infrastructure make the large potential for expanding crop production remain unexploited.

The mining sector, mainly diamonds, contribute 0.5 per cent to GDP and 7 per cent to foreign exchange earnings. The share of manufacturing activities in GDP declined from about 12 per cent in the late 1970s to less than 5 per cent. Consumer goods industries; food, beverages, tobacco, textiles, garments and shoes account for about 10 per cent of industrial value added. Due to high import content and foreign exchange shortage most industrial plants do operate well below capacity for lack of needed raw materials. Those industries based largely on local raw materials have also suffered from shortages of intermediate inputs and spare parts.

Developments expenditure has a high foreign content, despite government efforts to reduce it by trying to mobilize domestic savings through the financial system. The financial system consists of the Bank of Tanzania as central bank and the National Bank of Commerce as the main commercial bank. Other financial institutions exist for more specific services. They include Cooperative and Rural Development Bank, the Tanzania Investment Bank, the Tanzania Housing Bank, the Post Office Savings Bank, the National Insurance Corporation, the National Provident Fund and the Tanganyika Development Finance Co. Ltd.

The Bank of Tanzania has the sole right to issue the only legal tender, bank notes and coins; it is banker to the government in that it receives and effects payments on its behalf and may make direct advances to it and purchase Government Treasury Bills or Securities within limits specified in the Act. It also acts as banker to banks and to other financial institutions. It has control over banks and financial institutions which include the power to regulate rates of interest on deposits and the volume, allocation and terms and conditions of credit extended by banks and financial institutions. The bank has the responsibility to maintain external monetary stability and an adequate level of reserves and external assets.

Laws related to controls on imports, exports and foreign exchange transitions are administered by the Central Bank.

The bank has also a positive promotional and developmental role. The bank is required to engage in the promotion of rural development, industrial and agricultural production through the provision of financial facilities to banks and designated financial institutions; the guaranteeing of loans made by the financial institutions; the provision of training facilities; and the supervision and inspection of banks and financial institutions.

2.2 Trends in Economic Performance⁶

2.2.1. The Real Sector

Since the mid seventies the economic performance of Tanzania has declined steadily. This is indicated by declining real GDP, large fiscal deficits,⁶ balance of payment deficits, rapid monetary expansion beyond planned levels, declining real per capita income and high rates of inflation. Terms of trade have been deteriorating coupled with severe droughts and as a result export earnings have declined. With her outside dependence, import strangulation hit local industries as most depend on imported raw materials and spare parts. This led to further decline in production and shortage of consumer goods.

During the years 1980/81 and 1982/83 negative real growth rates were experienced for the first time. For the period 1964-70 and 1970-78 average growth rates of 5.38 and 5.41 per cent were achieved but over the period 1978-86 only 2.13 per cent average growth on real output was achieved.

Agriculture experienced decline in some years (1983, 1984) and on average between 1978-1986 there was growth of only 1.66 per cent. On the crop export side, a decline was experienced in most crops except coffee and tea. Among the factors pinpointed for poor export crop performance are unfavourable weather; foreign exchange shortages affecting the supply of fertilizers, agro-chemicals, farm equipment and incentive goods and constraining crop processing and transportation; inadequate producer incentives and marketing system; and weakening world commodity markets.

The lag in production behind demand caused by growing population and increased urbanization necessitated the government to import food. In 1985, there was improved weather and marketing and this brought a fall in maize imports and official prices. The government has tried to set prices for major export crops with the aim of giving incentives to producers while for food crops the main aim has been to lower food costs for minimum wage earners. Manufacturing GDP declined for an average of 4 per cent between 1976 and 1986. Capacity utilization in manufacturing has decreased continuously since 1978 with most enterprises operating below one third of capacity.

Materials production as a whole consisting agriculture, industry, construction, water and power registered a real decline while there was growth in the service sector. Inflation as measured by the National Consumer Price Index (NCPI) accelerated from an annual average of 11.4 per cent in 1969-70 to 25 per cent between 1978 and 1983. In 1984 the inflation rate was 36 per cent and dropped to 33.3 per cent in 1985 and declining slightly to 30 per cent by 1987. The combination of factors responsible for the upward pressure on prices are output decline during high money supply growth rates; inability to import shortfalls; and imported inflation. Money supply growth has originated mainly from growing budget deficits which have been financed by the banking system particularly the central bank. Over the five fiscal years 1978/79 to 1988/89 budget deficits grew at an average of 11.5 per cent per annum. As a percentage of GDP, the budget deficit has been 14 per cent over the period 1978/79 to 1983/84. A slight decrease in this proportion to 11% was achieved after 1984 when government introduced strict control of expenditure through economic adjustment programmes namely SAP and ERP.

The budget has been strained since 1979 due to divergence between expenditure commitments and available resources. The government resorted to borrowing from the banking system to finance the budget deficits. This resulted into strong monetary expansion arising from rapid growth of domestic credit. During the period 1978-84 growth of money supply broadly defined to include currency in circulation, demand deposits, and time and savings deposits was 26 per cent per annum. The rate of domestic credit expansion increased from an annual rate of 19 per cent in the late seventies to 34 per cent during 1980-84 period. A very high growth in credit was reached in the years after 1984 attributable to heavy borrowing by Cooperative Unions. Both money supply and credit continued to

grow at unplanned rates during the period 1984 to 1988, despite efforts by the government to slow down the rates. For the year 1988, money supply was estimated to have grown by 32 per cent while the target was 10 per cent. Substantial government borrowing from the banking system and borrowing by non-government institutions particularly marketing boards and cooperative unions were the main cause of rapid increase in money supply. The above developments in money and credit were taking place while the economy was growing very slowly and sometimes at negative rates as pointed out above.

The trade balance has also been worsening over the period, reaching crisis proportions between 1978 and 1983. The ability to import declined steadily as indicated by the decline in ratio of export to import from 1.03 between 1964 and 1969 to 0.79 in 1970-1973 and 0.73 between 1973 and 1977. It reached to low 0.46 during 1978/1983. By 1989, the balance of payments was still in disequilibrium. Between 1986 and 1988 the official trade deficit grew approximately by 16.1 per cent.

Exports have been growing very slowly while imports have grown at a faster rate due to foreign resource inflow cushioning the drop in import capacity. For example between 1976 and 1978, merchandise export increased by 7.0 per cent while imports increased for 13.1 per cent. The ratio of exports to GDP fell drastically from an average of 22 per cent between 1974 and 1977 to 11 per cent in the 1978-82 period. Between 1982 and 1989 exports have been only around 7% of GDP. As a ratio of GDP imports marked a smaller decline from 31 per cent to 25 per cent during the same period. Tanzania had therefore to depend on foreign finance to pay for imports and import strangulation resulted into reduced capacity utilization in industry as recurrent support for utilization of installed production capacity was reduced.

The above poor performance record of the economy implied shortages of consumer goods, rapidly escalating cost of living and reduced quantity and quality of social services.

Table 1: Trends in Some Macro Variables of the Economy

Year	GDP 1976 Prices (ShsM)	Money Supply (M2) (ShsM)	Inflation NCPI (%)	Import Price Index (1976)	Exchange Rate	Short Term Lending % p.a
1967	17165	1539.7	3.0	35.2	7.14	8.25
1968	17930	1498.9	16.0	34.9	7.14	8.50
1969	18117	1879.5	16.4	34.4	7.14	8.25
1970	18987	2306.2	3.4	37.7	7.14	8.25
1971	19340	2713.4	4.0	42.6	7.14	8.50
1972	20457	3169.4	8.6	46.1	7.14	8.50
1973	19070	3698.6	10.2	56.7	7.02	9.00
1974	19501	4518.1	19.7	98.8	7.14	9.00
1975	20407	5615.3	25.9	106.8	7.14	7.50
1976	21653	6946.8	6.9	100.0	8.38	7.50
1977	21739	8346.7	11.6	111.7	8.29	8.00
1978	22202	9396.3	6.6	127.0	7.71	6.13
1979	22849	13806.6	12.9	148.5	8.22	8.25
1980	23419	17519.8	30.3	174.5	8.20	9.50
1981	23301	20694.7	25.7	181.1	8.28	9.25
1982	23439	24728.7	28.9	170.1	9.20	9.75
1983	22882	29127.4	27.1	161.8	11.14	10.00
1984	23656	30218.1	36.1	161.8	15.29	10.25
1985	24278	38971.0	33.3	159.2	17.47	13.50
1986	25158	50353.4	32.4	162.3	23.70	23.50
1987	26142	66442.9	30.0	171.7	64.26	23.50
1988	27039	89809.1	31.2	176.5	99.29	23.50
1989	28272	92398.6	29.5	178.0	120.0	29.00

Notes: Exchange Rate is T.Shs. per US\$

Source: Hyuha and Ndulu (1990).

2.2.2. The Monetary Sector

2.2.2.1 Trends in the Tanzanian Money Stock and Its Components

A strong monetary and credit expansion is evident from table 2.1 beginning 1966. Money supply broadly defined to include currency in circulation, demand deposits, savings deposits and time deposits grew at an average of 18.75% per year between 1965 and 1970. Between 1971 and 1975 the average annual growth rate was 20% and between 1976-1980 it was 26.3% annually. The highest rate of growth was recorded during was 1978/79, reaching 46.9%. For the ten year period of 1971-1980, the average annual rate of growth of money supply was 25% and rose to an average of 30% between 1981 and 1989.

This Observed monetary developments were in most cases above the rates envisaged in the Finance and Credit plan. It has been shown that the discrepancy between the planned and actual rates has been between 13% and 37.1% during 1972/73 - 1980/81. The discrepancy reached a high 129% in 1987.

The inability of the government to stick to plans of money growth was caused by both exogenous and endogenous factors. During 1974/75, Tanzania was hit by a serious drought which reduced agricultural output and thus exports fell curtailing the capacity to import, this widened the deficit. Another factor was her engagement in the war against Amin; which increased capital formation outlays and the government financed deficits by money creation. This was during 1978/79 and the burst in money supply growth of 46.9% evidences this.

It should be noted that these monetary expansionary developments were taking place when the economy was growing at a low rate or even negative rates.

Table 2 shows the share of the components of money supply into total money supply. It can be seen from the table that commercial bank lending to the non-government sector has however been declining for the period 1966-1984. It was 70.2% of the money supply in 1966, declining to 60.2% in 1980 and 36.3 per cent in 1984.

Table 2: Trend and Share of Money Supply Components Mill Tshs.

Year	NFA	%*	Ncg	%*	Lend.	%*
1966	594	53.1	-1160	-10.4	782.0	70.2
1967	593	45.9	-10	-0.8	786.0	59.4
1968	692.9	46.2	-19.9	-1.3	898.0	59.9
1969	818.9	43.6	-166.9	-8.9	1089.3	57.9
1970	763.4	34.4	285.1	-13.8	1344.3	60.6
1971	902.0	34.4	491.7	-18.7	1502.1	57.2
1972	1377.5	44.6	5221.1	-16.9	1547.0	50.0
1973	1613.0	44.1	612.4	-16.8	1819.5	49.8
1974	913.4	20.5	1448.5	-32.5	2897.5	64.8
1975	963.0	17.3	2210.2	-39.8	3349.6	60.2
1976	1368.8	19.7	3223.9	-46.4	3672.3	62.9
1977	2390.2	34.8	2886.8	-34.6	4391.7	52.6
1978	223.8	2.4	4605.0	49.0	6051.4	64.4
1979	921.1	6.4	1963.5	57.7	6732.0	48.7
1980	1200.2	6.8	10899.5	52.2	7342.5	41.9
1981	853.1	4.1	13844.1	66.8	8482.3	40.9
1982	761.7	3.0	17537.0	70.9	9537.3	38.5
1983	-1879.9	-6.4	20659	71.0	10642	36.6
1984	-7592.5	-0.64	24459.0	74.4	12922	36.3
1985	10789.3	-27.7	32278.9	82.8	17679	45.4
1986	-12881.9	-25.6	32555.8	64.7	27735	55.1
1987	-22908.4	-34.4	35580.0	50.3	55043	82.8
1988	-23308.0	-26.6	51634.0	55.0	73458	81.7

Notes: NFA = Net Foreign Assets of the Banking System;

Ncg = Net Claims on Government, and Lend.

= Lending to other sectors.

* = May not add up to 100% as 'Other Items Net' are not included.

Source: Bank of Tanzania Economic and Operations Report 1985-1988.

Table 3: Domestic Credit by Banks (Mill. Shs.)

Year	To Government	To Other Sectors	Total	Govt. % of Total
1970	285.1	1344.3	1629.4	17.4
1971	491.7	1502.1	1993.8	24.6
1972	522.1	1547.0	2069.1	25.2
1973	621.4	1819.5	2431.9	25.2
1974	1448.5	2887.5	4346.0	33.3
1975	2210.2	3349.6	5559.8	39.8
1976	3223.9	3672.3	6896	46.7
1977	2886.8	4391.7	7278.5	40.0
1978	4605.5	6051.4	10656.9	43.2
1979	7963.5	6732.0	14695.5	54.2
1980	10899.5	7346.4	18245.9	59.7
1981	13844.1	8482.3	22326.4	62.0
1982	17537.0	9537.3	27074.3	64.7
1983	20659.1	10642.8	31301.9	66.0
1984	24459.0	12922.2	37381.2	65.8
1985	32278.9	17678.8	49957.7	64.6
1986	32555.8	27735.1	60290.9	54.0
1987	33454.5	55042.5	88497	37.8
1988	36342.5	65121.2	101463.7	35.8

Source: BOT Economic & Operation Report 1984, 1988

While the two components of money supply i.e. claims on the government and domestic lending to non-government sector have claimed a large share of the two components of money supply the third component, net foreign assets' proportion has drastically decreased from 53.1 per cent in 1966 to 0.64 per cent in 1984. The share of net foreign assets in total money supply started a drastic fall in 1973 to 1974 from 44.1 per cent to 20.5 per cent. During 1977/78, the fall was sharpest, from 28.6 per cent to 2.4 per cent. After 1983 Net Foreign Assets have been negative, reaching a minus 34.4% contribution in 1987 but picking up to minus 20% by June 1989.

The trend of the Net Foreign Assets is likely caused by the drought conditions prevalent in the country, and the external sector of the economy. Output for export declined as a result of the drought, while at the same time increasing the

need for imports of food and other items. The oil crisis accompanied the drought and this resulted into a depletion of the foreign exchange reserves.

In Table 3 it is further verified that between 1979 and 1986, more than 50% of domestic lending went to the government sector. After 1986, borrowing from abroad substituted domestic borrowing and thus lowering the percentage share as is indicated in the table.

2.2.2.2 Money Supply Determination

We have shown above that a chain of events occur from for example an external event as oil price increases, import price increases to balance of payments disequilibrium to domestic budget deficits and consequently money supply. We shall now try to show that this chain of effects is a result of the flow of money supply determination.

The general practice in monetary theory has been to treat the quantity of money as determined directly by the monetary authority. However, the minimum required reserve ratio on time deposits and the ratio between currency and deposits held by the public are important in determining money supply.

A less mechanical theory of central bank control is evolved when these ratios are treated as behavioural relationships reflecting asset choices rather than exogenous variables and thus including the part played by other financial intermediaries.

With an extension to allow for the different reserve requirements against time and demand deposits and the demand for money by financial intermediaries, the mechanical money multiplier approach is still used. Where money supply (M) is the product of the money multiplier (m) and the monetary base (B) or high powered money; $M = mH$.

Changes in the monetary base (H) can be brought about by changes in lending to non-government domestic sector, net claims on government by the banks and net foreign assets of the banking system.

The money multiplier (m) depends on the public's cash ratio (a) and on the actual banks' cash reserve ratio (b), which are calculated on the basis of currency in

circulation outside banks, cash reserves and total private deposits. Bank's borrowing requirements depend on the level of the excess reserves (E), on interest rates on loans (RI), and government securities (Rs) and on the discount rate (Rd).

The banking systems net foreign assets depend on the components of the balance of payments i.e. balance of transfers (BT), balance of services (BS), Balance of Capital Account (BC) and the Trade Balance (TB). The government's demand for loans from banks is a function of government revenue ($G_{Rd} + G_{RC}$) and expenditure (G_{EX}), the later being a function of gross domestic product (GDP) and government investment (I_g).

The excess reserves depend on the demand for loans (L_d), the rate of interest on government securities (R_g) and banks cash reserves (C_b). Total deposits supply depends on the rate of interest on deposits, on the monetary income (Y_m) and extension of bank facilities. The public's demand for currency is determined by real income (Y_r) and the rate of interest (R_s). The above process can be summarized by a balance sheet approach as Anand and Wijnbergen (1989) did. The central bank and commercial banks are taken to be the determinants of money supply.

The Central Bank's balance sheet shows that its liabilities consists of currency held by the public, C_u , and Commercial bank reserves, RR . The funds so obtained are used to hold net foreign assets, NFA , and to extend credit to the government NCG . The Central banks net worth is the balancing item (NW).

The Central Banks Balance Sheet

Assets	Liabilities
NCG	NW
NFA	CU
	RR

Base money comprises of currency on the hands of the public and required reserves held by commercial banks at the central bank.

The Commercial banks hold reserves RR , and make loans L_d . On their liabilities side they accept from the public demand deposits, DD , and time deposits TD . The balance sheet of commercial banks would therefore be:

Commercial Banks

Assets	Liabilities
RR	DD
LD	TD

The integrated banking system's balance sheet can be written as:

Integrated Banking System

Assets	Liabilities
NFA	NW
NCG	CU
LD	DD
	TD

The balance sheet of the integrated banking system can be rewritten using standard definitions of the various concepts of money supply as follows:

Integrated Banking System

Assets	Liabilities
M	M ₂
LD	

The above balance sheets summarise the sources and flow money supply in Tanzania - the main components being bank lending to non-government domestic sector (Ld); net claims on government (NCg) or government borrowing from the banking system and net foreign assets of the banking system (NFA). In the above framework, fiscal operations of the government would affect money supply in that the 'NCG' item on the assets side of the integrated banking system balance sheet is raised, and this is balanced, in most times, by currency issue (CU) on the right hand side of the balance sheet. This therefore increases money supply.

2.3 The Government Sector

Tanzania, like most developing countries is faced with the major task of promoting economic and social development in all aspects of the economy. Through development plans the government directed its expenditure to the

Commercial Banks

Assets	Liabilities
RR	DD
LD	TD

The integrated banking system's balance sheet can be written as:

Integrated Banking System

Assets	Liabilities
NFA	NW
NCG	CU
LD	DD
	TD

The balance sheet of the integrated banking system can be rewritten using standard definitions of the various concepts of money supply as follows:

Integrated Banking System

Assets	Liabilities
M	M ₂
LD	

The above balance sheets summarise the sources and flow money supply in Tanzania - the main components being bank lending to non-government domestic sector (Ld); net claims on government (NCg) or government borrowing from the banking system and net foreign assets of the banking system (NFA). In the above framework, fiscal operations of the government would affect money supply in that the 'NCG' item on the assets side of the integrated banking system balance sheet is raised, and this is balanced, in most times, by currency issue (CU) on the right hand side of the balance sheet. This therefore increases money supply.

2.3 The Government Sector

Tanzania, like most developing countries is faced with the major task of promoting economic and social development in all aspects of the economy. Through development plans the government directed its expenditure to the

immediate improvement of the people's welfare. It has to increase their consumption and provide the necessary social and economic infrastructure as a basis for the long term development. Going further than that, the government plays the role of entrepreneur and participates directly in production. This has resulted in rapid expansion of the public sector which has meant more expenditure on the part of the government.

Table 4: Trends in Government Finances (Mill. Tshs)

	NDev	RDev	NRe	RRe	NTot	RTot.
1970/71	829.0	829	1631.4	1631	2460.4	2460.4
1971/72	738.6	710	1780.4	1712	2579	2422.1
1972/73	744	658	2226	1971.6	2270	2630
1973/74	1642	1319	2786	2339.6	4427.8	3558.5
1974/75	2225	1493.3	3961	2457	6186	3950.4
1975/76	2253	1198.4	3716	1981	5969	3179
1976/77	3244.3	1618	4703	2345.4	7946.8	3964.5
1977/78	3303.6	1651.8	5563.3	2486	8867	4137.6
1978/79	4740	2118	8295	3303.5	13035	5421.4
1979/80	5430	1915.3	9442	2560	14872.0	4475.5
1980/81	5600	1519.7	1023.0	2776	15830	4295.8
1981/82	5185.4	1118.5	13214	2850	1839	3968.8
1982/83	4404	736.9	14871.5	2489	19275.5	2565.4
1983/84	5047	1664.5	18182	1759	23229	2423.5
1984/85	6560.5	635	18120	1752	24680	2387
1985/86	5817.4	422	24402.3	1989	33220	2411
1986/87	15091	827	40390	2214	55481	3041.4
1987/88	17255	734	60071	2555	77326	3288.5

Notes: Dev. = Development Expenditure, Re. = Recurrent Expenditure, and Tot = Total Expenditure. N and R before a variable stands for nominal and real terms respectively.

Source: BOT: Twenty Years of Independence; URT Economic Survey 1988, TET Vol. 1, No. 4.

2.3.1 Government Expenditure

Government expenditure as a percent of GDP has grown from 29% in 1970/71 to 39% in 1987/88, after having registered two peaks of 43 and 47% in the fiscal years 1974/75 and 1979/80, respectively (see Table 4). The high ratio of expenditure in 1974/75 was a result of the first oil shock and drought of 1974

requiring the government to import large quantities of food grain at steeply rising international prices. High expenditures in 1979/80 was caused by three major events. First, in 1978 international oil prices abruptly increased. Second, the break-up of the East African Community in 1977 forced Tanzania to create national facilities to replace common services of the community. Services disrupted by the break-up were: customs; income tax; telecommunications; rail, water, and air transport. Third, in 1978, Kagera region was invaded by Idi Amin. The government's response was rapid build up in defence expenditures, which grew from shs. 629 million in 1977/78 to shs 1288 million in 1980/81 or from 18.9% to 22.8%, respectively of total recurrent expenditure. In a nutshell these events led to fast growth in government expenditure as will be demonstrated shortly.

Table 5: Revenue and Expenditure as a Proportion of GDP and Growth Rates (%).

Year	RecR	%Ch	RecEx	%Ch.	DevEx	%Ch	TEX	%Ch
70/71	20.5	-	20.9	-	10.1	-	29.2	-
71/72	21.0	2.6	21.2	1.8	8.7	-13.3	28.9	-1.1
72/73	22.9	8.8	23.2	9.3	9.4	8.2	31.5	8.7
73/74	26.1	14.2	21.9	-5.6	14.3	51.0	35.1	11.8
74/75	28.1	7.7	23.8	28.9	15.9	11.1	43.4	23.4
75/76	24	-15	22.4	-20.6	13	-19	32.6	-25
76/77	22.8	-4.7	23.2	3.3	12.7	-0.9	33	1.2
77/78	25.8	13.2	22.4	-3.3	15.1	18.3	35.2	6.8
78/79	22.5	-12.6	26.7	19.2	16.6	10.3	42.9	22
79/80	23.7	5.4	27.8	4.1	15.3	-8.0	47.2	10.0
80/81	22.9	-3.7	27.8	0.0	11.5	-24.6	39.4	-16.6
81/82	21.4	-6.5	29.4	5.6	-	10.2	-11.6	40.5
82/83	23.9	11.8	27.8	-5.6	8.4	-11.9	36	-9.0
83/84	21.6	-9.9	25.5	-8.2	7.1	-14.9	32.6	-9.5
84/85	23.8	10.6	27.6	8.2	8.9	-25	36.5	11.9
85/86	20.4	-15	22	-20	7.2	-19	29.3	-20
86/87	20.8	2.2	24.5	11.0	4.4	-39	34	15.9
87/88	24.4	18.3	29	19	4.8	9.5	39	15

Notes: RecR = Recurrent Revenue;
 REcEx, = Recurrent Expenditure,
 DevEx. = Development Expenditure, and
 Tex = Total Expenditure,
 %ch. is growth rate in %.

Source: Table 3 and Appendix Table 1

During the 1970/71 - 1977/78 government expenditure grew at an average annual rate of 24.7% compared to a rate of 25 between 1978/79 and 1987/88. Following deliberate expenditure cutting measures undertaken by the government during the Structural Adjustment Programme (SAP), a significant decline in expenditure was achieved between 1983/84 and 1984/88, government expenditure rose from shs 2460 million in 1970/71 to shs 77321 million in 1987/88, or increased thirty-fold (see table 3). In the period under review government expenditure grew at an average rate of about 25% per annum, in nominal terms (Table 4) compared to only 6% in real terms (table 6).

2.2.3.2 Recurrent Expenditure

The ratio of recurrent expenditure to GDP rose from 20% in 1970/71 to 29% 1987/88 (Table 3). The trend of the ratio of recurrent expenditure to GDP has significantly fluctuated between 20% and 29%, with the highest ratios: 28.3; 29.4; and 29.1% recorded in the fiscal years 1974/75, 1981/82 and 1987/88, respectively. The share of recurrent expenditure to total expenditure has ranged from 59 and 78% (Table 4). After 1980/81, the shares have exceeded those that existed in the 1970's.

Recurrent expenditure increased at an average annual rate of 20% between 1970/71-1977/78 compared to about 36% in the 1978/79-1987/88 period (Table 3). A higher growth rate in expenditure after 1977/78 was attributable to expansion of the public sector, expansion in public administration expenditure, provision of social services (education particularly Universal Primary Education (UPE), health and water), to mention but a few. During the 1970/71-1987/88 period recurrent expenditure grew at an average annual rate of 25% in nominal terms compared to only about 5% in real terms (see Table 5).

2.2.3.3 Development Expenditure

The ratio of development expenditure to GDP declined from 10% in 1970/71 to about 5%, having recorded about 17% in 1978/79, after which a continuous decline was experienced (Table 5). Despite the proportion of expenditure allocated to development projects being below 50% over the period under review, development expenditure grew at an average rate of about 29% per annum

compared to that of recurrent expenditure of 20% in the 1970/71-1977/78 period. However, this trend changed significantly with development expenditure recording an average annual growth rate of 11%, while recurrent expenditure recording 29% in the 1978/79-1987/88 period. Such a drastic decline in growth in development expenditure after 1977/78, as explained earlier, was caused partly by shelving of some projects under SAP. In addition, there was an acute shortage of foreign exchange necessary for the continuing projects in the 1980's. For the entire period, development expenditure grew at an average annual rate of 19% in nominal terms and at only 1.5% in real terms (see tables 5 and 6, respectively).

Table 6: Growth Rates (%) of Recurrent Revenue, and Expenditure in Real Terms (1970 prices)

Year	RecR	RecEx	DevEx	Tex
70/71	-	-	-	-
71/72	8.6	7.6	-8.3	4
72/73	15.8	16.3	15.1	15.7
73/74	15.0	-4.9	52.2	12.5
74/75	10.2	31.9	13.7	23.4
75/76	-8.5	-14.5	-12.7	-19
76/77	14.3	24.0	18.8	21.4
77/78	16.8	-0.2	22.0	10.2
78/79	10.3	22.4	13.2	25.0
79/80	7.0	5.7	-6.6	11.6
80/81	-3.0	0.2	-24.0	-16
81/82	-6.9	4.9	-12.1	-0.1
82/83	14.2	-3.4	-16.1	-7.0
83/84	-8.9	-7.2	-13.9	-8.5
84/85	13.4	11.1	24.9	14.8
85/86	-10.2	-15.8	-14.5	-16
86/87	-1.7	6.9	-41.3	11.5
87/88	21.6	22.1	12.4	18.1

Notes: Abbreviations as in former table.

Source: URT Economic Surveys, Various Issues.

2.2.3.4 Government Revenue

Government expenditure requirements are financed through taxation and other sources like domestic borrowing (bank borrowing and non-bank borrowing) and external loans and grants. Of these sources the most reliable and convenient one is taxation. In recent years taxes account over 90% of recurrent revenue (see Table 7). During the 1970/71-1987/88 the share of taxes in recurrent revenue has averaged around 84%. The ratio of Tax Revenue to GDP has averaged around 19% over the period under consideration. The major sources of tax revenue include import duty, sales taxes, income taxes, while non-tax revenue sources comprise mainly parastatal dividends.

Recurrent Revenue

The ratio of recurrent revenue to GDP rose from 20.5% in 1970/71 to 24.6% having hit a peak of 28% and 26% in the fiscal years 1974/75 and 1977/78 respectively (See Table 3.2). The high ratio in 1977/78 seems to have been attributable to the coffee boom of 1977. Recurrent revenue grew at an average annual rate of 26% during 1970/71-1977/78 compared to a rate of 23% during 1978/79-1987/88 period (See Table 5). Factors which seem to have been responsible for a slower growth of recurrent revenue after 1977/78 are: the decrease in imports caused by falling import capacity thereby reducing import duty, sales tax on imports revenues; a decline in income leading to low income tax revenues; poor export performance causing reduction in export taxes revenue;⁷ and poor performance of public enterprises resulting in low profits and hence reducing company taxes and parastatal dividends. Apart from these reasons, tax revenues have not been adequate due to narrow tax base, poor (inefficient) tax administration and high tax rates both of which are argued to have caused tax evasion and less compliance (see Osoro 1990). During the period under review recurrent revenue increased from shs 1,683 million in 1970/71 to Shs 47,479 million in 1987/88, an increase of 28 times. Recurrent revenue grew at an annual average rate of 24% in nominal terms and at only 6% in real terms over the same period.

Table 7: Composition of Recurrent Revenue 1970-87

	RecR	TR.	%CHTR	Tax/TR%
70/71	1683	1209.2	-	71.8
71/72	1858.2	1307.8	8.1	70.3
72/73	2294.9	1541.1	17.8	67.1
73/74	3002.4	2255.4	46.3	75.1
74/75	3942.3	2974.4	31.9	75.4
75/76	4062	3129	5.2	77
76/77	4933.7	3440	9.9	69.7
77/78	6629.3	5333.6	55	80.4
78/79	6441.4	5261.1	-1.3	81.7
79/80	7679.6	6147.9	16.8	80
80/81	8571.4	7908.4	28.6	92.3
81/82	9406	8508	7.5	90.4
82/83	12581	12529.3	47.4	99.6
83/84	13506	13397.9	6.9	99.2
84/85	18638	18482.5	37.9	99.2
85/86	22031.5	21781.8	17.8	98.9
86/87	29321	27406.6	25.8	93.5
87/88	47479.4	42556.7	55.3	89.6

Notes: TR = Tax Revenue, Tax/TR = Tax Revenue as a proportion of Total Recurrent Revenue.

Source: Economic Surveys various years.

2.2.3.5 Government Deficit

It has been clearly demonstrated that the events that occurred towards the end of the 1970s were responsible for rapid growth in government expenditure. Meanwhile the recurrent revenue sources did not perform well, particularly after 1978. Before 1978, the recurrent budget generated surplus which was used to finance part of the development budget, except in 1974/75 when a deficit was recorded due to both oil shock and drought of 1974 (Osoro 1989).

Since 1978, due to the events noted earlier and other factors, the recurrent budget has increasingly recorded huge deficits. Both the rapid growth of expenditure on the one hand, and poor performance of recurrent revenue on the other hand, have led to growing huge overall government deficits (see Table 8). In the entire period (1970/71-87/88) under review, the government budget has registered

deficits in all fiscal years except in 1970/71 to 1972/73. From 1973/74 the deficit grew from about shs 20 million to shs 27,817 million in 1978/88. This is equivalent to an average annual rate of growth of 168.4%. The trend of deficits in the period under review has been erratic though. There was virtually a stagnation in growth of deficits between 1976/77 and 1977/78 most likely due to the coffee boom of 1976/77. The overall deficit as a percent of GDP grew from 0.2% in 1973/74 to 14% in 1987/88 having reached a maximum of around 19% in the fiscal years 1978/79 and 1979/80. The failure of the recurrent budget to generate adequate surplus after 1978/79 led to the government resorting to bank borrowing. Government borrowing from the banking system has been inflationary.

Table 8: Budget Deficit and Government Borrowing

Year	RBS(D)	OD	DBG	GBB	GNBB	BB%DB
70/71	51.6	22.9	457	31.4	143	68.7
71/72	76.6	72.2	289	174	110	60.2
72/73	181.1	56.9	186	6	180	3.2
73/74	237.9	(19.8)	717	521	196	72.7
74/75	(15.2)	(23.7)	1196	834	362	69.7
75/76	202.9	(10.7)	906	570	336	62.9
76/77	1426.5	(1734.4)	308	-	308.5	-
77/78	518.8	(5501.5)	3510.7	3056.7	717	24
78/79	(1483)	(5502)	351.7	3056.7	454	87
79/80	(1471)	(6296)	3075	2804	671	91.2
80/81	(1264)	(6412)	4278.5	3464.4	814	81
81/82	(2254)	(7181)	4061.4	3278	783.4	81
82/83	(1726.5)	(6412)	4278.5	3465	814	80.9
83/84	(2715)	(6903)	4797	4009	788.4	83.6
84/85	(2194)	(9871)	4435	3310	1125	74.6
85/86	(5083)	(9678)	6231	4925	1306	79
86/87	(5891)	(18549)	4514	1656	2858	36.7
87/88	(4622)	(27818)	2236	236	2000	10.5
88/89	(11432)	(35681)	7146	4460	2686	62

Notes: RBS(D) = Recurrent Budget Surplus (Deficit).

OD = Overall Deficit

DBG = Domestic Borrowing by the Government

GBB = Government Bank Borrowing

GNBB = Government Non Bank Borrowing

BB%DB = Bank Borrowing as a % of Domestic Borrowing.

Source: URT Economic Surveys and BOT Economic and Operations Reports Various Years.

The above statistical review of the sectors of the economy indicates that while the government took monetary and fiscal actions the real sector was not responding well. This was so after the late 70's where budget deficits started to be registered in the economy. Fiscal and monetary actions were therefore linked by the government. Increased expenditure without required revenue created a deficit which was financed by money creation and thus inflation as the expenditure did not finance productive undertakings.

Our analysis of the efficacy of the two policies will therefore be taken bearing in mind the close relationship between the government budget and monetary developments. The next section surveys literature before the method of analysis is discussed in section 4.

3. Literature Review

Many economists have carried empirical work to establish which of the instruments - monetary or fiscal - is more potent in affecting the economic activity of a nation. A study to determine whether consumption expenditure was more responsive to a change in money supply or autonomous government expenditure was undertaken by Friedman and Mieselman (1963). This study aimed at finding out which policy instrument - monetary or fiscal - was more powerful in affecting the general level of economic activity. They showed that a stable and predictable relationship existed between stock of money and aggregate demand, while no such relationship was observed for autonomous government spending. This implied that monetary actions were stronger than fiscal measures in influencing aggregate demand.

The work of De-leow and Gramlich (1969) followed Friedman and Mieselman's study. The study showed that monetary policy exerts larger impact on the aggregate level of income than fiscal impulse. The speed of monetary policy was found to be slower than fiscal policy despite the former being more powerful.

Hypothesising that fiscal actions are stronger more predictable and faster than monetary instruments Andersen and Jordan (1968) used a single equation model with reduced-form relationships relating changes in nominal GNP to changes in measures of monetary and fiscal actions. Their measures of fiscal actions used

s of the economy indicates that while the
tions the real sector was not responding
re budget deficits started to be registered
actions were therefore linked by the
hout required revenue created a deficit
and thus inflation as the expenditure did

olicies will therefore be taken bearing in
the government budget and monetary
literature before the method of analysis

ical work to establish which of the
potent in affecting the economic activity
her consumption expenditure was more
or autonomous government expenditure
man (1963). This study aimed at finding
or fiscal - was more powerful in affecting
they showed that a stable and predictable
money and aggregate demand, while no
autonomous government spending. This
nger than fiscal measures in influencing

59) followed Friedman and Mieselman's
ary policy exerts larger impact on the
pulse. The speed of monetary policy was
ite the former being more powerful.

onger more predictable and faster than
lan (1968) used a single equation model
changes in nominal GNP to changes in
. Their measures of fiscal actions used

were high employment, Federal tax receipts and
The monetary variables were monetary base and
plus demand deposits. Quarterly data of the
rejection of all the three hypotheses and he
monetary over fiscal measures.

Corrigan (1970) criticized Andersen and Jordan
performed another study using the US data with
the conclusion that fiscal policy, particularly tax
significant role in determining changes in GNP

Another study was conducted by De-Leeuw and
same sample used by Andersen and Jordan.
employed in the Andersen and Jordan study
independence of the dependent variable and that
rather than monetary measures exert a more sig

The controversy of fiscal versus monetary
empirical study. This was by Keran (1969) who
aim was to find out whether monetary influences
the US. Keran's results showed that monetary
influences on economic activity. Further evidence
who undertook another study based on data from
US. Same methodology as in his earlier study
countries studied, Keran found that monetary
the level of economic activity than fiscal measu

Another empirical study was undertaken in the
(1975). The aim was the same as in other studies
which of the two instruments-monetary or fiscal
policy measure. The author using Andersen and
closely regressed changes in nominal GDP on
government expenditure. In all three countries
Norway), Teigen observed that fiscal actions
contradicted Andersen and Jordan's as well as

Lybeck and Teigen (1975) in a joint study using Swedish data adopted Andersen and Jordan study procedure and regressed nominal GDP on quarterly changes in the monetary stock and Central Government Spending. Their results were inconclusive as to which of the two policy instruments has stronger influence on GDP. A study of a developing country on the subject was that by Ajayi (1974). He based his model on the work of Andersen and Jordan. He regressed nominal changes in GDP on changes in five different measures of monetary influences and three different measures of fiscal variables. He used M_1 , M_2 , High Powered Money; broadly defined high-powered money and Treasury Bills outside the Central Bank. High employment budget surplus, full employment, tax revenue, and government current and capital expenditure were used as fiscal variables. He found that monetary variables performed better than fiscal measures in influencing economic activity of Nigeria.

Ubogu (1985) in a study of fifteen African countries regressed GDP to monetary actions and fiscal actions. GDP was used as a measure of economic activity. Measures of fiscal actions were proxied by government expenditures. The money stock defined in various ways as M_1 , M_2 , the money base defined as the sum of the currency held by the non-bank public, commercial bank reserves and credit, was used as a measure of monetary actions.

Only in four countries were the coefficients of both the two proxy variables positive and statistically significant. On the four countries Ubogu found that monetary actions have a stronger influence on Cameroon while changes in fiscal actions were more potent in influencing the economic activity of Ghana, Gabon and South Africa.

On the overall, his results indicate that of the fifteen countries examined, changes in monetary actions are much stronger in influencing changes in economic activity of seven countries.

Literature on money in the economy of Tanzania is numerous. However, the main areas which have received attention are the relationship between money and inflation and balance of payments. Studies on money and prices include those by Rwegasira (1973, 1976), Hyuha and Osoro (1982), Kilindo (1982) and Rashid (1984). Rwegasira's (1973, 1976) study was trying to find whether monetary expansion was responsible for price developments of the late sixties and early

seventies. His conclusions were that structural explanations were more important and monetary growth did not contribute to the inflationary process. Hyuha and Osoro revisited Rwegasira's study and after a deeper analysis found that money growth was significant in explaining inflation in Tanzania. Kilindo's (1982) study was mainly concerned with the role of the budgetary position of the government in perpetuating inflation through its effect on money supply growth. He found that the budget deficit is one of the mechanisms that perpetuate inflation in the country due to larger lags in revenue collection than expenditure to price changes.

The balance of payments relation to money supply have been investigated by Naho (1983) and Shumbusho (1985). What they did was to apply a monetary approach to the balance of payments using the Tanzanian data.

The above literature on the country clearly shows that the impact of money and fiscal policy on economic activity is an area which has not received due attention.

4. Methodology

One can establish the relative effectiveness of monetary and fiscal actions in affecting economic activity by either a well specified and statistically estimated structural model or a single equation or reduced form model. The structural model is advantageous in that it allows one to distinguish between the direct and indirect effects of the two policy options (Ubogu, 1985). It also makes it possible to see how subsectors of the economy are affected. However, given its complexity and the explicit specification and incorporation of the transmission mechanism it requires this approach has disadvantages.

The single equation method, whereby the entire economic structure is reduced to a single equation that describes the way in which the exogenous variables determine the values of the endogenous variables is for sure simpler to use. By this approach one just regresses directly the measure of economic activity against the measures of monetary and fiscal actions without specification of the mechanism of transmission.

First used by Friedman and Meiselman, the single equation approach has advantages over the structural model in terms of its simplicity. The problem of

specifying and measuring specific links between monetary and fiscal actions on the one hand and economic activity on the other is avoided when this approach is used. Thus, much of our complex economy is explained by relatively fewer variables.

However, the approach has two main disadvantages. Firstly, it does not disclose any information about the structural relationship of the subsectors of the economy or the transmission mechanism of the policy action. Secondly, the reduced form model requires that the determinants of the endogenous variables be truly exogenous, so that the coefficients of the regression equation are not biased.

Since many of the studies on this topic followed the single equation model, we shall adopt the approach so that results could be comparable with other findings.

4.1 The macro-variables

Choice of the variables was done while bearing in mind the importance of the choice of appropriate indicators of monetary and fiscal actions and that changes in the variables selected as proxies of monetary and fiscal actions are determined by the monetary and fiscal authorities. This is necessary in order to ascertain the direction of causality and hence avoid the reverse causation argument (Ubogu, 1985).

(i) Measures of Economic Activity

Gross Domestic Product (GDP), defined as the value of final output of goods and services in a year is the proxy variable representing economic activity of a year. Consequently GDP of each sector will be the proxy for economic activity in the respective sector.

(ii) Measures of Fiscal Actions

To measure fiscal actions, one usually uses government expenditure on goods and services, changes in government tax rates, government revenue, budget deficits and surpluses. Our measure of fiscal action is proxied by government expenditure and reliability tax revenue. This choice is based on the availability of data.

Further these two components of fiscal operations have been the most used discretionary actions by the government.

(iii) Measure of Monetary Actions

The money stock, defined in various ways as M1 and M2, the money base defined as the sum of currency held by the public, commercial bank reserves and credit are usually used to measure monetary policy. Our measure of monetary action is proxied by money supply broadly defined and domestic bank credit. The government has more than often used targeted growth of money supply as a policy variable in the annual finance and credit plan. Domestic credit has however, influenced monetary growth, to the extent of causing problems in adhering to projected levels of money supply.

4.2 The Regression Models

Single-equation reduced form models are used to undertake our empirical study.

$$DY_t = b_0 + b_1 M_t + b_2 + DG.$$

$$DY_t = b_0 + b_1 DCR_t + b_2 DG$$

$$DY_t = b_0 + DM_t + DTR$$

where $t = 1, 2, 3, \dots, 20$;

DY_t = the difference between GDP in the current year (t) and that of the preceding year (t-1),

DM_t = the difference between the money stock in the current year (t) and that of the previous year (t-1),

DG_t = the difference between government expenditure in the current year (t) and that of the previous year.

DCR = the difference between domestic credit in the current year and that of the previous year.

DTR = the difference between tax revenue in the current year (t) and that of the previous year (t-1).

The impact of other factors affecting the level of economic activity is measured by the constants b_0 , and b_1 and b_2 . They measure the extent to which the variables proxing monetary and fiscal actions affect the level of economic activity.

It is expected that changes in our measures of monetary and fiscal actions will be positively related to our measure of economic activity in the economy as a whole and in the particular sectors, that is, we expect the coefficients b_1 and b_2 to be positive in all equations. By comparing the size of their coefficients at different levels of significance we shall be able to determine which of the two policy instruments (monetary or fiscal) exert a larger influence on economic activity.

Where both variables are statistically significant at the same level we may be required to calculate the BETA coefficient. The larger the value of the BETA coefficient of an independent variable, the stronger is its influence on the dependent variable.

The BETA coefficients were estimated as:

$$BETA_i = b_i S_{xi} / S_y$$

where b_i = estimated regression coefficient of independent variable.

S_{xi} = standard deviation of independent variable.

S_y = standard deviation of dependent variables.

To estimate the regression models time series data from national accounts spanning over twenty years (1970-1989) were used.

5. The Empirical Findings

Table 8 below displays the results of the regression exercise. It is verified in all 8 equations that both monetary and fiscal actions are important in ensuring growth of nominal GDP.

Equation 1 shows that both monetary and fiscal actions measures as changes in money supply and government expenditure are significant in affecting economic activity. Judging from the size of the coefficient, fiscal actions dominate monetary actions. In equation 2 we regressed a combination of money supply changes with tax revenue.

Fiscal actions proxied by tax revenue dominate monetary actions judging by the size of the coefficients, and size of BETA coefficient although both are significant at the 99% level.

Equation 3 tests the impact of a combination of government expenditure with domestic credit. Again fiscal action dominates monetary action.

The fourth equation further, verifies the dominance of fiscal action (measured by change in tax revenue) over monetary action (measured by domestic credit changes). A test to compare the efficiency of one measure of monetary and fiscal action against another showed that credit measures are superior to changes in the stock of money as hypothesized while tax measures are superior to government expenditure rejecting our hypothesis that the latter is superior. This is verified by simple regression equation 5-8.

Our results compare well with the findings of Ajayi (1974) and Ubogu (1985) that fiscal actions exert more effect on economic activity in a low income economy. The caution to be taken is that if the actions are linked with developments in the stock of money, the effect of fiscal actions will be via inflation and hence stability in prices will not be achieved. The growth in GDP will be in nominal terms rather than real terms.

	Constant	Mon	Gov	Dom	Tax	R2	DW
1.	1.4808	0.4166 (2.696)	0.5355 (3.587)			0.99	0.6650
2.	1.3846	0.3413 (3.9509)		0.6547 (7.3411)	0.99	2.063	
3.	1.9996		0.6273 (3.652)	0.2697 (1.798)		0.98	0.819
4.	1.8611			0.2676 (4.101)	0.6804 (8.5179)	0.99	2.200
5.	1.3996		0.9626 (28.16)			0.97	0.2833
6.	2.8444			0.8101 (25.45)		0.97	0.2833
7.	1.6583		0.932 (31.307)			0.99	1.53
8.	1.5218			0.9999 (41.77)		0.99	2.350

Notes: Dependent Variable is GDP, other variable as defined above.

6. Conclusion

6.1 Summary

This study examined the relative effectiveness of monetary and fiscal actions in affecting economic stabilisation. The main measure of economic stability was growth of output (GDP) with stable prices. The relative effectiveness of the two policy actions can be established by either a well specified and statistically estimated structural model or a single method, whereby the entire economic structure is reduced to a single equation that describes the way in which the exogenous variables determine the values of the endogenous variables. By this approach we just regressed directly the measure of economic activity against the measures of monetary and fiscal actions without specification of the mechanism of transmission.

Our results show that both policies exert impact on economic activity. However, fiscal policy dominated monetary policy in influencing economic activity. This finding complies with that of Ubogu (1985) who in a study of several underdeveloped countries, concluded that monetary policy was more potent in affecting economic activity of middle income countries and fiscal policy was more significant in influencing economic activity of low income nations, where Tanzania falls.

6.2. Policy Implications

The findings above would suggest that the effectiveness of monetary policy depends on the level of monetisation of the economy. Tanzania should therefore put emphasis on fiscal policy. This recommendation should however be taken with caution. In the advent of our study we saw that fiscal actions and monetary developments are closely linked. Excessive money supply growth is generally due to governments' need to finance their own deficits i.e. to finance expenditure programmes that exceed tax revenues plus borrowing. An important fiscal action towards stabilisation is therefore reduction of the public sector deficit. This can be achieved via a reduction in public expenditure supported by improved tax performance, as the government has correctly embarked on.

The relation between monetary actions and fiscal actions calls further for the need for mutual application of both policies. This follows from the fact that the economy has underdeveloped economic and financial institutions which limit the use of various economic stabilisation measures.

6.3 Limitations

As indicated above a structural model would have been a more appropriate approach in our study as direct and indirect effects of policy options could have been distinguished. Further it would have been possible to see how subsectors of the economy are affected. The use of reduced form model was thus a limitation. This made our study limit itself to aggregate economic activity rather than a study of individual sectors as purported initially. The transmission mechanisms could not be identified by use of this approach.

However, the approach has given us some insight of the efficacy of monetary and fiscal actions. This has made our results comparable with those carried in other developing countries. The specification and statistical estimation of a well developed structural model is therefore an area for further study.

Notes

1. By economic stabilization in this study we mean the government's role in manipulating among other things fiscal and monetary policies for the purpose of maintaining a high and even level of economic activity, and price stability.
2. See Economic Research bureau and Ministry of Finance Planning and Economic Affairs.
3. See Gurley and Shaw (1955, 1956); Cameron (1965), Bennett (1963); Patrick (1966), Goldsmith (1969).
4. See for example Hyuha and Osoro (1982), Rwegasira (1974, 1976), Shumbusho (1985) Naho (1983); Kilindo (1982) and Rashid (1984).
5. BOT Economic and Operations Report. Various Years.

6. The discussion in this section is based on Ndulu (1985) and figures from "National Accounts" 1976. There have been several revisions and efforts were made to incorporate them. Some discrepancies might appear but we think they will not change our general conclusions.
7. Export taxes were waved in 1985.

Selected Bibliography

- Ackley, G., *Macroeconomics: Theory and Policy* (New York: Macmillan, 1978).
- Aghevli, B. B. and Khan, M.S., "*Inflationary Finance and the Dynamics of Inflation: Indonesia 1951-1962*". IMF Staff Papers 1977.
- _____, "*Government Deficits and the Inflationary Process in Developing Countries*" IMF Staff Papers 25 (1978).
- _____, "*Inflationary Finance and Economic Growth*", EF Journal of Political Economy, 1977.
- Ajayi, S. I. "*An Econometric Case Study of the Relative Importance of Monetary and Fiscal Policy in Nigeria*" Bangladesh Economic Review Vol. 2, 1974.
- Anand, R. and S. Van Wijnbergen. "*Inflation and the Financing Government Expenditure: An Introductory Analysis with an application to Turkey*", World Bank Economic Review 1989.
- Andersen, L. C. and J. L. Jordan. "*Monetary and Fiscal Actions: A test of their relative importance in Economic Stabilisation*" Federal Reserve Bank of St. Louis Review, 1968.
- Argy, V. "*The Role of Money in Economic Activity: Some Results for 17 Developed Countries*" IMF Staff Papers, 1970.
- Aujac, H., "*Inflation as the Monetary Consequence of the Behaviour of Social Groups: A Working Hypothesis*", International Economic Papers, 1950.
- Bailey M. J., "*The Welfare Cost of Inflationary Finance*", Journal of Political Economy, 1956.
- Bank of Tanzania: Economic and Operations Reports, 1969-1988.
- _____, *Twenty Years of Independence*, 1984.
- Bennet, R. L. "*Financial Innovation and Structural Change in the early stages of Industrialisation: Mexico, 1945-59*". The Journal of Finance, 1963.

- Binhammer, H. H., *The Development of a Financial Infrastructure in Tanzania*, E. A. L., Bureau 1975.
- Bird, G., *The International Monetary System and the Less-Developed Countries*, Macmillan, 1978.
- Broffebrenner, M., and F. D. Holzman. "*Survey of Inflation Theory*" American Economic Review, 1963.
- Brunner, K. and A. H. Meltzer. "*The Explanations of Inflation: Some International Evidence*" American Economic Review, 1977.
- Cagan, P., "*The Monetary Dynamics of Hyperinflation*" in Milton Friedman ed. *Studies in the Quantity Theory of Money*, Chicago, 1956.
- _____, "*Econometric Models of the Financial Sector*", Journal of Money Credit and Banking, 1971.
- _____, "*A Short-Run Aggregate-Demand Model of the Interdependence and Effects of Monetary and Fiscal Policies with Keynesian and Classical Interest Elasticities*", American Economic Review, Papers and Proceedings Vol. 57, May 1967.
- Canavese, A. J., "*The Structuralist Explanation in the Theory of Inflation*" World Development (1982).
- Caselli, C., *The Banking System of Tanzania*, Millan, 1975.
- Catchcart, C. D., "*Monetary Dynamics, Growth and the Efficiency of Inflationary Finance*", Journal of Money, Credit and Banking.
- Cameron, R. "*Theoretical Bases of a Comparative Study of the Role of Financial Institutions in the early stages of industrialisation*" in proceedings of the 2nd International Conference of Economic History, 1965.
- Christ, C. F., "*A Model of Monetary and Fiscal Policy Effects on the Money Stock, Price Level and Real Output*", Journal of Money, Credit and Banking, 1969.
- Coats, W. L. and KhatKhate, D. R. *Money and Monetary Policy in Less-Developed Countries*, Pergamon Press, 1980.
- Curry, S., "*Inflation and the Balance of Trade in Tanzania, 1970-76*", Journal of Economic Reflections, 1978.

- Corrigan, E. "*The Measurement and Importance of Fiscal Policy Changes*". Federal Reserve Bank of New York Review, 1970.
- De-Leeuw, F. and M. Gramlich. "*The Channels of Monetary Policy*" Federal Reserve Bank of St. Louis Review, (1969).
- Diz, A. C., "*Money and Prices in Argentina 1935-62*" in Varieties of Monetary Experiences ed. by D. Meiselman. University of Chicago Press, 1970.
- Dornbusch, R. and Ficher, Macroeconomics, McGraw-Hill, 1982.
- Drake, P. J., *Money, Finance and Development*, Oxford, 1980.
- Ellis, F., "*Agricultural Pricing Policy in Tanzania*," 1970-1980. Economic Research Bureau Paper 1981.
- Economic Research Bureau et.al., Tanzania Economic Trends, 1988---
- Feldstein, M., "*Fiscal Policies, Inflation and Capital Formation*:" American Economic Review, 1980.
- Frenkel, J. A. and Johnson, H. G., *The Monetary Approach to the Balance of Payments*, London, George Allen and Urwin, 1976.
- Friedman, M., *Studies in the Quantity Theory of Money*, Chicago, 1956.
- _____, "*A Monetary Theory of Nominal Income*" Journal of Political Economy, 1971.
- _____, "*The Role of Monetary Policy*" Journal of Political Economy, 1971.
- _____, *A Progress for Monetary Stability*, New York, 1960.
- Friedman, M. and Schwartz, A. J., *A Monetary History of the US 1867-1960*" 1963.
- Friedman, M. and H. Meiselman. *The Relative Stability of Monetary Velocity and the Investment Multiplier in the U.S.* Prenticehall, 1963.
- Furness, E. L. *Money and Credit in Developing Africa*, Heinemann, 1975.
- Goldsmith, R. W., *Financial Structure and Development*, London, 1969.
- Gordon, R. J., "*Recent Development in the Theory of Inflation and Unemployment*", Journal of Monetary Economics, 1976.

- Gray, M. R. Ward, R. and Zis., "The World Demand for Money Function: Some Preliminary Results" in M. Parkin and G. Zis eds. *Inflation in the World Economy*, Manchester, 1976.
- Green, H. R., Rwegasira, D. G. and Van Arkadie, B., *Economic Shocks and National Policy Making: Tanzania in the 1970s*. The Hague, ISS 1980.
- Griffin, K. *Financing Development in Latin America*, Macmillan, 1971.
- _____, *Underdevelopment in Spanish America*, Allen and Unwin 1969.
- Grindle, R. J. "Financial Structure and Development with special emphasis on the Less Developed Countries" UCHUMI, Vol. 1 No. 2, 1974.
- Gurley, J. G. and E. S. Shaw. "Financial Aspects of Economic Development" *The American Economic Review*, 1965.
- _____ and _____, "Financial Intermediaries and the Saving Investment Process" *The Journal of Finance*, 1955.
- Harberger, A. C., "Economic Problems in Latin America: A Review" *Journal of Political Economy* 1973.
- _____, "The Dynamics of Inflation in Chile" in *Measurements in Economics*, Christ, C., ed. Stanford, 1963.
- Heller, P. S., "A Model of Public Fiscal Behaviour in Developing Countries: Aid, Investment and Taxation". *The American Economic Review*, 1975.
- _____, "Impact of Inflation on Fiscal Policy in Developing Countries" *IMF Staff Papers*, 1980.
- Hirsh, F. and Goldthorpe, *The Political Economy of Inflation* (ed.) Martin Robertson 1978.
- Hyuha, M., Rutayisire, L. W. and Osoro, N. E., "An Econometric Analysis of Inflation in Tanzania" Department of Economics, Seminar Paper, University of Dar es Salaam, 1981.
- Hyuha, M. and B. J. Ndulu. "Inflation and economic Recovery in Tanzania: Some Empirical Evidence" *Uchumi* (Journal of Economic Society of Tanzania) 2(1) 1989.
- Hyuha M. and N. Osoro. "An Econometric Analysis of Inflation in Tanzania" *Journal of Economic Reflection*, 1982.
- _____, and B. J. Ndulu. "Inflation and Economic Recovery in Tanzania: Further Empirical Evidence" *Mimeo Economic Policy Workshop*, Dar es Salaam, 1990.

- Jackman, R., C. Muvley, and J. Trevithick. *The Economics of Inflation*, Oxford 1982.
- Jansen, K., *Monetarism, Economic Crisis and the Third World*, ed. Frank Cass, 1983.
- Johnson, H. G. "*Recent Developments in Monetary Theory*" in *Essays in Monetary Economics*, Harvard, 1969.
- Kaldor, N., "*The New Monetarism*" *Lloyds Bank Review*, 97, 1970.
- Keran, M. W. "*Monetary and Fiscal Influence on Economic Activity: the Foreign Experience*" *Federal Reserve Bank of St. Louis Review*, 1970.
- KhateKhate, D. R. et. al. "*A Money Multiplier Model for a Developing Country*" *IMF Staff Papers*, 1974.
- Khan, M. and M. D. Knight. "*Stabilisation Programs in Developing Countries: A Formal Framework*" *IMF Staff Paper*, 1981.
- Kilindo, A. L. "*Government Deficits and the Process of Inflation in Tanzania*" Unpublished M. A. Thesis, University of Dar es Salaam, 1982.
- Kimei, C. S., *Tanzania's Financial Experience in the Post-War Period* Uppsala University, 1986.
- King, J. R., *Stabilization Policy in an African Setting, Kenya 1963-1973*, Heinemann, 1979.
- Kirkpatrick, C. H., and Nixon, F. I., *The Origins of Inflation in Less Developed Countries: A Selected Review*, Manchester, 1974.
- Komiya, R. and Suzuki, I. "*Inflation in Japan*" in Krause L. B. and W. S. Salant, eds. *Worldwide Inflation*, the Brookings, 1977.
- Koutsoyiannis, A., *Theory of Econometrics*, Macmillan, 1977.
- Kuuya, P. M., "*Inflation: Tanzania's Dilemma*", *Economic Research Bureau Paper 75.8*, (University of Dar es Salaam), 1975.
- Laidler, D. E. W., "Inflation - A Survey", *Economic Journal* Vol. 85, No. 340, (1975).
- _____, "*Inflation in Britain: A Monetarist Perspective*" in *American Economic Review*, Vol. 66, No. 4, (Sept. 1976)
- Levhari, D. and D. Patinkin. "*The Role of Money in a Simple Growth Model*" *The American Economic Review*, 1968.

Lioi, V. C., *Inflation in Developing Countries*, North Holland, 1974.

Loxley, J., "*The Finance of Government Spending in Tanzania since Independence*" in Raslimali No. 1 (1972).

Lybeck J. A. and R. L. Teigen "*Monetary and Fiscal Influences on Economic Activity: A Note on Sweden*" Swedish Journal of Economics, 1975.

Makinen, G. E., *Money the Price Level and Interest Rates: An Introduction to Monetary Theory*. Engelwood Cliffs, N. J.: Prentice-Hall, 1977.

Malima, K. A., "*Inflation in the Tanzania Environment*" in Rwegasira K. S. P. and Kannevorff, L. A. Eds. *Inflation in Tanzania (Causes, effects and Control)*. IFM (1980).

_____, "*Planning for Self Reliance: Tanzania's Third Five Year Development Plan*", Economic Research Bureau Paper 78.1, (University of Dar es Salaam), 1978.

Maro, W. et.al. "*Cost of Maize Production*" mimeo 1990.

Marty, A. L., "*Growth and the Welfare Cost of Inflationary Finance*", Journal of Political Economy Vol. 75, No. 1, February 1967.

Meltzer, A. H. "*Money Intermediation and Growth*" Journal of Economic Literature, 1969.

Mundell, R. A., "*Growth, Stability and Inflationary Finance*" Journal of Political Economy, Vol. 73, No. 2, (April, 1965).

Ndulu, B. J., "*The Differential Impact of Inflation with the Tanzanian Economy*", M. A. Thesis University of Dar es Salaam, 1975.

_____, "*The Current Economic Stagnation in Tanzania: Causes and Effects*" mimeo. Dar es Salaam 1985.

Ndulu, B. J. and Hyuha M. "*Inflation and Economic Recovery in Tanzania*" Uchumi Vol. 2 No. 1 1989.

_____, "*Inflation and Economic Recovery in Tanzania: Further Empirical Evidence*" mimeo 1990.

Ndyeshobola, A. A., "*An Overview of Inflation in Tanzania: Causal Factors and Propagating Mechanisms*" in Rwegasira, K. S. P. and Kannevorff, L. A. eds. *Inflation in Tanzania (Causes, Effects and Control)*, IFM, 1980.

- _____. *Inflation and Underdevelopment in a Peripheral Economy: The 1960-80 Tanzanian Experience*. ISS, The Hague, 1983.
- Naho, A. "*Monetary Supply, Inflation, and the Balance of Payments in Tanzania*" Economic Research Bureau paper, No. 83. 1983.
- Newlin, W. T., *Theory of Money*, 2nd Edition. Clarendon Press, Oxford, 1971.
- Nordhaus, W. D., "The Political Business Cycle", *Review of Economic Studies*, 1975.
- Nsengiyumva, F., "Determinants of the Tanzanian Money Supply (June 1966-June 1976). M. A. Thesis (University of Dar es Salaam) 1977.
- Patrick, A., Booth, A. and R. M. Sundrum, "*An Econometric Model of the Monetary Sector in Indonesia*", *Journal of Development Studies*, 1985.
- Park, Y. C. "*The Role of Money in Stabilisation Policies in Developing Countries*". IMF Staff Papers. 1973.
- Parkin, M. and Zis, G. eds., *Inflation in the World Economy*. Manchester University Press, 1976.
- Pattison, J. C., "*International Transmission of Inflation*" in Parkin and Zis, op. cit.
- Pierce, D. G. and D. M. Shaw, *Monetary Economics Theories, Evidence and Policy*, London, Butterworths, 1974.
- Rao, V.K.R.V., "*Deficit Financing for Capital Formation and Price Behaviour in an Underdeveloped Economy*", in *Essays in Economic Development*, Asia Publishing House, 1964.
- Rwegasira, D. G., *Inflation and Monetary Expansion: The 1966-73 Tanzanian Experience*. Economic Research Bureau Paper 76.8, (University of Dar es Salaam), 1976(a).
- _____, "*Inflation and the structure of the Tanzanian Economy: The 1966-73 Evidence*", Economic Research Bureau Paper 76.9 (University of Dar es Salaam 1976b).
- _____, "*Monetary Stability and Economic Development in Uchumi* vol. 1 No. 2, (1974).
- Rwegasira, K.S.P., and Kannevorff, L.A., *Inflation in Tanzania. (causes, effects and control)* IFM, 1980.
- Savage, D.L., "*The channels of Monetary Influence: A Survey of the empirical Evidence*", *National Institute Economic Review*, 1976.

- Sayder, W.W., "Money in a Developing Economy: A Case Study to Pakistan" *The Review of Economics and Statistics*, 1964.
- Seers, D., "A Theory of Inflation and Growth Based on Latin American Experience", *Oxford Economic Papers*, (June 1962).
- Shah, V.C., "Monetary Analysis in India 1948-49 - 1958-59", *Indian Economic Journal*, 1962.
- Shumbusho, M., "the Monetary Approach to the Balance of payments in Tanzania" Unpublished M.A. Thesis. University of Dar es Salaam, 1985.
- Tanzi, Vito (1977), "Inflation, Lags in Collection, and the Real Value of Tax Revenue" *IMF Staff Papers*, Vol. 24, 1977.
- _____ (1978), "Inflation, Real Tax Revenue and the Case for Inflationary Finance: Theory with an Application to Argentina", *IMF Staff Papers*.
- _____, "Inflation, Real Tax Revenue and the Case for Inflationary finance: Theory with an Application to Argentina", *IMF Staff Papers*, 1987.
- Tanzi, v. "The Impact of Macroeconomic Policies on the Level of Taxation (and on the Fiscal Balance) in Developing Countries". *IMF Working Paper*, mimeo, 1988.
- Ubogü, R.E., "Potency of Monetary and Fiscal Policy Instruments Economic, Activities of African Countries", *Savings and Development* 1985.
- United Republic of Tanzania, "Annual Plans", 1974-79.
- _____, Economic Survey, 1974-90.
- _____, First Five Years Plan", 1964.
- _____, "Second Five Year Plan", 1969. "The National Economic survival Programme", 1981.
- _____, "The Structural Adjustment Programme", 1981.
- _____, "The Economic Recovery programme". 1986.
- Warbuton, C., "The Misplaced emphasis in Contemporary Business Cycle Theory", in Lutz, F.A. and L.W. Mints eds. *Readings in Monetary Theory*, Philadelphia, 1951.
- Wonnacot, R.J. and Wonnatt, T.H.. *Econometrics*, John Wiley, 1970.