

---

This work is licensed under a  
Creative Commons  
Attribution – NonCommercial - NoDerivs 3.0 Licence.

To view a copy of the licence please see:  
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

MONETARY EXPANSION IN EAST AFRICAN ECONOMIC DEVELOPMENT.

I. Introduction:

1. The growth of money supply, we can state boldly, is a function of the growth of the national economy lato sensu; i.e. of the growth of national income, or in the East African case the GDP. In terms of the classics, in order that there be equilibrium, money supply must grow at the rate of the growth of national income. In this case, inflationary and deflationary tendencies are automatically regulated by the rhythm of the economy. Indeed, since the national income is simultaneously a generator of money incomes and expenditures<sup>(1)</sup>, it goes without say that the two factors are intricately correlated. It is thus both logical and desirable that in projecting the future money supply of any one nation or community, the national income or GDP be the basis of the projection, because as we have said, to each level of national income or GDP, there corresponds a given pattern of money supply; subject of course to the community's habits and established customs concerning banking and outlay. In normal periods, however, and over a short period of time, habits or customs are likely to vary less violently; thus projection is apt to be more or less correct to undertake.

2. This paper then sets out to project East African money supply for a period of eight years, i.e. 1962 - 70. The aim is not simply to see what the level of money supply would be in 1970, but rather to see what share of the 1970 money supply would be devoted to East African development projects, both public and private. In this regard, certain assumptions are necessary; these assumptions will be explained as they come along in the course of this paper.

3. The approach followed in the paper is as follows. Firstly, some explanations on data and their sources are presented. Secondly, the method of calculation will be expounded; and finally, we shall draw certain conclusions.

II. Sources of basic monetary data.

4. Ever since the post-war period, countries the world over became aware of the importance of continued series of national accounts data as a means of providing a comprehensive picture of the past and present, and particularly for forecasting future trends of a nation's economic activities. Such figures are paramount and the economic indicators which they provide should be comparable over a series of years; we must know with relative exactitude the past and present trends in order to be in a position to plan for the future.

5. In East Africa, as well as in most underdeveloped nations of the world, the lack of continued and meaningful series of data is a great handicap, due primarily to the infancy of the organized statistical departments and to the lack of statistical returns covering every sector of the national economic structure. In this respect, the East

(1) Both consumption and investment expenditures.

African monetary statistics are not as complete as, say, trade statistics, or those of public finance. Admittedly, the passive nature of the East African Currency Board and the international character of the East African commercial banks account to great extent for this deficiency. For instance, prior to 1957, no data of Zanzibar's demand, time and saving deposits are available. Also, Zanzibar's GDP figures prior to the aforesaid date are non-existent. For this reason, Zanzibar has not been studied separately, although her available data have been included in the East African totals.

6. The disadvantage arising from the unreliability, and in some cases the non-existence of serial data, is certain to affect the derived results; and since nothing can be done to fill the lacunae, the result must be regarded on an approximative basis. The reader is hence cautioned that in reading the figures given on tables I to IV, the following accounts and definitional notions should be borne in mind. Finally, not all the data in tables I to V are used in this paper -- only columns (1) to (10). The other columns are intended for future papers.

a) Currency in circulation: The East African Currency Board does not publish separate data for currency circulating in each East African state; estimates of current circulating in each territory shown in tables I to IV, were derived by dividing 'total East African Currency' in proportion to territorial monetary GDP figures. The method is the following:

If:     a = total currency circulating in East Africa,  
          b = monetary GDP (at factor cost) of each territory,  
          t = sum of territorial GDP's,

then:  $\frac{ab}{t}$  = currency circulating in each territory.

b) Deposits (Govt. accounts included):

- i. demand deposits: subject to transfer or cashing by cheque. The figures are commercial banks' balances, calendar year.
- ii. time deposits: usually not subject to transfer by cheque and lodged for a definite period subject to notice of withdrawal; the figures are commercial banks balances, calendar year.
- iii. saving deposits: lodged for a fixed period of time and not subject to transfer by cheque; figures are commercial banks' balances, calendar year.
- iv. Post Office savings deposits include annual interest credited to depositors' account.
- v. deposits of Uganda Credit & Savings Banks (as from 1951) are included in the figures of Uganda Post Office Banks.

c) Monetary Gross Domestic Figures (at factor cost)

For all East African countries, no GDP figures have been compiled for the early forties. The earliest figures given in tables I to IV are taken from H.W. Ord<sup>(2)</sup>. For Tanganyika, Ord built up the 1946 to 1951 estimates for each sector using published statistics of external trade, transport, public finance including an analyses of the public sector accounts. For 1952/53 Peacock and Dosser's<sup>(3)</sup> figures are adopted. For Kenya and

(2) H.W. Ord, "The Growth of Money Income in East Africa", The East African Economics Review, Vol. 9, No.1, June 1962.

(3) A.T. Peacock & D.G.M. Dosser: National Income of Tanganyika 1952/53 Colonial Research Study No. 26, H.M.S.O. London.

Uganda, Ord made considerable use of the available employment and wage bill data for the pre-1954 period; as well as the official net income estimates, from 1950 in Uganda and from 1947 in Kenya. Furthermore, analyses of public accounts, published data of trade, transport, agriculture and industrial production were all drawn upon to build up estimates on industrial sector basis. Figures for 1954 and subsequent years are taken from official estimates<sup>(4)</sup>. In the case of Tanganyika, where differences in GDP figures appear in official publications, I have always taken the greater estimates, following the suggestion by H.W. Ord<sup>(5)</sup> that most GDP figures are under-valued. In the case of Kenya and Uganda, post-1954 estimates in official publications are adopted without change.<sup>(6)</sup>

### III. Methods of Calculations.

#### A. Elasticity Coefficients.

7. Having compiled monetary data covering the period 1946/62, the next step was to divide the above period into two sub-periods, viz, 1946/54, 1954/62, using the entire 1946/62 period for a check. The reason for the subdivision was to permit observations on changes in monetary growths, and to calculate elasticity co-efficients required for the purpose of projections, both during a period of rapid money income growth, led by buoyant exports and including the world-wide post-war price inflation, and during a period of slower money income growth, characterised by some export difficulties and broadly stable domestic prices. Ratio of changes of monetary parameters for each of the two sub-periods and the whole period are tabulated on table VI. Using these ratios, elasticity co-efficients were calculated by the method shown on table VII. The results obtained are given in table VIII.

#### B. Method of Calculating Projections

8. In projecting the 1970 monetary levels, two important assumptions were made: a) that the GDP grows at the rates of either 5% or 7%; b) that two alternative rates of monetary growth are feasible: a low growth, assuming lower elasticity co-efficients for the projections; and a high growth, assuming higher elasticity co-efficients for the projections<sup>(7)</sup>.

#### Low Monetary Growth.

9. For the calculation of the low growth pattern, the 1954/62 sub-period elasticity co-efficients were used with the following modifications:

- i. East Africa: No modifications.
- ii. Kenya: Due to the exaggeratedly high  $E_c/m$  co-efficient, I adopted the East African one instead.
- iii. Uganda: None of the calculated 1954/62 elasticities were used in the projection. The elasticities, as shown in table VIII were either exaggeratedly high, or like the  $E_m/g$ , a negative figure. The  $E_c/m$ , although a positive figure, is a product of two negative figures. For these reasons, the East African co-efficients were adopted in the projection.

(4) Tanganyika Statistical Abstracts; E.A. Statistical Department: Economic & Statistical Reviews; Quarterly Economic & Statistical Bulletins.

(5) H.W. Ord: op.cit. (fn.2)

(6) Kenya and Uganda Statistical Abstracts; E.A. Statistical Department: op. cit. (fn 4)

(7) See details of method in paragraph 10.)

- iv. Tanganyika: For Tanganyika, the  $E_c/m$  elasticity co-efficient was thought to be abnormal, and the East African figure was used instead.

High Monetary Growth.

10. As mentioned above, the high or attainable pattern of monetary growth was calculated assuming higher elasticity co-efficients. The calculated elasticities used as the basis for the higher growth projections are those of the entire 1946/62 period. These 1946/62 elasticities have then been adjusted to lower the elasticity of the index of debits to current accounts, representing the rate of monetary turnover, into the range 1.0-1.1, and to raise correspondingly the elasticity of total money supply. In the case of the elasticity of savings deposits, the 1954/62 sub-period co-efficients were the basis of projections, raised by 10% to represent continued spreading of the practice of saving in this form. The detailed method used was the following:

i.  $E_m/g$  and  $E_i/g$  co-efficients.

The idea of the adjustment here was to raise  $E_m/g$  and decrease  $E_i/g$ , so that:

$$E_m/g \times E_i/g = \text{a constant}$$

Thus in 1946/62  $E_m/g$  for East Africa was .55, while  $E_i/g$  was 1.28.

$$.55 \times 1.28 = .7040$$

Now assuming that the future  $E_i/g$  could be reduced by 15 per cent, we have:

$$E_i/g = .85 \times 1.28 = 1.088 \text{ or } 1.090 \text{ approx.}$$

Hence:

$$E_m/g \times 1.09 = .7040$$

$$E_m/g = .65 \text{ approx.}$$

The idea was to reduce the elasticity of the rate of turnover to somewhere in the range 1.0-1.1. Thus the percentage by which  $E_i/g$  was reduced in a particular territory depended on the calculated 1946/62 magnitude of  $E_i/g$ . East Africa and Kenya  $E_i/g$  were each reduced by 15%, Uganda by 30%, and Tanganyika by 20%.

ii.  $E_c/m$  co-efficient.

The East Africa figure (1946/62) was adopted for all the countries.

iii.  $E_s/g$  Co-efficient.

The method used in estimating future  $E_s/g$  co-efficients was as follows:

For Tanganyika, the calculated  $E_s/g$  value in the 1954/62 sub-period was raised by 10%. For Kenya, the Tanganyikan value of  $E_s/g$  in the 1954/62 sub-period was adopted without modification. The abnormality of Uganda  $E_s/g$  1954/62 value necessitated the adoption of the East African co-efficient for the same year, plus 10%. The East African co-efficient was then obtained by weighting the territorial co-efficient by their respective 1963 GDP percentage, thus:



Kenya 1963 monetary GDP = 40% of the EA. total  
 Uganda " " " = 27% " " " "  
 Tang'ka " " " = 33% " " " "

E.A. Es/g co-efficient =  $(1.09 \times 40) + (1.40 \times 27) + (1.20 \times 33) = 1.21$ .

11. Having done this arithmetical play, the co-efficients used for the 1970 projections are tabulated as shown below:

	<u>Low Monetary Growth</u>	<u>High or Attainable M. Growth.</u>
<u>Elasticity of money relative to GDP (Em/g)</u>		
E.A.	EA 54-62; 1.27	Adjusted EA 46-62; .65
Kenya	K 54-62; .12	Adjusted K 46-62; .59
Uganda	EA 54-62; .27	Adjusted U 46-62; .80
Tanganyika	T 54-62; .68	Adjusted T 46-62; .78

<u>Elasticity of index of debits to current accounts relative to GDP (Ei/g).</u>		
E.A.	EA 54-62; 1.84	Adjusted EA 46-62; 1.09
Kenya	K 54-62; 1.36	Adjusted K 46-62; 1.03
Uganda	EA 54-62; 1.84	Adjusted U 46-62; 1.02
Tanganyika	T 54-62; 2.00	Adjusted T 46-62; 1.08

<u>Elasticity of currency relative to total money (Ec/m)</u>		
E.A.	EA 54-62; 1.92	EA 46-62; 1.00
Kenya	EA 54-62; 1.92	EA 46-62; 1.00
Uganda	EA 54-62; 1.92	EA 46-62; 1.00
Tanganyika	EA 54-62; 1.92	EA 46-62; 1.00

<u>Elasticity of time and savings deposits relative to GDP (Es/g)</u>		
E.A.	EA 54-62; 1.27	weighted aver. of K,U,T. 1.21
Kenya	K 54-62; 0.60	T 54-62; 1.09
Uganda	EA 54-62; 1.27	Adjusted EA 54-62; 1.40
Tanganyika	T 54-62; 1.09	Adjusted T 54-62; 1.20

#### The Projections.

12. Having thus decided on the co-efficients I then calculated the 1970 monetary values using the method exemplified in table IX below. In projecting the 1970 GDP at the alternative 5% and 7% rates of growth, the 1963 GDP was used as the basis; then I compared 1970 with the 1962 GDP figures to calculate the average rate of increase over the entire eight-year period. This roundabout method was necessitated by the fact that between 1962 and 1963 GDP figures showed an increase of approximately 20% on the average. The round-about method thus included the potential effects of the abrupt 1963 rise on monetary needs.

13. The results of the projections are shown on tables Xa and Xb respectively. By deducting the 1962 figures from those of 1970 increments of monetary values were obtained. These are shown in table XI, under the rubric of "Gross Available Credit", in the sense that no provisions for reserve requirements have been deducted.

IV. Allowance for Reserve Requirements.

A. Currency Board or Central Bank's Reserves.

14. Given the fact that by June 30th, 1963, the sterling backing of the East African currency still stands at the high level of 96.4%<sup>(8)</sup> of the outstanding East African circulation, it is reasonable that by 1970 no additional currency reserves would be required. In fact, a reduction of the present sterling currency reserves could be a significant resource for development finance. Thus if no additional currency reserves would be required by 1970, then (using the projection for East Africa as a whole) the fiduciary issue could increase by £17-23 million with the Low Growth monetary pattern; and £23-31 million with High Growth. Such sums would raise the present fiduciary issue by over 100%.

B. Commercial Banks' Reserve Requirement.

15. For speculative and particularly for simplicity reasons, I have supposed that the monetary authority - be it an enlarged form of the present Board or a new central bank - would require of commercial banks a reserve requirement of 10% for both demand and savings deposits. This might indeed be an over-simplification, because, the American differentiation between reserves against demand and savings deposits has become widely practiced in the newly independent states. However, admitting the 10% reserve requirement for both demand and savings deposits, and deducting that percentage from the "Gross Available Credit" figures on table XI. I obtained (for demand and savings deposits) The "Net Available Credit" figures in table XII

16. The difference between net available credit in the form of demand deposits under the Low Growth and High Growth monetary patterns is very large. For Low Growth net available credit would be about £5 million, whereas for High Growth it would be £32 - 43 million (again using figures for East Africa, as a whole). In either monetary pattern the net available credit in the form of time and savings deposits would be larger, in the range of £33-50 million.

V. Conclusion.

17. As a result of the projection, we have seen that the currency issued in the form of fiduciary allowance to the East African government could double the present fiduciary issue. Now, given the formula for sharing the fiduciary issue amongst member countries - formula announced in the Currency Board's Report of 30th June, 1962 - each member country could receive a net addition of about £10 million worth of credit. Such a sum is indeed appreciable for development finance.

18. On the side of the commercial banks, there could be £40-55 million worth of credit with a Low Growth monetary pattern, nearly all of it associated with expanding time and savings deposits. On the other hand, there could be £65-90 million additional credit with a High Growth pattern, with only about half in time and savings deposits. Such indeed would be a big boost of internal credit than has been in recent years. The commercial banks would extend credit either to the governments or to private individuals, and in so doing, they would play an essential role in the economic development of East Africa.

I am greatly indebted to Prof. P.G. Clark for his untiring assistance in the preparation of this paper. However any error arising in this paper is, of course, my own.

(8) G.M. Lomoro. Methods of Monetary Control in an EA Federation EDRP.No.32, 3.3.64.

Bibliography

- 1) East African Statistical Department:
  - a) Economic and Statistical Reviews
  - b) Quarterly Economic and Statistical Bulletins
- 2) Kenya, Uganda and Tanganyika Statistical Abstracts
- 3) The International Bank for Reconstruction and Development:  
The Economic Development of:
  1. Kenya, Government Printer, Nairobi, 1962.
  2. Uganda, Government Printer, Entebbe, 1961.
  3. Tanganyika, Government Printer, Dar-es-Salaam, 1960.
- 4) East African Currency Board's Reports
- 5) E. Blumenthal, 'The Present Monetary System and its Future',  
Government Printer, Dar-es-Salaam, 1963.
- 6) East African Economics Reviews, particularly vol 9, No 1, June  
1962
- 7) Annual Trade Reports, Kenya, Uganda and Tanganyika.



TABLE I.

EAST AFRICAN  
KENYA, UGANDA, TANGANYIKA, ZANZIBAR.

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	£'m.
Year	Currency in Circulation at 30th June.	Commercial Banks demand deposits/ end of year month	Total money supply (1+2)	Commercial time deposits/ end of year month	Commercial Banks Savings deposits/ end of year month	Post Offices Savings deposits/ end of year month	Total near money (4+5+6)	Total money supply + total near money (3+7)	Commercial banks debit to current account: 1950= 100	Monetary GDP. at factor cost (annual)	Monetary gross cap. formation at market prices (annual)	Value of domestic & territorial export (annual)	Value of re-exports (annual)	Value of total exports (12+13, annual)	Value of net imports (annual)	Visible balance of trade (annual; 14-15)	
1946	21.0	33.3	54.3	3.7	1.8	6.8	12.3	66.6	44.0	79.3		27.4	4.6	32.0	32.7	- 0.7	
1947	21.0	38.6	59.6	4.3	1.8	7.3	13.4	73.0	51.8	94.2		33.2	6.3	39.5	47.3	- 7.8	
1948	20.0	44.3	64.3	4.3	1.9	8.3	14.5	78.8	64.2	118.7		43.5	9.7	53.2	70.7	- 17.5	
1949	24.0	44.7	68.7	3.9	1.9	9.4	15.2	83.9	83.8	148.9		57.3	20.7	78.0	104.7	- 26.7	
1950	26.0	57.6	83.6	4.3	1.8	10.3	16.4	100.0	100.0	181.2	31.9	82.2	5.7	87.9	86.1	+ 1.8	
1951	35.0	67.1	102.1	7.5	1.8	11.2	20.5	122.6	138.3	245.7	11.9	125.1	5.3	130.4	118.5	+ 11.9	
1952	40.0	75.7	115.7	6.8	2.1	12.4	21.2	136.9	158.7	263.6	48.8	135.3	6.1	141.4	137.3	+ 4.1	
1953	41.0	68.6	109.6	9.0	2.9	13.4	25.3	134.9	153.5	245.6	53.0	107.8	5.8	113.6	125.2	- 11.6	
1954	45.0	80.6	125.6	7.5	4.0	14.2	25.7	151.3	185.8	286.2	75.4	114.7	5.3	120.0	137.8	- 17.8	
1955	54.0	83.8	137.8	6.6	5.9	15.5	28.0	165.8	248.0	320.1	90.2	124.4	4.9	129.3	171.3	- 42.0	
1956	54.0	70.9	124.9	9.3	7.3	14.9	31.8	156.7	254.1	338.3	90.3	134.7	8.5	148.2	152.8	- 4.6	
1957	54.0	70.1	124.1	10.7	9.7	15.0	35.4	159.5	261.0	367.7	90.1	135.1	8.5	143.6	160.3	- 17.0	
1958	52.0	68.8	120.8	11.7	12.1	14.4	38.2	159.0	266.0	309.6	82.3	139.9	8.0	147.9	148.4	- 0.5	
1959	50.0	75.1	125.1	11.5	13.1	14.7	39.3	164.4	285.0	381.9	79.2	144.6	8.9	153.5	147.0	+ 6.5	
1960	52.0	67.7	119.7	8.3	11.3	12.2	31.8	151.5	309.0	412.3	83.4	159.3	8.8	168.1	162.0	+ 6.1	
1961	53.0	77.1	130.1	10.3	13.4	11.6	35.3	165.4	314.0	413.1	72.8	143.7	11.3	155.0	165.6	- 10.6	
1962	54.0	83.8	137.8	13.0	16.0	11.2	40.2	178.0	351.0	409.7	75.2	147.2	12.5	156.5	167.4	- 7.8	
1963										476.6							

Source: See attached sheet

TABLE II.

## KENYA.

(0)	(1)	(2)	(3) (1 + 2)	(4)	(5)	(6)	(7) (4+5+6)	(8)	(9)	(10)	(11)	(12)	(13)	(14) (12+13)	(15)	(16) (14-15)	£'m.
Year	Currency in Cir- culation at 30th June	Commer- cial Banks de- posits/ end of year month	Total Money Supply (1+2)	Commer- cial time deposits/ end of year month	Commercial Savings deposits/ end of year month	Post- Office Savings depos- its/ end of yr.m.	Total Near- Money (4+5+6)	Total Money supply + total near money (3+7)	Commer- cial banks debit to cur- rent account 1950= 100	Mone- itary GDP. at factor cost (annual)	Mone- itary gross cap. & forma- tion at market prices (annual)	Value of do- mestic & inter- territorial exports (annual)	Value of re- ports (annual)	Value of total ex- ports (annual)	Value of net imports (annual)	Visible balance of trade (annual; 14-15)	
1946	9.2	20.5	29.7	2.2	1.1	4.9	8.2	37.9	47.5	34.8		7.1	3.4+	10.5	17.0*	- 6.5	
1947	9.2	24.6	33.8	2.5	1.1	5.3	8.9	42.7	55.2	41.3		9.6	5.2+	14.8	23.5*	- 8.7	
1948	8.5	26.8	35.3	2.6	1.1	5.8	9.5	44.8	68.6	50.3		11.4	8.0+	19.4	34.0*	-14.6	
1949	9.8	25.5	35.3	2.3	1.1	6.4	9.8	45.1	87.4	61.1		11.0	18.2	29.2	56.9	-27.7	
1950	10.6	30.1	40.7	2.5	1.0	6.9	10.4	51.1	100.0	74.1	22.0	20.8	3.6	24.4	37.5	-13.1	
1951	13.1	38.6	51.7	2.2	1.0	7.4	10.6	62.3	135.0	91.7	n.a	27.8	3.3	31.1	57.5	-26.4	
1952	14.7	39.4	54.1	3.4	1.1	8.2	12.7	66.8	156.2	96.7	30.8	31.1	3.9	35.0	63.6	-28.6	
1953	16.3	37.6	53.9	2.8	1.6	8.8	13.2	67.1	143.8	97.9	32.5	24.8	3.4	28.2	56.5	-28.3	
1954	18.0	46.8	64.8	3.9	2.2	9.4	15.5	80.3	188.0	114.3	35.3	26.1	2.5	28.6	65.6	-37.0	
1955	23.0	51.9	74.9	2.8	3.2	10.3	16.3	91.2	284.4	136.4	43.1	31.7	2.4	34.1	77.5	-43.4	
1956	25.4	43.4	68.8	4.1	3.9	9.8	17.8	84.6	291.6	146.8	46.1	38.0	4.1	42.1	73.8	-31.7	
1957	23.3	42.9	66.2	5.0	5.1	9.0	19.1	85.3	298.0	153.4	45.6	37.8	4.9	42.7	76.5	-33.8	
1958	22.4	39.9	62.3	6.1	6.2	8.7	21.0	83.3	297.0	154.8	40.0	40.0	3.9	43.9	66.3	-22.4	
1959	21.1	44.0	65.1	5.9	7.1	8.7	21.7	86.8	313.0	156.7	40.3	45.6	5.1	50.7	67.0	-16.3	
1960	22.8	40.5	63.1	4.4	5.5	7.0	16.9	80.0	332.0	175.3	41.4	49.0	5.0	54.0	77.1	-23.1	
1961	23.3	41.2	64.5	4.1	7.1	6.5	17.7	82.2	328.0	176.8	31.9	43.2	6.4	49.6	75.9	-26.3	
1962	23.7	45.0	68.7	5.3	8.8	6.3	20.4	89.1	345.0	180.0	33.4	45.7	7.2	52.9	76.8	-23.9	
1963										195.3							

Source: See attached sheet.

TABLE III

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	UGANDA		(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Year	Currency in Circulation at 30th June	Commercial Banks demand deposits/ end of year month	Total Money Supply (1+2)	Commercial time deposits/ end of year month	Commercial Banks Savings deposits/ end of year month	Post Office Savings deposits/ end of year month	Total Money (4+5+6)	Total money supply + total near money (3+7)	Commercial banks debit to current accounts 1950=100	Non-tary GDP. at factor cost (annual)	M.G. C.F. at market prices (annual)	Value of domestic & inter-territorial exports (annual)	Value of re-exports (annual)	Value of total exports (12+13 annual)	value of imports (annual)	value of net balance of trade (annual, 14-15)		
1946	5.7	4.6	10.3	0.7	0.3	1.0	2.0	12.3	39.6	21.4		9.7	0.4+	10.1	5.6*	+ 4.5		
1947	5.5	5.7	11.2	0.7	0.3	1.0	2.0	13.2	47.4	24.6		11.4	0.4+	11.8	7.9*	+ 3.9		
1948	5.1	6.2	11.4	0.5	0.3	1.2	2.0	13.4	65.9	30.3		14.5	0.4+	14.9	11.4*	+ 3.5		
1949	6.9	7.7	14.6	0.5	0.3	1.4	2.2	16.8	80.1	42.8		23.4	0.4	23.8	14.0	+ 9.8		
1950	7.8	11.7	19.5	0.6	0.3	1.6	2.5	22.0	100.0	54.3	9.9	33.0	0.2	33.2	16.8	+16.4		
1951	11.9	10.6	22.5	3.7	0.3	1.8+	5.8	28.3	155.9	83.8	11.9	51.5	0.2	51.7	24.0	+27.7		
1952	13.4	13.2	31.6	0.9	0.4	2.1*	3.4	35.0	178.2	88.3	13.0	52.9	0.5	53.4	26.6	+26.8		
1953	12.7	13.8	26.5	3.2	0.5	2.3*	6.0	32.5	197.3	76.3	20.5	40.4	0.3	40.7	28.9	+11.8		
1954	14.6	16.4	31.0	1.2	0.8	2.4*	4.4	35.4	224.9	92.8	13.8	48.1	0.5	48.6	28.4	+20.2		
1955	17.2	15.0	32.2	1.1	1.2	2.6*	4.9	37.1	263.4	101.9	23.5	49.8	0.4	50.2	38.0	+12.2		
1956	16.4	12.9	29.3	1.7	1.6	2.6*	5.9	35.2	262.9	102.8	21.3	44.8	1.1	45.9	33.3	+12.6		
1957	16.6	10.9	27.5	1.8	2.2	2.8*	6.8	34.3	272.0	109.4	20.4	51.2	0.9	52.1	35.4	+16.7		
1958	15.4	12.2	27.6	1.8	3.2	2.8*	7.8	35.4	294.0	106.4	19.6	51.7	0.9	52.6	34.3	+18.3		
1959	14.6	11.8	26.4	2.2	2.9	3.2*	8.3	34.7	330.0	108.1	17.1	47.3	1.1	48.4	32.0	+16.4		
1960	14.4	9.0	23.4	1.3	3.1	3.0*	7.4	30.8	365.0	110.5	17.0	48.3	1.3	49.6	32.7	+16.9		
1961	14.7	10.4	25.1	1.9	3.4	3.0*	8.3	33.4	356.0	111.7	16.0	46.1	2.1	48.2	33.9	+14.3		
1962	14.0	11.3	25.3	2.2	3.9	2.8*	8.9	34.7	383.0	106.4	15.4	44.7	2.1	47.8	33.8	+14.0		
1963										128.7								

fn. (1)

\* NB: The EACB does not publish separate data of Currency in circulation in each member territory. The above figures were derived by dividing E.A. Currency in proportion to G.D.P. of each territory.

\*fn (6)

Including Balances of Uganda Credit & Savings Banks as at 31.12.1951/54 and as at 30.6.1955/63. There was a change of financial year from December to June.

See:  
Fn.13See:  
fn(15)

Sources - see attached sheet.



TABLE IV

TANGANYIKA.

£'M.

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)		
Year	Currency in Circulation at 30th June	Commercial Banks deposits/ end of year month	Total Money Supply (1+2)	Commercial time deposits/ end of year month	Commercial Banks Savings deposits/ end of year month	Post Office Savings Bank deposits/ end of year month	Total Near money (4+5+6)	Total money supply + total near month (3+7)	Commercial banks debit to current account 1950=100	Monetary GDP. fact cost (annual)	P.P.S. value at market prices (annual)	G.D.P. value of domestic & international exports (annual)	Value of exports (annual)	Value of total exports (12+13)	Value of net imports (annual)	Visible balance of trade (annual; 14-15)		
1946	6.1	8.2	14.3	0.8	Not known	0.4	not known	0.9	2.1	16.4	39.0	23.1	3.9	0.4	9.3	8.1	+ 1.2	
1947	6.3	8.3	14.6	1.1	known	0.4	known	1.0	unknown	2.5	17.1	48.1	28.3	11.1	0.4	11.5	13.9	+ 2.4
1948	6.4	11.3	17.7	1.2	whether included	0.5	whether included	1.3	whether included	3.0	20.7	54.1	58.1	16.2	0.7	16.9	22.6	- 5.7
1949	7.5	11.5	18.8	1.1	Zanzibar	0.5	Zanzibar	1.6	includes Zanzibar	3.2	22.0	81.3	45.0	20.8	1.5	22.3	30.8	- 8.5
1950	7.6	15.8	23.4	1.2	is included	0.5	is included	1.8	Zanzibar	3.5	26.9	100.0	52.8	24.1	1.3	25.4	27.9	- 2.5
1951	10.0	17.9	27.9	1.6	included	0.5	included	2.0		4.1	32.0	132.0	70.2	40.5	1.0	41.5	31.7	+ 9.8
1952	11.9	18.1	30.0	2.4		0.6		2.1		5.1	35.1	153.6	78.6	47.4	1.0	48.4	41.9	+ 6.5
1953	12.0	17.2	29.2	3.0	not certain	0.8		2.3		6.1	35.3	144.1	71.4	35.4	1.4	36.8	33.9	+ 2.9
1954	12.4	17.4	29.8	2.4	certain	1.0		2.4		5.3	35.6	154.3	79.1	21.3	1.5	36.8	37.9	- 1.1
1955	13.8	16.9	30.7	2.7	whether Zanzibar included	1.5		2.6		6.8	37.5	165.5	81.8	25.6	1.2	39.1	49.1	-10.0
1956	14.2	14.6	28.8	3.8	is included	1.8		2.5		8.1	36.9	173.7	89.3	22.4	1.4	48.4	39.3	+ 9.1
1957	14.1	13.9	28.0	3.5		2.2		2.4		8.1	36.1	174.0	92.9	24.1	1.4	43.0	42.2	+ 0.8
1958	14.2	14.6	28.8	3.4		2.5		2.2		8.1	36.9	185.0	97.9	22.7	1.4	44.3	42.6	+ 3.8
1959	14.3	16.0	30.3	3.0		2.9		2.1		8.0	38.3	199.0	106.2	21.8	1.9	48.8	42.6	+ 7.2
1960	14.8	14.8	29.6	2.2		2.5		1.6		6.3	35.9	228.0	114.4	25.0	1.7	58.9	47.0	+11.9
1961	15.0	21.4	36.4	3.7		2.6		1.5		7.8	44.2	368.0	113.5	24.9	2.0	52.8	50.3	+ 2.5
1962	16.3	24.2	40.5	4.8		3.0		1.6		9.4	49.9	365.0	123.3	26.8	2.2	55.8	51.5	+ 4.3
1963												154.6						

Sources:- See attached sheet.

TABLE V.

## ZAMBIBAR.

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Year	Currency in Circulation at 30th June	Commercial Banks demand deposits end of year month	Total Money Supply (1+2)	Commercial time deposits end of year month	Commercial Banks Savings deposits end of year month	Post offices Savings deposits end of year month	Total Near money (4+5+6)	Total money supply total near money (3+7)	Commercial banks debit to current account 1950=100	Money-tary GDP. at factor cost (annual)	M.G.C.F. at market prices (annual)	Value of domestic & inter-territorial export (annual)	Value of re-exports (annual)	Value of total exports (12+13, annual)	Value of net imports (annual)	Visible balance of trade (annual, 14-15)
1946									49.0		.7	1.7	0.4	2.1	2.0	+ 0.1
1947									47.7			1.1	0.3	1.4	2.0	- 0.6
1948									50.9			1.4	0.6	2.0	2.7	- 0.7
1949									60.1			2.1	0.6	2.7	3.0	- 0.3
1950									100.0			4.3	0.6	4.9	3.9	+ 1.0
1951									138.2			5.5	0.3	6.1	5.3	+ 0.8
1952									112.5			3.9	0.7	4.6	5.2	- 0.6
1953									153.0			7.2	0.7	7.9	5.9	+ 2.0
1954									136.5			5.2	0.8	6.0	5.9	+ 0.1
1955									152.2			5.0	0.9	5.9	6.7	- 0.8
1956									129.4			4.9	1.9	6.8	6.4	+ 0.4
1957		2.4		0.4	0.2	0.8	1.4		161.0	12.0		4.7	1.1	5.8	5.5	- 0.7
1958		2.1		0.4	0.2	0.7	1.5		114.0	10.5		3.9	1.1	5.0	5.2	- 0.2
1959		3.3		0.4	0.2	0.7	1.3		112.00	10.9		3.8	0.8	4.6	5.4	- 0.6
1960		3.6		0.4	0.2	0.6	1.2		134.0	12.1		4.6	0.8	5.6	5.2	+ 0.4
1961		4.1		0.6	0.3	0.6	1.5		115.0	11.1		3.6	0.8	4.4	5.5	- 1.1
1962		2.8		0.7	0.3	0.5	1.5		118.0			3.2	n.a	n.a	5.3	n.a

Sources: see attached sheet.

TABLE VI.

Ratios of Change of Monetary Parameters.

	<u>1946/54</u>	<u>1954/62</u>	<u>1946/62</u>
<u>I. EAST AFRICA.</u>			
Monetary GDP	3.61	1.43	5.17
Money supply	2.31	1.10	2.54
Index of debits to current accounts	4.22	1.89	7.98
Currency	2.14	1.20	2.57
Time and savings deposits	2.09	1.56	3.27
<u>II. KENYA.</u>			
Monetary GDP	3.28	1.57	5.17
Money supply	2.18	1.06	2.31
Index of debits to current accounts	3.96	1.84	7.26
Currency	1.96	1.32	2.58
Time and savings deposits	1.89	1.32	2.49
<u>III UGANDA.</u>			
Monetary GDP	4.34	1.15	4.97
Money supply	3.01	0.83	2.50
Index of debits to current accounts	5.68	1.70	9.67
Currency	2.56	0.96	2.46
Time and savings deposits	2.20	2.02	4.46
<u>IV. TANGANYIKA.</u>			
Monetary GDP	3.42	1.56	5.34
Money supply	2.08	1.36	2.83
Index of debits to current accounts	3.96	2.37	9.36
Currency	2.03	1.31	2.67
Time and savings deposits	2.76	1.62	4.48



TABLE VII.

Method of Calculating Elasticities  
East Africa 1954/62 as an example.

If:  
 g = annual average rate of growth of GDP  
 m = " " " " " " money supply  
 i = " " " " " " index of debits to current accounts.  
 c = " " " " " " currency  
 s = " " " " " " time and savings deposits  
 E = elasticity co-efficient

then:-

- (1)  $(1+g)^8 = 1.43$ ;  $8 \log(1+g) = \log(1.43)$ ;  
 $\log(1+g) = 1/8 \log(1.43)$ ;  $(1+g) = 1.045$ ;  $g = .045$   
 $(1+m)^8 = 1.10$ ;  $8 \log(1+m) = \log(1.10)$ ;  
 $\log(1+m) = 1/8 \log(1.10)$ ;  $(1+m) = 1.012$ ;  $m = .012$   
 $E \ m/g = \frac{.012}{.045} = \underline{0.27}$
- (2)  $(1+i)^8 = 1.89$ ;  $8 \log(1+i) = \log(1.89)$ ;  
 $\log(1+i) = 1/8 \log(1.89)$ ;  $(1+i) = 1.083$ ;  $i = .083$   
 $E \ i/g = \frac{.083}{.045} = \underline{1.84}$
- (3)  $(1+c)^8 = 1.20$ ;  $8 \log(1+c) = \log(1.20)$ ;  
 $\log(1+c) = 1/8 \log(1.20)$ ;  $(1+c) = 1.023$ ;  $c = .023$   
 $E \ c/m = \frac{.023}{.012} = \underline{1.92}$
- (4)  $(1+s)^8 = 1.56$ ;  $8 \log(1+s) = \log(1.56)$ ;  
 $\log(1+s) = 1/8 \log(1.56)$ ;  $(1+s) = 1.057$ ;  $s = .057$   
 $E \ s/g = \frac{.057}{.045} = \underline{1.27}$

TABLE VIII

Elasticity Co-efficients.I. EAST AFRICA.

	<u>1946/54</u>	<u>1954/62</u>	<u>1946/62</u>
Em/g	0.63	0.27	0.55
Ei/g	1.13	1.84	1.28
Ec/m	0.91	1.92	1.00
Es/g	0.55	1.27	0.70

II. KENYA.

Em/g	0.64	0.12	0.50
Ei/g	1.18	1.36	1.21
Ec/m	0.86	5.00	1.13
Es/g	0.52	0.60	0.54

III. UGANDA.

Em/g	0.73	-1.44	0.56
Ei/g	1.20	4.00	1.46
Ec/m	0.84	0.22*	0.93
Es/g	0.52	5.41	0.93

IV TANGANYIKA.

Em/g	0.58	0.68	0.62
Ei/g	1.13	2.00	1.36
Ec/m	0.96	0.87	0.94
Es/g	0.81	1.09	0.89

\* a product of two negative figures.

TABLE IX.

Method of Projection with assumed elasticities.

Example: East Africa 5% GDP growth, High Growth monetary pattern.

$$\begin{aligned} 1. \text{ GDP}_{1970} &= \text{GDP}_{1963} \cdot (1+r)^n; (1+r)^n = (1.05)^8 = 1.4774 \\ " &= 476.6 \times 1.4774 = \underline{\underline{\text{£ } 704.1}} \end{aligned}$$

$$\text{GDP}_{1970} / \text{GDP}_{1962} = \frac{704.1}{409.7} = 1.72$$

$$(1+g)^8 = 1.72; (1+g) = 1.070; g = .070$$

---

$$\text{II. } E_{m/g} = .65; m = .65g = .65 \times .070 = .0455$$

$$(1+m)^8 = (1.045)^8 = 1.4221$$

$$m_{1970} = \text{£}137.8 \times 1.4221 = \underline{\underline{\text{£ } 196}}$$

---

$$\text{III. } E_{i/g} = 1.09; i = 1.09g = 1.09 \times .070 = .07630$$

$$(1+i)^8 = (1.076)^8 = 1.7969$$

$$i_{1970} = 351 \times 1.7969 = \underline{\underline{630}}$$

---

$$\text{IV. } E_{c/m} = 1.00; 1.00m = 1.00 \times .045 = .045$$

$$(1+c)^8 = (1.045)^8 = 1.4221$$

$$c_{1970} = \text{£}54 \times 1.4221 = \underline{\underline{\text{£ } 76.8}}$$

---

$$\text{V. } E_{s/g} = 1.21; s = 1.21g = 1.21 \times .070 = .08470$$

$$(1+s)^8 = (1.085)^8 = 1.9204$$

$$s_{1970} = \text{£}40.2 \times 1.9204 = \underline{\underline{\text{£ } 77.2}}$$

---

TABLE X(a)

LOW GROWTH		£' million											
		1962				1970, 5% GDP GROWTH				1970 less 1962			
I t e m		Kenya	Uganda	Tang'ka	East Africa	Kenya	Uganda	Tang'ka	East Africa	Kenya	Uganda	Tang'ka	East Africa
Monetary GDP		180.0	106.4	123.3	409.7	285.6	190.0	228.4	704.1	105.6	83.6	105.1	294.4
Currency		23.7	14.0	16.3	54.0	26.1	18.9	36.0	71.1	2.4	4.9	19.7	17.1
Monetary supply		68.7	25.8	40.5	137.8	72.6	30.2	61.7	160.2	3.9	4.4	21.2	22.4
Near money		20.4	8.9	9.4	40.2	27.1	18.4	18.3	79.5	6.7	9.5	8.9	39.3
Index of Data to Current Account. (1950 = 100)		345.0	383.0	365.0	351.0	648.0	1077.0	1197.0	926.0	303.0	694.0	823.9	575.0
I t e m		1962				1970, at 7% GDP Growth				1970 less 1962			
Monetary GDP		180.0	106.4	123.3	409.7	332.2	221.2	265.7	819.1	152.2	114.8	142.4	409.4
Currency		23.7	14.0	16.3	54.0	27.6	20.7	43.6	77.4	3.9	6.7	27.3	23.4
Money supply		68.7	25.8	40.5	137.8	74.4	31.7	68.3	166.7	5.7	5.9	27.8	28.9
Near money		20.4	8.9	9.4	40.2	29.7	22.4	21.5	95.4	9.3	13.5	12.1	55.2
Index of Data to Current Account (1950 = 100)		345.0	383.0	365.0	351.0	789.0	1410.0	1569.0	1199.0	444.0	1027.0	1204.0	848.0

N.B. The territorial data do not add up to the East African figures.

TABLE X (b)

£' million.

I t e m	HIGH GROWTH				1970, 5% GDP GROWTH				1970 Less 1962			
	1 9 6 2				1970, 5% GDP GROWTH				1970 Less 1962			
	Kenya	Uganda	Tang'ka	East Africa	Kenya	Uganda	Tang'ka	East Africa	Kenya	Uganda	Tang'ka	East Africa
Monetary GDP	180.0	106.4	123.3	409.7	285.6	190.1	228.4	704.1	105.6	83.7	105.1	294.4
Currency	23.7	14.0	16.3	54.0	31.2	22.3	26.4	76.8	7.5	8.3	10.1	22.8
Money supply	68.7	25.8	40.5	137.8	90.5	41.1	65.5	196.0	21.8	15.3	25.0	58.2
Near Money	20.4	8.9	9.4	40.2	33.8	19.8	19.6	77.2	13.4	10.9	10.2	37.0
Index of debit to Current Account (1950=100)	345.0	383.0	365.0	351.0	558.0	688.0	706.0	630.0	213.0	305.0	341.0	279.0
I t e m	1 9 6 2				1970, 7% GDP GROWTH				1970 Less 1962			
Monetary GDP	180.0	106.4	123.3	409.7	332.2	221.2	265.7	819.1	152.2	114.8	142.4	409.4
Currency	23.7	14.0	16.3	54.0	34.2	25.3	29.7	84.8	10.5	11.3	13.4	30.8
Money supply	68.7	25.8	40.5	137.8	99.2	46.7	73.9	216.4	30.5	20.9	33.4	78.6
Near Money	20.4	8.9	9.4	40.2	39.8	24.3	23.3	92.0	19.4	15.4	13.9	51.8
Index of debit to Current Account (1950=100)	345.0	383.0	365.0	357.0	648.0	809.0	829.0	742.0	303.0	426.0	464.0	391.0

N.B. The territorial data do not add up to the East African figures.

TABLE XII

GROSS AVAILABLE CREDIT.1970, 5% GDP GROWTH, LOW GROWTH MONETARY PATTERN.

£'million

Item	KENYA	UGANDA	TANGANYIKA	EAST AFRICA
Currency	2.4	4.9	19.7	17.1
Demand Deposits	1.5	- 0.5	1.5	5.3
Savings Deposits	6.7	9.5	8.9	39.3

1970, 7% GDP GROWTH, LOW GROWTH MONETARY PATTERN.

£' million.

Currency	3.9	6.7	27.3	23.4
Demand Deposits	1.8	- 0.8	0.5	5.5
Savings Deposits	9.3	13.5	12.1	55.2

1970, 5% GDP GROWTH, HIGH GROWTH MONETARY PATTERN.

£' million.

Currency	7.5	8.3	10.1	22.8
Demand Deposits	14.3	7.0	14.9	35.4
Savings Deposits	13.4	10.9	10.2	37.0

1970, 7% GDP GROWTH, HIGH GROWTH MONETARY PATTERN.

£' million

Currency	10.5	11.3	13.4	30.8
Demand Deposits	20.0	9.6	20.0	47.8
Savings Deposits	19.4	15.4	13.9	51.8

N.B. The territorial data do not add up to the East African figures.