

Chapter III.

MONETARY FUNCTIONS

After the structural aspects of African central banks, it is time to take a closer look at how they discharge their functions, beginning with the primary task of "controlling the money supply so that it meets market requirements, due allowance made for the government's economic policy aims at any particular moment"¹.

All that can be done here is to give some general indications of the African experience with respect to currency issues and to the qualitative and quantitative aspects of the money supply. In-depth discussion of the kind that may be useful to central banks themselves can be conducted only with reference to individual countries or, at most, regional groupings; this needs the most careful and detailed analysis, often econometric, with the help of the same conceptual tools commonly used in the study of mature economies. This kind of research is indeed now gaining ground in Africa, too².

¹ Giordano Dell'Amore, *Le funzioni delle banche centrali*, op. cit., p. 43; see also *ibid.*, the whole of para. 6.

² As an example, see M.A. Iyoha, "An Econometric Analysis of the Main Determinants of Nigerian Money Supply, 1950-64", *The Nigerian Journal of Economic and Social Studies*, November 1969, p. 275-83. There are other studies of the same type, to which reference will be made as occasion arises.

3.1 THE CURRENCY ISSUE

The money supply, in the accepted narrower definition (M_1), consists of the so-called monetary base and of current account and call deposits with the banking system; on the broader definition (M_3) it includes, in addition, savings deposits and time deposits, or what is known as near-money.

In its turn, the monetary base, which in mature economies includes a variety of financial assets¹, in Africa consists to all intents and purposes solely of the fiduciary issue, which everywhere is a monopoly of the central bank. With the disappearance of the colonial regime, African countries adopted new currencies, often with new and sometimes with indigenous names, but all defined in accordance with the rules of the International Monetary Fund, of which Africa's independent countries are members. This means that each country initially declared its currency's parity in terms of gold, and subsequently either maintained this par value unaltered or else changed it in agreement with the IMF if this proved necessary or expedient in the light of a country's adherence to any particular currency area or of its own economic conditions.

So much for the external value of African currencies. Domestically, most English-speaking countries have by now abandoned the former British for the decimal system, a transition which involved some difficulties but was everywhere completed successfully thanks to the exertions of the central bank concerned. All African currency units are at present divided into 100 or 1,000

¹ "The monetary base comprises all the legal tender plus the monetary authorities' short-term liabilities which the banks can use as obligatory reserves ... [and] also those short-term assets which ... can at the holders' request directly and rapidly give rise to the creation of fresh legal tender money." (Banca d'Italia, *Abridged Version of the Report for the Year 1967*, Rome 1968, p. 91).

fractional divisions, except for the Mauritanian ouguiya, divided into 5 khoums, which was adopted after that country recently set up a central bank of its own¹.

The issuing system of the two multinational central banks in French-speaking Africa has some special features worth recalling². In both cases the system is identical, except that Cameroon, though belonging to what is now called the Central African Monetary Union and subject to its rules, issues a complete range of its own money tokens; but these francs are in every respect equal to the CFA francs circulating elsewhere in French-speaking West and Central Africa. The BCEAO or BEAC branch in each country issues bank notes with its own countersign (a stamped-on letter of identification) in accordance with the local economy's cash requirements. On the basis of credit applications submitted by banks, each branch prepares an advance estimate for six months and, after carefully weighing various factors, decides on a given quantity. In this way bank notes enter into circulation not only in the issuing country, but, through successive transfers, throughout the Union. At this point it becomes impossible for the Central Bank to know with absolute precision how much fiduciary issue is held in each state. Leaving aside the fractional coins which are identical in all countries, an approximate notion of the circulation can, however, be gained from the statistics of bank note movements as between one state and another³.

¹ BCEAO, "L'Afrique des monnaies", *Note d'information et statistiques*, July 1973, p. 1-4.

² See Sergio Bortolani, *The Banking System of Niger*, *op. cit.*, p. 34-35, and Lorenzo Frediani, *The Banking System of Gabon and the Central Bank of Equatorial Africa and Cameroon*, *op. cit.*, p. 80-81.

³ The statistics say nothing, however, about the bank notes not returned to banks or public payments offices. What happens is that any bank notes marked

Returning to the monetary base, it is the rule in Africa that of the three sources of money creation — the Foreign Sector, the Treasury, and the Economy — the first two far outweigh the last. The Foreign Sector is important because all African countries are so heavily dependent on the rest of the world as regards both trade and financial and monetary matters; and the Treasury because of the public sector's leading role in development, as manifest both in the large-scale construction of social overhead capital and in directly productive investment pending a more substantial contribution of local private enterprise. Little space is thus left for the Economy, defined as the sum of households and firms acting through the banking system (excluding that part of it which is directly financed by the central bank). In the chapters which follow these relations will be discussed more fully, so as to arrive at some conclusions about potential inflationary pressures deriving therefrom¹. The exceptions to this general pattern are Liberia and the three countries belonging to the rand area, for which latter indeed foreign relations are the only channel through which liquidity is created (or destroyed)².

with an identifying letter other than, say, Niger's own, are physically transferred by the BCEAO branch at Niamey to its branch in the issuing country, against an equivalent credit entry in the bilateral account which each state keeps with every other.

¹ A very interesting discussion of these problems will be found in W.T. Newlyn, *Finance for Development*, Nairobi 1968. Although this work refers to Uganda, it contains much that is valid in a broader context.

² "The rand notes and coins find their way into Lesotho via: Basotho migrant workers returning home or their remittances from their places of employment in South Africa, the commercial banks, legal and illegal exporters of various commodities and services, and South African residents coming to settle in the country." (B.C. Muzorewa, *Money, Financial Institutions and Economic Development in Lesotho*, Gaborone, University of Botswana, Lesotho and Swaziland, July 1972).

Currency coverage has gradually changed in three ways since the early days of independence. First, alongside foreign currencies, government stock and other similar certificates are increasingly held in currency reserves; secondly, foreign exchange cover is no longer 100 per cent, as in colonial days, but has been reduced so as to leave more for covering external expenditure (some central bank statutes express the critical reserve level in terms of a period of import coverage, generally four or six months); and thirdly, there has been a tendency to diversify the foreign exchange portfolio so as not to be tied too closely to the domestic monetary affairs of any one country (this did not apply to the franc zone prior to the most recent changes).

3.2 QUALITATIVE AND QUANTITATIVE ASPECTS OF THE MONEY SUPPLY

In matters of money supply, the point on which the majority of African countries differ most from mature economies is the degree of monetization. The gradual increase in the use of legal tender instead of barter and the subsequent spread of bank money are the first steps in overcoming financial dualism, one of the most obvious symptoms of underdevelopment¹. The process of monetization, which is more advanced in some African countries and less so in others, has a bearing on the three parameters

¹ For an analysis of successive stages of monetization, see M. Saint Marc, *La monétarisation, condition de la croissance en Afrique Occidentale*, University of Montreal, 1971 (duplicated), p. 1-6. E.E. Jucker-Fleetwood (*Money and Finance in Africa*, *op. cit.*, p. 200) lists four causes of the trend for long-period expansion of the monetary circulation:

- "(a) growth of money-using population;
- (b) deepening of monetization in marginal users;
- (c) changes in the prices of raw materials;
- (d) the normal growth of the economy."

commonly used in monetary analysis: the composition of the stock of money, the velocity of circulation, and the money multiplier.

(a) One of the factors considered in the analysis of the *composition of the stock of money* is the so-called currency ratio, that is, a fraction in which the numerator is the amount of legal tender (outside banks) and the denominator is total money supply (legal tender plus current account deposits)¹. This ratio is higher in developing than in industrial countries, because of the preponderant use of bank notes in the former and because large parts of the population make little use of banking services². However, while the ratio is higher in developing countries, it does display a long-term decreasing trend³. This statistical trend, too, is quite easy to understand: as the public gains "financial maturity" and the network of bank branches expands, people make more use of bank money and hoard fewer bank notes. An opposite, but weaker influence is at work at the same time: as people leave barter behind and enter the money sector of the economy, they initially use notes and coins, and thus push up the currency ratio.

¹ The most thorough analysis of this matter known to me is found in D.J. Khazzom, *The Currency Ratio in Developing Countries*, New York 1966, from which I borrow the principal conclusions (p. 101-107).

² I agree only partly with Khazzom (*op. cit.*, p. 3-4) when he argues that the monetary authorities of developing countries can draw advantage from the fact that they have a higher currency ratio, because they can speed up economic development by issuing legal tender. He states: "...under these conditions, a central bank in an underdeveloped country may expand its monetary liabilities to finance investment projects — directly or indirectly — without running the risk of a large multiple expansion in the money supply." This is true enough, but it is equally true that even with a lower ratio the central bank can still control the money supply at the margin.

³ In exceptional circumstances there may be an inversion of the trend, as for instance in Egypt at the time of the Suez crisis in 1956, when the public withdrew its deposits and changed them into cash. See G. Kardouche, *The U.A.R. in Development*, *op. cit.*, p. 99.

It follows that the level of the currency ratio is inversely correlated with the degree of economic development.

A Nigerian economist¹ has calculated some of the relevant ratios for thirty African countries. These are reproduced in Table 7. Leaving aside for the moment the first column, the proportion of money in gross domestic product, let us look at the other two, which show the share of demand deposits and of demand deposits plus quasi-money, respectively, in total money. In two countries, Kenya and Zambia, the sum of deposits (demand, time, and savings) accounts for more than 75 per cent of total money, in 21 other countries it accounts for between 50 and 75 per cent, and in only seven countries for less than half. Disaggregation of these figures shows that demand deposits far outweigh the others, though in the future near-money can be expected to grow at a faster rate².

(b) The so-called *income velocity of money*, or the velocity of circulation of money with respect to income, is measured by dividing national income by total money, and shows how often in a given period the money stock turns over to finance the same period's income. But in calculating the ratio on an annual basis, as is generally done, one fails to take account of the pronounced seasonal changes of the money supply in African countries, in connection with the production, harvesting and marketing of agricultural commodities³. Empirical figures of the velocity of

¹ Edward A. Arowolo, "The Development of Capital Markets in Africa, with Particular Reference to Kenya and Nigeria", *IMF Staff Papers*, July 1971, p. 424, Table 1.

² At least this is what Tamagna thinks (*op. cit.*, p. 14) with reference to monetary developments in Latin America, which admittedly is twenty or thirty years ahead of Africa in this respect.

³ This important aspect of money supply fluctuations has only recently come to be studied in detail. See, e.g., R.N. Ghosh, *The Quantification of Seasonality of Money Supply in Ghana*, Accra 1972.

circulation in individual African countries over long periods do not always bear out what theory would lead one to expect, namely, a higher ratio in developing than in industrial countries and a slow, decreasing trend.

There is rather more evidence to support the first of these expectations than the second, even in inter-country comparisons in Africa itself. Going back to Table 7 and looking at the first column, which shows the inverse of the income velocity of money (which may be taken as an index of the degree of monetization) it will be seen that the figures are highest — and hence the velocity lowest — in some of the financially most advanced countries like Morocco, Egypt and Tunisia. But no such correspondence is found in the case of other major countries¹.

To the extent that the velocity of circulation really does show a falling trend, this can be explained by an increasing monetization of the rural sector, which would push up demand for money per income unit, and also by rising real incomes, which likewise would raise demand for money, especially for precautionary and speculative cash holdings².

While there can be no doubt that in the long run most African countries, as their economic development proceeds, will conform to the trend described, at least two country studies come to less certain conclusions. One of them refers to Nigeria, where a

¹ Velocity is around 6 to 7 in many African countries, and as low as 3 in the most advanced ones. In industrial countries it is close to unity.

With reference to the French-speaking countries of Central Africa, M. Saint Marc (*Zone franc et décolonisation*, Paris 1964, p. 87) observes: "...on peut déduire de cette vitesse très élevée de la monnaie que l'étroitesse de l'espace économique provoque la faiblesse de la masse monétaire qui se répercute sur la vitesse de la circulation de la monnaie, en l'accéléralant."

² See F. Brechling, "The Public's Preference for Cash", *Banca Nazionale del Lavoro Quarterly Review*, September 1958, p. 380-84.

TABLE 7

SELECTED AFRICAN COUNTRIES: MONEY/INCOME RATIO AND THE PROPORTION OF DEMAND DEPOSITS AND QUASI-MONEY IN TOTAL MONEY IN RECENT YEARS¹

Country	Money as a percentage of GDP ²	Share of demand deposits in total money (per cent) ³	Share of demand deposits plus quasi-money in total money (per cent) ³
Burundi	11.6	32.7	35.5
Cameroon	13.6	41.5	50.7
Central African Republic	11.4	38.1	45.6
Chad	12.4	36.8	38.3
Dahomey	12.7	49.7	54.6
Egypt	28.3	25.8	57.4
Ethiopia	9.6	21.7	46.2
Gabon	15.1	55.6	64.7
Ghana	12.4	37.6	64.2
Ivory Coast	17.5	39.4	57.9
Kenya	17.5	49.1	77.8
Libya	15.3	42.8	65.6
Madagascar	18.5	43.8	54.0
Malawi	15.3	39.3	69.0
Mauritania	7.0	55.5	64.5
Morocco	30.7	55.8	63.8
Niger	8.9	37.7	46.8
Nigeria	9.3	28.6	64.8
Rwanda	10.1	34.2	36.2
Senegal	13.0	54.5	58.8
Sierra Leone	8.0	22.9	53.2
Somalia	14.3	41.2	56.4
Sudan	13.9	32.5	51.8
Tanzania	22.2	53.3	69.2
Togo	10.7	44.8	56.1
Tunisia	29.2	48.6	71.4
Uganda	17.9	39.8	68.4
Upper Volta	11.2	35.4	37.2
Zaire	18.8	55.7	66.1
Zambia	18.3	59.5	81.8

¹ Mainly 1966-68.

² Money is related to GDP (gross domestic product) rather than to GNP (gross national product) — a more logical comparison — because of lack of data on GNP for all countries covered. Money is defined as currency in circulation plus demand deposits.

³ Total money is defined as currency outside banks plus demand deposits plus quasi-money. Data relate to 1968.

Source: United Nations Statistical Office, *Yearbook of National Accounts Statistics*, 1967 (New York 1968); International Monetary Fund, *International Financial Statistics*. Figures taken from national statistics.

decreasing trend can be detected only by using different definitions of money supply and two sets of national income figures (total or monetary alone)¹, the other deals with Egypt, where the only period of decreasing velocity was that of the Suez crisis, whereas at other times there was even a rising trend². Clearly, we must beware of facile generalizations and must verify these ratios before we use them in monetary analysis helpful in explaining the decisions of central banks.

(c) Lastly, the effects of the process of monetization are evident in the values of the *money multiplier*, that is, the relation between total money in circulation and the monetary base. As is to be expected, the multiplier is generally lower in African countries than in more advanced ones³, because only a small fraction of the

¹ Joseph O. Adekunle, "Trends in Income Velocities", Central Bank of Nigeria, *Economic and Financial Review*, June 1970, p. 5-15. The author concludes: "During 1950-66, it was found that the total income velocity of currency, demand deposits and of conventional money did not have significant trends. On the other hand, the total income velocities of savings deposits, time deposits, money plus savings deposits, and of money plus savings and time deposits had significant negative trends. These conclusions were also reached with respect to the monetary income velocities."

² G. Kardouche, *The U.A.R. in Development*, *op. cit.*, p. 104-114. The author attributes the rising trend to the fact that the two influences mentioned in the text failed to become operative, and also to other factors such as inflation and inflation control, capital flight, and growing government participation in Egypt's economic activities.

³ See the results of a comparative study of 12 countries, both developed and not developed, by J. Ahrensdoerf and S. Kanesathasan, "Variations in the Money Multiplier and their Implications for Central Banking", *IMF Staff Papers*, November 1960, p. 126-41, and Table 1.

For the countries of the West African Monetary Union as a whole, Rattan J. Bhatia ("Factors Influencing Money Supply in BCEAO Countries", *IMF Staff Papers*, July 1971, p. 392, Table 1) calculated the following values:

Currency ratio	0.54
Multiplier	1.75

monetary base ever gets into banking channels at all and remains there for several transactions. In other words, the factors which reduce the value of the multiplier in industrial countries (cash transactions, bank note hoarding, inability of the banks to lend all their resources, etc.) are vigorously active in African countries, where the use of bank money is restricted to urban areas and to transactions in export commodities.

In conclusion, it may be said that the monetary functions of African central banks can certainly gain advantages from the use of the analytical instruments described, and it is encouraging that in many countries appropriate techniques of compiling and elaborating the relevant figures are being worked out. However, the resulting indicators — high proportion of legal tender in total money supply, and a low credit multiplier — must not be used as a (mistaken) justification for an easy money policy.

