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Private Savings Mobilization in African Countries

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1. Introduction

The process of economic development encompasses economic, social, political, institutional and technological elements. The development of technical and managerial skills through the spread of education, enlargement of profits, and opening up of potential avenues for productive activities is as essential for the development process as utilizing available resources effectively to increase productive capacity. Since 80-85 per cent of investment expenditure in LDCs is financed by domestic savings [Bhatt and Meerman, 1978], the importance of domestic savings and their mobilization is self-evident. For this reason, a major objective of economic policy in LDCs has been to step up the domestic saving rate so that a rising rate of investment expenditure is financed in a noninflationary manner.

The private sector is the main source of domestic savings. In 1973, it accounted for 83 per cent of the total domestic savings of those African countries for which data on private savings is available. The government sectors of many LDCs run chronic current account deficits and hence are net dissavers. This clearly throws into bold relief the central importance of the private sector for the generation and mobilization of savings in LDCs.

The generation of savings is highly dependent on the existence of an efficient financial system. A developed financial system can encourage savings by offering a variety of attractive forms in which to accumulate wealth. More importantly, an efficient financial system allocates the collected savings to their most productive uses, thereby increasing the country's output which, in turn, increases its domestic savings. As a

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result, investment need not be constrained by the availability of local, as opposed to national, finance (as the financial system reallocates funds to the most profitable projects) nor will local investment opportunities be limited by the amount of local savings.

The contribution of the financial system to the growth of savings and output is directly related to the appropriateness of the interest rate policies adopted. If interest rates do not reflect both the economy's marginal productivity of investment and its time preference, then a portion of the country's resources is likely to be misallocated. An efficient financial system, therefore, contributes to the growth of income and savings by encouraging, collecting and allocating them to those investments with the highest marginal rates of return.

A number of studies have investigated the determinants of savings in LDCs but only a few have studied the effect of interest rates--real or nominal--on saving rates in LDCs [Mikesell and Zinser, 1973; Snyder, 1974]. These studies, however, have not analyzed the saving behavior of African countries. The aim of this paper is to shed light on the determinants of personal savings in selected African countries.

Section 2 presents the recent saving experiences of all African countries for which such data is available. Data on various income and demographic variables are examined as possible causes of differing saving rates. Section 3 discusses the limitations of the data and presents the results of regression estimates of the determination of private savings. In Section 4 the statistical analysis is supplemented by an examination of the differences in the savings mobilization policies of countries with high and low saving rates. The last Section contains the conclusions.

2. Saving experience in African countries

The success of African countries in mobilizing domestic savings has been mixed. Comparing the ratio of gross domestic savings to GDP for 1960 and 1978, the ratio is lower in 16 out of 35 developing African countries listed in the World Bank's World Development Report, 1980; another 16 countries recorded an increase, while the domestic saving rates in three countries remaining unchanged.

Disaggregating total domestic savings into private and government components, Table 1 arranges the 26 African countries into high, medium, and low gross private savings groups. The choice of countries was based on the availability of data on personal savings for the most recent year, i.e., 1973. While the group mean rates of public and private gross savings are highly correlated (correlation coefficient of 0.99), the saving rates for individual countries are not (correlation coefficient of 0.41). Thus, among countries with high private sector savings, the mean value of the ratio of gross private savings to GDP is 17.8, which declines to 10.1 and 2.0, respectively for medium and low savers, while gross government savings have mean values of 7.5, 3.3 and 0.03, respectively. To the extent that a relationship between private and government savings holds, it most likely

flows indirectly from higher government savings, contributing to more rapid growth and eventually higher per capita incomes, and higher per capita incomes lead to higher private saving rates.

In interpreting the data presented in Table 1, it is necessary to remember that national accounts data are often of dubious quality and that these shortcomings are even greater as regards the statistics relating to private savings. For this reason, Table 1 also gives figures for the more reliably measured M_2 /GDP ratio as a proxy for the ratio of private wealth to GDP (and for the ratio of changes in M_2 to GDP as a proxy for the private saving rate). The similarity between these ratios and the ratio of private savings to GDP lends some credibility to the latter measure. The generally poor quality of much of the data used here, however, suggests a need for extreme caution in interpreting these figures as well as an avoidance of overly complicated statistical techniques in attempting to explain them. A very simple approach to explaining the different saving behaviors presented above is to combine countries into high, medium and low saving rate groups, as is done in Table 2, and then to compare the average values of potentially explanatory factors between these groups.

Per capita income stands out among the variables included in Table 2 as a prime determinant of differences in saving rates. Countries with higher saving rates tend to have higher per capita incomes and vice versa. This is in keeping with the implications of the Keynesian absolute income hypothesis which specifies saving as a positive and linear function of income.

$$S = a + bY_d \quad a < 0, b > 0 \quad (1)$$

where S is gross private per capita savings and Y_d is disposable per capita income.

In addition to income, social and demographic factors are important determinants of private savings. The proportion of labor employed in agriculture reflects a host of related economic and social factors. Agricultural communities may save less, relative to their incomes, than their urban counterparts because future security often depends more on the extended family system than on accumulated savings. The greater the number of children, the lower is the need for retirement planning. Furthermore, because a considerable portion of the private savings of agricultural communities is likely to be held in the form of consumer durables, their reported savings are also likely to be lower than their actual savings. Savings figures are derived from investment data. Since the purchase of consumer durables is treated as consumption and not included in investment, the derived savings figures are accordingly underestimated.

As argued in the introduction, the increased availability and use of financial assets can increase the savings rate by (a) utilizing saved resources more efficiently, and (b) making savings more attractive. The

Table 1. African Countries Classified According to Their 1973 Ratios of Gross Private Savings to GDP

	Gross Private Savings/GDP (1)	Gross Government Savings/GDP (2)	Gross Domestic Savings/GDP (1)+(2)=(3)	ΔM_2 / GDP	M_2 /GDP
<u>High savers</u>					
Mauritius	24.8	1.6	26.6	8.7	38.8
Gabon	19.3	5.2	24.5	3.8	14.6
Algeria	18.0	15.7	33.7	12.2	62.6
Swaziland	17.5	--	--	--	--
Libya	17.5	--	--	7.3	31.4
Tanzania	15.5	--	--	3.9	24.7
Botswana	12.3	--	--	--	--
Mean	17.8	7.5	28.3	7.2	34.4
<u>Medium savers</u>					
Sudan	11.2	-1.5	9.7	4.5	6.4
Nigeria	11.2	18.6	29.8	2.5	14.8
Morocco	11.0	3.3	13.3	4.6	33.7
Tunisia	10.8	6.2	17.0	4.8	33.1
Cameroon	10.7	1.3	12.0	0.5	15.2
Liberia	10.7	3.7	14.4	--	--
Senegal	9.9	1.2	11.1	1.2	17.0
Benin	9.4	-1.4	8.0	1.3	16.1
Central African Republic	8.6	2.7	11.3	0.9	12.4
Egypt	7.2	-0.9	6.3	6.3	37.7
Mean	10.1	3.3	13.3	3.0	20.7
<u>Low savers</u>					
Sierra Leone	6.8	1.6	8.4	3.5	16.9
Mali	5.7	-1.3	4.4	2.3	19.9
Rwanda	4.5	-2.5	2.0	3.3	15.1
The Gambia	1.8	2.1	3.9	3.6	22.7
Chad	1.7	-3.9	-2.2	1.1	12.1
Togo	1.6	1.5	3.1	0.9	16.8
Niger	0.3	1.4	1.7	1.1	12.9
Mauritania	-1.3	0.4	-0.9	2.4	13.8
Upper Volta	-3.2	1.0	-2.2	2.5	12.7
Mean	2.0	0.03	2.0	2.3	15.9

Sources: Columns (1) and (2) were derived from data available in IBRD, World Tables 1976; Columns (4) and (5) were obtained from IMF, International Financial Statistics.

Table 2. African Countries Classified According to Their
1973 Ratio of Gross Private Savings to GDP

Country Group <u>1/</u>	GNP Per Capita (US\$)	Per cent of labor in Agriculture	Ratio of M ₂ to Currency	Real Deposit Rates <u>2/</u>
A. Saving rates greater than or equal to 12% of GDP	930.0	56.9	3.4	1.9
B. Saving rates between 7% and 12% of GDP	248.0	67.7	2.7	1.4
C. Saving rates less than or equal to 7% of GDP	117.8	85.7	2.2	0.6

Sources: GNP and employment data were obtained from IBRD, World Development Report, 1980; nominal deposit rates were collected from the "Recent Economic Developments" papers of the countries concerned; all other data were obtained from IMF, International Financial Statistics.

1/ For country groups, see Table 1.

2/ Real deposit rates were calculated by subtracting the yearly average inflation rate from 1965 to 1973 from the 12-month (or longer) deposit rate for 1973.

mean ratio of M_2 to currency in circulation reflects the degree of development of the financial system. The more highly developed the financial system, the higher the proportion of savings held in financial form. For the group of countries with the highest saving rates this ratio is considerably greater than for those with the lowest saving rates. The financialization of savings is commonly observed as per capita income rises. In the early stages of economic development, savings are generally held in traditional forms of wealth, such as goods or currency, and only in bank deposits when

savers become more familiar with, and less distrustful of financial institutions. As incomes rise, money is no longer used only for transaction purposes, but also as a store of wealth, and consequently the proportion of deposits in money increases. The financialization of savings raises the economy's measured growth rate by encouraging a more efficient allocation of savings to productive investment. In empirical analysis, the effect of the M_2 /currency ratio on savings is captured by income itself and does not justify separate inclusion of the variable. However, causation also runs the other way. The prevalence of banking facilities increases the attractiveness of saving and raises the saving rate.

The final factor considered is the real deposit rate. Although the effect of interest rates on saving behavior is theoretically indeterminate, it is of particular interest in LDCs since raising the deposit rate has often been recommended as a partial solution for low saving rates. The interest elasticity of savings is contested both theoretically and empirically. The response of savings to changes in the interest rate depends on the relative strength of income and substitution effects. If the income effect is stronger, an upward change in interest rates will depress the saving rate [Chandavarkar, 1971; Khatkhate 1980].

Because decisions to save in less developed countries are often identical with decisions to invest, it is difficult to distinguish private savings from investment [Hirschman, 1958]. This interdependence is not adequately handled in the single equation models employed in the investigation of saving functions in LDCs and, as a result, the determinants of the demand for and the supply of savings are impossible to identify [Leff and Sato, 1975]. It is not clear, therefore, whether low saving rates are the result of high rates of time preference, or the consequence of low rates of return on investment capital [Leff, 1975]. Empirical investigations of saving are further qualified by the problems of quantifying the role of expectation and planning horizons in saving decisions.

The problems of identifying saving and investment arising from the nature of the statistical data and the interdependence of the saving and investment processes renders the results of the empirical investigations of the interest elasticity of saving suspect. Williamson obtains a negative or insignificant relationship between saving and real interest rates for six Asian countries [Williamson, 1968]. Similar results are obtained by Houthakker for developed and underdeveloped countries [Houthakker, 1965]. The real rate of interest, however, does affect the composition of

savers' portfolios. Emery and Brown, while being concerned with the relationship between saving and interest rates, succeed only in showing that interest rates influence the form of saving and not its level [Brown, 1973; Emery, 1971]. A fall in real rates makes financial assets relatively less attractive than assets such as real estate, jewelry or cattle. As a result the public's holdings of financial assets are much more likely to be positively related to the real rate of interest than are total domestic or private savings.

3. The data and regression analysis

In order to distinguish the separate contributions of these factors to the differences in observed saving rates, the ordinary least squares regression technique is used. The estimation results must be interpreted with full awareness of the limitations imposed by the poor quality of the data. The employed data suffers from a number of shortcomings. Private savings are given by the difference between gross domestic savings and government savings. Gross domestic savings are obtained indirectly by subtracting the current account deficit from gross capital formation. It follows therefore that private savings are subject to errors to the extent that measured investment deviates from the actual investment.

Equivalently, the estimation of private savings is in error to the extent that fixed capital formation and inventory changes are misestimated. Fixed capital formation in many LDCs is measured as the sum of imported plant and equipment (obtained from the foreign trade statistics), a markup for their distribution and installation, and new construction (often proxied by the number of building permits issued) [Hooley, 1967]. Consequently, measurement errors in fixed capital formation may arise from errors in the usually significant distribution and installation markup, from the undervaluation of merchandise imports for countries whose currencies are overvalued and to the extent that nonimported fixed capital formation is ignored. In addition, the inclusion of indirect business taxes in gross domestic saving estimates and the relative degree of protection enjoyed by domestic capital goods are sources of saving measurement biases [Mikesell and Zinser, 1973]. Inventory valuation, too, is a source of measurement errors, as inventory changes are often based on a few primary commodities only.

Caution is also required with regard to the real interest rate variable. First, many areas of LDCs are without adequate access to financial institutions. Consequently, bank deposit rates may not be representative of the return on financial assets. Second, the CPI inflation rate used to deflate the nominal deposit rate may be a poor indicator of the actual inflation rate. In many countries, the CPI calculation is based on the prices of only a few commodities which are often not representative of the population's consumption pattern. Although the GDP deflator inflation rate is not subject to this shortcoming, the CPI inflation rate is still preferred because for many countries, especially those with export crops, the GDP deflator inflation rate contains a disproportionately large portion of exports relative to the consumption and wealth accumulation patterns

of savers. (The WPI inflation rate, although a better index for commodity prices since it contains a lower proportion of services than the CPI, is not available for most of the countries studied.) [McKinnon, 1973] In some countries, however, the commodity prices used in all the indices are those which are officially controlled and they seriously misrepresent the prices actually paid by the public. Finally, depending on the expectation mechanism, past inflation rates do not necessarily reflect those expected in the future.

Bearing these rather major warnings in mind, the OLS cross-sectional regression estimate is as follows:

$$S = 51.2 + 0.16Y^* - 0.003T^* - 0.73AGR + 5.8R \quad (3)$$

(1.1) (2.5) (2.6) (1.4) (1.3) $\bar{R}^2 = 0.33$

where: S is gross private savings per capita expressed in U.S. dollars;

Y is GNP per capita expressed in U.S. dollars;

T is government tax revenues per capita in U.S. dollars;

AGR is the percentage of labor employed in agriculture;

R is the real deposit rate. It is calculated as the 12-month deposit rate minus the average compounded CPI inflation rate from 1965 to 1973;

*Significantly different from zero at the 90 per cent level of significance; and

Figures in parentheses are t-values.

The equation is estimated for the sample of 26 African countries listed in Table 1 for 1973, the last year for which private savings estimates are available. All of the estimated coefficients are of the theoretically expected sign though neither the agricultural nor interest rate variables are statistically significant at the 90 per cent level of confidence. Using the 23-country sample, for which it is possible to include the M_2 to currency ratio variable, the results are very similar with M_2 /currency entering with the correct sign but otherwise adding nothing ($t = 0.13$). Therefore the larger 26-country sample without the monetary variable is reported here.

This difference in the apparent impact of income and taxes on per capita savings may, in part, reflect the difference in distribution of the incidence of income and tax changes. Confidence in the resulting estimates is limited by two further considerations. The low adjusted R^2 indicates that a considerable portion of the intercountry differences in per capita savings is not explained by the variables used. In addition, the estimated coefficient of the real interest rate variable is very sensitive to the specification of the expected rate of inflation. Simple unweighted averages

of current and past inflation rates are used. When the three-year average (1971-73) is used in place of the longer eight-year average (1965-73) reported above, the estimated coefficient of the real rate variable so defined becomes negative (though with a t-value of only 0.56) and the adjusted R^2 drops to 0.29. Substituting the GDP deflator for the CPI inflation rate produces an essentially similar result. The explanatory power of the regression is slightly decreased but the sign and significance of the estimated coefficients are not changed. When the real rate is decomposed into the nominal deposit rate and the expected inflation rate, both the three-year and eight-year average versions of the inflation variable have the wrong (i.e. positive) sign, though the eight-year average version has a t-value of only 0.34. The deposit rate, however, always has the correct positive sign and is always statistically significant at the 90 per cent confidence level.

None of these alternatives significantly alters the coefficient estimates of the other variables (although the version with the separate deposit rate and the three-year inflation rate raises the adjusted R^2 to 0.52). These results are consistent with a positive real interest rate savings elasticity and slowly adapting inflationary expectations. The inflation variable, however, may also reflect a tendency for the inflation rate in LDCs to be highly correlated with government deficits, which are often the result of overly ambitious investment programs. Consequently, investment and inflation may be positively correlated. Since savings figures are obtained from investment data, savings too are likely to be positively related to inflation.

4. Savings mobilization policies

The factors included in the regressions reported above account for far less than half of the variation in the savings performance of the countries examined. To the extent that the sample used does not contain countries with under or overvalued exchange rates (since the savings and income figures were measured in U.S. dollars), saving behavior has clearly been influenced by social and cultural factors, as well as by the various saving promotional policies undertaken in the various countries. Table 3 summarizes the policies implemented and/or planned in both high and low-saving African countries; this information has been culled from a survey conducted by the Association of Italian Savings Banks in 1971. Although the survey covers a different set of countries than the one used in this study, six of the countries classified as low savers in Table 1 and six of those classified as medium savers were included in the survey. The measures adopted range from mass media publicity campaigns, raising deposit rates, fiscal concessions, raising the efficiency of financial institutions and simplifying transactions with the banking system, to school programs. As the results in Table 3 indicate, the group classified as "high savers" seems to have more policies designed to stimulate savings than the alternate group. The following is a description of some of the features of the savings mobilization policies often found in Africa.

Table 3. Savings Mobilization Measures in Some Selected African Countries, Clasified According to Their 1973 Ratio of Gross Domestic Private Savings to GDP

	High savers <u>1/</u>		Low savers <u>2/</u>	
	Used	Planned <u>3/</u>	Used	Planned <u>3/</u>
Publicity campaigns	4	2	1	1
School programs	2	2	0	1
Raising deposit rate	3	2	0	1
Tax rebates on interest	1	0	0	0
Increasing branches	0	1	1	1
Raising efficiency of branches	0	2	0	1
Offer of credit facilities	0	1	0	0
Setting up of special saving schemes for creditor savings accounts	0	0	0	1
Bill payment services	0	0	0	1

Source: G. Dell'Amore, ed., The Mobilization of Savings in African Countries, proceedings of an international conference held in Milan, 1971.

1/ Cameroon, Liberia, Morocco, Senegal, Sudan, Tunisia.

2/ Chad, Mali, Niger, Rwanda, Togo, Upper Volta.

3/ This is the number of countries whose delegates (to the conference) said that their countries were planning to use the cited measures to mobilize savings.

a. Educational programs

Educational programs aim at inculcating the saving habit among the population and they constitute some of the most popular African savings mobilization schemes. Seventeen out of the 22 countries have either implemented or were planning to use publicity campaigns to encourage saving, using radio, newspaper, television, and poster campaigns. In one country, the publicity campaign was so successful that it had to be aborted because the existing savings institutions were unable to cope with the influx of deposits. Mass media campaigns are often supplemented by the spread of adult and school education. Somalia, for example, sponsors writing competitions on the benefits from saving; some countries offer students savings accounts through their schools. School banks (with balances as small as \$0.70) have been very successful in Egypt, as is evident from the sharp increase in the number of school banks from 247 in 1964 to more than 150,000 in 1971.

b. Promoting efficiency through the widening of financial intermediaries

Another method used by many countries is to concentrate on the quality of their banking services. Banks are made accessible and the delay involved in depositing savings is obviated. Financial instruments are simplified so that they can be easily understood. The confidentiality of a saver's financial assets is scrupulously preserved. The accessibility of banks is ensured through increasing the number of branches in rural areas. The efficiency of both existing and new branches is improved by avoiding duplication of services and by shortening the time needed for the negotiation of checks.

c. Tax and interest rate measures

Raising the return on savings, either by increasing deposit rates or by decreasing the tax rates on interest income, has been used by some African countries as a tool to encourage saving. Countries which have resorted to such policies, however, are few and they mainly concentrate on making fixed-term deposits of longer maturities more attractive to investors. Few countries have reduced the tax rate on interest income.

d. Special saving schemes

A number of special saving schemes seem to have been popular in many African countries. Because saving schemes attract savers away from traditional stores of wealth such as cattle and jewelry, their success depends on the ease with which people, particularly in rural areas, can be induced to change their habits. Several such schemes have been introduced, but there is little evidence of their having had any impact on savings mobilization.

One approach to savings mobilization is to familiarize savers with the services offered by modern banking institutions. Under this scheme, known as the "cradle-to-grave" savings plan, passbook accounts are distributed to expectant mothers. The prospective parents are then supposed to accumulate savings for the care and raising of their newborn through periodic deposits into the savings account. In some countries, passbook savings accounts are used as the basis for a lottery in the hope of enhancing their attractiveness, in addition to mobilizing savings. In Egypt, passbook holders are continuously enrolled in lotteries whose prizes are a function of the saver's average balance during a year. In addition, most countries run state lotteries whose proceeds are channeled to socially desirable projects.

A more effective approach to savings mobilization has been found to be one which focuses on the specific and identifiable needs of savers, or the creation of circumstances in which the use of savings accounts is unavoidable. Realizing the desire of immigrant workers to preserve their earnings and transfer them to their families, Algeria offers special savings accounts which facilitate the transmission of their earnings. Kenya,

on the other hand, promotes savings in a more compulsory manner; the Government makes payments directly to interest-bearing, unblocked savings accounts, thus giving its population an incentive to keep their receipts in savings accounts for longer periods of time. Such schemes presume, however, the existence of an efficient and trusted banking system.

e. Informal financial intermediaries

In addition to the explicit government initiatives described above, most of which operate on or through formal financial institutions, informal financial intermediaries account for a significant portion of the mobilized savings in many African countries. In Ethiopia, for example, informal savings institutions are estimated to handle savings and loans equal to at least 8 per cent of the country's income. The reasons for the popularity of these institutions are numerous. Most of the African population lives in rural areas and does not have access to formal banking facilities. Consequently, informal institutions are one of the few organized methods for saving available to many people. Furthermore, membership in an informal savings institution is often highly regarded socially. For communities which do have access to banks, the attractiveness of banking deposit facilities is diminished in inflationary periods by the frequently negative real deposit rates. Depositors need not possess an explicit understanding of the concept of the real rate of return in order to determine the profitability of investing in financial instruments. The nominal rate is simply compared to the rate of appreciation of jewelry or other traditional stores of wealth.

Informal savings and loan associations exist in 22 African countries [Miracle, Miracle and Cohen, 1980]. The operation of these savings institutions varies among countries and between different regions of the same country. In general, they are classified as either fixed or rotary. Fixed fund schemes collect deposits which are returned to the depositor in one lump sum at the end of a predetermined period. Participants in a fixed fund association contribute periodic payments to a trustee who returns the total amounts deposited after a predetermined period. The associations hold periodic meetings during which the members' contributions are collected. Membership fees include an entrance fee and a penalty fee for meetings not attended; safety of deposits, and the relatively cheap source of potential credit are cited as reasons for the schemes' success. In Nigeria, for example, fund borrowers had to pay an average interest rate of 38.2 per cent on loans from the association to which they belong compared to 100 per cent on loans from moneylenders. Some associations allow the trustee to lend the accumulated deposits for interest while others, like the "Edir" in Ethiopia, are reserved for assistance in the case of sickness, weddings and funerals. The uses to which the borrowed funds are put are also more varied and more suited to the needs of the rural population than those obtained from formal financial intermediaries. The funds have been used to finance trade as well as personal needs [Miracle, Miracle and Cohen, 1980].

Rotating fund schemes, on the other hand, consist of a group of people who contribute a fixed amount at regular intervals to a fund which is given in its entirety to a member of the group. The order of rotation is usually determined by lottery, by negotiation, or by the creditworthiness of the participants. In most associations the order of rotation is changed after every member of the group has made use of the fund for one period. Members in need of cash can often advance their position in the cycle by purchasing another participant's turn. Despite the temptation for members whose turns are later in the cycle to default, there have been very few failures, largely because of the social and traditional nature of the associations.

The operating cost of informal financial intermediaries is considerably lower than those of their formal counterparts. In very few cases does office space need to be acquired. Managers of some of the informal savings organizations are often respected elders of their communities and offer their services without compensation. Because these schemes are confined to relatively small communities, the costs of assessing borrower creditworthiness and loan collection are miniscule compared with those of the commercial banks. The fragmented nature of informal savings institutions, however, limit their use for resource allocation on a national scale. The collected funds remain in the community and are often used for the purchase of consumer durables rather than investment goods. However, to the extent that they lead to an increased demand for financial instruments, even currency, they make additional resources available to the issuers of those instruments.

5. Concluding remarks

In light of the importance of private savings and their mobilization for the finance of domestic investment in LDCs, this study attempts to provide an empirical account of the determinants of private savings in Africa. Such a study, however, is hindered by the suspect quality of savings and price data, and by the unavailability of private savings data for years later than 1973. Nonetheless, categorizing the countries according to their private savings performance reveals sharp differences in their mean income, employment and financial structure indicators.

The significance of the various potential determinants of private savings is further explored with regression analysis. Per capita private savings was regressed on per capita GNP, per capita tax revenue, the per cent of the labor force in agriculture and the real rate of return on time deposits. This analysis concluded that the basic features determining domestic savings are the same as one would expect in regard to other countries. The regression analysis could explain only about one third of the differences in private per capita savings between the 26 countries. Other factors are important sources of the observed differences. For example, countries with higher private saving rates have employed more intensive savings mobilization policies, such as publicity campaigns and price incentives (through higher deposit rates and/or lower taxes on interest income), than those countries with low private saving rates.

While the conclusions regarding the determination of savings in those African countries studied are such as can be expected on the basis of a priori reasoning, these should be treated with a certain degree of caution. A further and more in-depth study is warranted to analyze the saving behavior in Africa, which, of course, presupposes the availability of the desired statistical data.

Bibliography

- Bhatt, V.V. and J. Meerman, "Resource Mobilization in Developing Countries: Financial Institutions and Policies," World Development, Vol. 6, No. 1 (January 1978), pp. 45-64
- Brown, G.T., "The Impact of Korea's 1965 Interest Rate Reform," paper presented at the CENTO Symposium on Central Banking, Monetary Policy, and Development, Izmir, Turkey, April 8, 1971, mimeo
- Chandavarkar, A.G., "Some Aspects of Interest Rate Policies in Less Developed Economies: The Experience of Selected Asian Countries," IMF, Staff Papers, Vol. XVIII, No. 1 (March 1971), pp. 48-112
- Emery, R.F., "The Rate of Monetization in the Less Developed Countries, Federal Reserve System, Discussion Paper No. 31, 1973
- Hirschman, A.O., The Strategy of Economic Development (New Haven: Yale University Press, 1958)
- Hooley, R.W., "The Measurement of Capital Formation in Underdeveloped Countries," Review of Economics and Statistics, Vol. XLIX, No. 2 (May 1967), pp. 199-208
- Houthakker, H.S., "On Some Determinants of Saving in Developed and Underdeveloped Countries" in E.A.G. Robinson, ed., Problems in Economic Development (New York: Macmillan, 1965)
- Khatkhate, D.R., "False Issues in the Debate on Interest Rate Policies in Less Developed Countries," Banca Nazionale del Lavoro, Quarterly Review, No. 133 (June 1980), pp. 205-224
- Leff, N.H., "Rates of Return to Capital, Domestic Savings, and Investment in the Developing Countries," Kyklos, Vol. 28, Fasc. 4 (1975), pp. 827-851
- Leff, N.H. and K. Sato, "A Simultaneous Equation Model of Savings in Developing Countries," Journal of Political Economy, Vol. 83, No. 6 (December 1975), pp. 1217-1228
- McKinnon, R.I., Money and Capital in Economic Development (Washington D.C.: The Brookings Institution, 1973)
- Miracle, M., D. Miracle and L. Cohen, "Informal Savings Mobilization in Africa," Economic Development and Cultural Change, Vol. 28, No. 4 (July 1980), pp. 701-724
- Mikesell, R.F. and J.E. Zinser, "The Nature of the Savings Function in Developing Countries: A Survey of the Theoretical and Empirical Literature," Journal of Economic Literature, Vol. XI, No. 1 (March 1973) pp. 1-26

Snyder, D.W., "Econometric Studies of Household Behavior in Developing Countries: A Survey," Journal of Development Studies, Vol. 10, No. 2 (January 1974), pp. 139-153

Williamson, J.G. "Personal Saving in Developing Nations, An Intertemporal Cross-Section from Asia," The Economic Record, Vol. 44 (June 1968) pp. 194-210