

PATTERNS OF SAVINGS IN RURAL NIGER

by

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December 1987

Paper submitted for presentation at the XX International  
Conference of Agricultural Economists, Buenos Aires, Argentina  
August 26 - September 2, 1988

ABSTRACT

This paper explores three issues of importance in the study of savings behavior in developing countries, based on data obtained at the "Caisse Nationale d'Epargne" (CNE) of Niger. First, it shows that, relative to the availability of CNE branches, rural people are more active than urban savers in establishing accounts at the institution. Furthermore, our results suggest that the proportion of income saved in financial form by rural depositors is likely to be higher than that of the urban clientele.

Second, no conclusive evidence was found regarding the validity of the life-cycle hypothesis of savings behavior. Further research appears necessary to control for other factors that may be affecting the results presented here, especially those associated with access to other means of formal and informal savings.

Finally, the relative importance of agricultural activities and other occupations closely associated with agriculture in the CNE clientele was estimated to be about 15 percent, a share substantially larger than that estimated in previous studies in the same institution.

# Patterns of Savings In Rural Niger

## INTRODUCTION

This paper addresses three important issues in the study of savings behavior in developing countries. First, we look into the relative importance of rural depositors versus urban depositors to evaluate the conventional belief that rural people do not save or do it in very limited amounts. Second, the age composition of depositors and the shares of different age-categories in total deposits are used to test the life-cycle (Ando-Modigliani) hypothesis of savings behavior. Finally, the occupational profile of rural depositors serves as an empirical basis to determine the relationships between savings performance and agricultural activities. The study relies upon data gathered from the "Caisse Nationale d'Epargne" (CNE), the post-office savings network of Niger, sole financial institution providing deposit services in rural areas.

A summary background of the Niger economy and financial system, a brief description of the CNE, and of the nature of the data and methods of analysis are presented next in this introductory section. Then we focus on the analyses of the issues set forth above in three separate sections. Some concluding remarks follow.

### Background<sup>1</sup>

Niger is one of the largest and poorest countries in West Africa. About four-fifths of its territory is covered by the Sahara desert. The population (6.1 million inhabitants in 1985) is primarily rural (90 percent), concentrated in the more favorable area of the south, the Sabelian region. Average GDP per capita estimated for 1985 was the equivalent of 257 US dollars per year, one of the lowest in the continent. Rural income per capita is estimated to be only 135

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<sup>1</sup> This section relies upon Cuevas (1987).

US dollars per year, about one-tenth that of the non-rural section. Niger is a member of the West African Monetary Union whose central bank is the "Banque Centrale des Etats de l'Afrique de l'Ouest" (BCEAO). All member countries of the BCEAO - Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal and Togo - share the same currency, the CFA franc, pegged to the French franc at the fixed exchange rate of 50 CFA francs per French franc. Thus not only exchange rate policies in Niger and all other member countries are automatically aligned with those of France, but also they have a limited degree of autonomy in controlling their money supply and credit. The BCEAO sets and controls monetary and interest rates policies in member countries mainly through rediscounting. The money supply in each member country is a function of its domestic production, prices, liquidity, the balance of payments, the level of foreign reserves and the total foreign reserves of the union as a whole. Interest-rate policy regulates three types of interest rates: i), rediscount rates which determine the range of lending rates authorized to banks, ii), the interest rates to be paid on deposits, and iii), the interest rates prevailing in the UMOA's money market.

In addition to the BCEAO, nine other banks comprise the financial system of Niger. Three of them are public development banks, and the six other institutions are private commercial banks. These nine institutions together have only twenty-seven permanent branches which represent approximately one branch for every 226 thousand inhabitants. This is an extremely low bank density even for African standards (see Mesini).

In addition to the banks, the financial system also comprises three non-bank institutions, the "Caisse Nationale d'Epargne" (CNE), the "Caisse de Prêts aux Collectivités Territoriales" (CPCT), and the "Fonds d'Intervention en Faveur des Petites et Moyennes Entreprises Nigeriennes" (FIPMEN).

### **The "Caisse Nationale d'Epargne", CNE**

The CNE is a public, autonomous financial institution created in 1970. It operates through the post office network of the OPT ("Offices des Postes et Télécommunications"). It does not provide any lending services and it mobilizes funds in the form of savings deposits and retirement accounts. The CNE itself has a limited staff (33 people) to provide its services nationwide and relies on forty-three post offices and eight mobile units of the OPT. Fifty employees of the OPT are involved in the operations of the CNE throughout the country (Cuevas 1987). The CNE is the only institutional supplier of deposit services in rural areas, therefore, the analysis of its clientele is particularly relevant to study rural saving behavior.

### **Data and Methods**

The data used in this study was gathered at the CNE from a random sample of the forms used to open savings accounts at the institution. The sample included 7242 accounts opened between 1960 and 1986, about 11percent of the total number of accounts opened during this period. The forms provide information about the depositor's place of residence, occupation, gender, date of birth and amount of the initial deposit. Deposit amounts were converted to constant FCFA of 1986 using the consumer price index as deflector.

The age of the depositor was determined by subtracting the birthyear from the year the account was opened. A large number of observations corresponded to accounts opened in the name of minors with no information about the age and occupation of their parents. This made it necessary to sometimes exclude minors from the sample before conducting the analysis (e.g. on the study of the occupational profile of depositors). However, to analyze the life-cycle

hypothesis it was assumed that all accounts held in the name of minors could be added to the middle-age category of depositors (25 to 45 year old).

#### COMPOSITION OF THE CNE CLIENTELE 1960 - 1986.

This section discusses two issues: first, the distribution of the CNE clientele among urban and urban areas, relative to the availability of post offices providing deposit services; secondly, we analyze the age-composition of the clientele to obtain some insights on the validity of the life-cycle hypothesis of savings behavior.

#### Urban and Rural Clientele

Niamey, the capital city, is the major urban center of Niger. Maradi and Zinder, the second and third largest cities respectively, are usually considered urban settings as well, even though an important proportion of their activity depends upon agricultural and livestock enterprises operating in the surrounding areas.

Table 1 shows that urban centers represented almost 58 percent of the depositors and accounted for 64 percent of the amounts deposited in the sample. Niamey depositors alone comprised 47 percent of the CNE clientele and held almost 57 percent of the total deposits. It's also in Niamey where the highest average deposits are observed. Very little savings activity appears to take place in Maradi and Zinder: together these two cities accounted for only 10 percent of the depositors and 8 percent of the total amounts deposited. Rural depositors accounted for 42 percent of the number of accounts and 36 percent of the total deposit amounts in the sample.

Overall, rural savings are far from negligible if one takes into account the distribution of the CNE's branches: two-thirds are located in Niamey alone, thus

less than one-third of the branches are available to rural savers. Therefore, relative to the availability of the services, rural people are more active in opening accounts at the CNE than urban savers. Furthermore, average deposit amounts are only 30 percent larger in urban centers than in rural areas. This is in sharp contrast with the fact indicated above, that urban per capita income is 10 times as large as that of rural areas. Even admitting that the urban clientele of the CNE may be concentrated among the middle-to-low income urban population, this result suggests that the proportion of income saved in rural areas is at least as high as, and most likely higher than, that of urban areas. These results support the view that people in the rural sector can and will save in financial form, given the opportunity to do so at low transaction costs.

#### **Composition of the Clientele by Age Group: The Life-Cycle Hypothesis**

The life-cycle hypothesis postulated by Ando and Modigliani to explain consumption behavior sustains that the average individual has an income stream relatively low at the beginning and at the end of his/her life, when his/her productivity is low. Productivity and therefore income are high during the middle of the individual's life. Therefore, since consumption remains more or less constant or increases only slightly throughout the life of the individual, the mid-life period would correspond to the savings period, whereas at the beginning and at the end the average individual would borrow or dissave (Branson).

The relationship between productivity and age assumed by the Ando-Modigliani hypothesis cannot be tested here with the information available from the account forms of the CNE. We can, however, provide some insights into the second proposition of the hypothesis namely that the mid-life period is the more active savings period of the individual. With this purpose, the accounts were

classified according to the age of the depositor into four categories. The first category, minors, is comprised by all account holders less than 14 years old and is separated from the others on the basis that these depositors are not income earners. Indeed, these accounts are opened in the name of the children by their parents, which were assumed to belong to the middle age category (26 to 45 years old).

As can be seen in Table 2, minors constitute the single largest group of account holders at the CNE. Accounts opened for minors represented almost one-half of the total number of accounts and one-fourth of the total amount of deposits in the sample. On the other hand, savers forty-six years old and older represented 5 percent of the total number of accounts but accounted for 20 percent of the accounts deposited. Thus, their average deposit is considerably larger than those of other groups.

The middle-age group, 26 to 45 years old, shows a rather low participation in the total number of accounts and in the total amount of deposits in the sample (see Table 2). It must be kept in mind that savings at the CNE is only one of the options available to the individual to save in financial form, particularly in urban areas. Also, it is at this stage in the life of the average individual that his/her participation in informal savings groups is likely to be more active. The existence and activity of these informal savings schemes have been recently documented in the rural areas of Niger (Graham et al.).

Moreover, as pointed out above, an important pattern that emerges from the data analyzed here is the opening of savings accounts in the name of the children. In fact, if the accounts and amounts deposited in the name of minors are added to the number of accounts and amounts deposited by the middle-age group, the share of this group in the number of accounts goes to 58 percent of

the total sample, representing about 40 percent of the total amount of deposits in the sample.

It must be pointed out that, as shown in Table 2, even with the addition of the minors to the middle-age group, this does not stand out as the age group with the largest share in the total amounts deposited. It is the "young" category, 14 to 25 years old, the one that holds a slightly higher proportion of total deposits in the sample, with only 37 percent of the number of accounts compared to 58 percent in the middle-age group. Therefore, average account size is larger in the young-age category than in the middle-age group that includes the accounts held in the name of minors.

Furthermore, the data showed that the participation of the age category between 14 and 25 years old has increased substantially in the 25 years of operations of the CNE. Their share of the number of accounts went from 24 percent to 44 percent, whereas their participation in the total amount of deposits increased more than ten-fold from 4 percent to about 45 percent in the same period. This may be reflecting the effect of improved literacy through time benefitting more this age group than the older age-categories, thus facilitating relatively more the access of the young-age group to institutional forms of finance.

The results discussed above do not allow drawing strong conclusions with respect to the validity of the life-cycle hypothesis. This appears to hold if the shares in the number of accounts are considered, but is not supported by the pattern of participations in the total amount of deposits. Further research would be necessary to control for other factors that may be affecting the results presented here, primarily those factors associated with access to other means of formal and informal savings.

### OCCUPATIONAL PROFILE OF THE RURAL CLIENTELE

A large diversity of occupations were declared in the forms used to open savings accounts at the CNE. An effort was made to group these different professions and occupations, in an attempt to assess the relative importance of agricultural and rural-related activities among the rural clientele of the institution. Table 3 summarizes the results obtained, after excluding the accounts held by minors, and those corresponding to organizations (only 17 in rural areas). It must be pointed out that the classification of occupations in the different categories shown in Table 3 was necessarily arbitrary. Public employees holding accounts were classified according to the rural or non-rural nature of the institution where they worked. On the other hand, only farmers, sharecroppers and livestock herders were classified as agricultural activities, so that the relative importance of these activities would be under-estimated rather than over-estimated in the analysis.

Public employees and non-agricultural occupations made up the majority of the CNE clientele. Even excluding those public employees working in rural-related institutions, non-agricultural occupations and public employees in non-rural institutions accounted for about three-fourths of the accounts held by clients residing in rural areas, and a similar share in the total amount of deposits in this sub-sample.

Strictly agricultural activities represented about three percent of the number of accounts, and of the amounts deposited. If we assume that all traders and merchants are directly related to agricultural activities, and add the public employees working in rural-related institutions, this broader definition of rural activities represents almost 15 percent of the total number of accounts in the sub-sample of rural residents (excluding minors and organizations), and about 14

percent of the total amount of deposits in this sub-sample. This is certainly not a negligible share, about 15 times that estimated by the institution in a previous sample of one thousand accounts.

#### CONCLUDING REMARKS

This paper has explored three issues of importance in the study of savings behavior in developing countries. First, it has been shown that, relative to the availability of CNE branches, rural people are more active than urban savers in establishing accounts at the institution. Furthermore, our results suggest that the proportion of income saved in financial form by rural depositors is likely to be higher than that of the urban clientele.

Second, we did not find conclusive evidence regarding the validity of the life-cycle hypothesis of savings behavior. Further research appears necessary to control for other factors that may be affecting the results presented here, especially those associated with access to other means of formal and informal savings.

Finally, the relative importance of agricultural activities and other occupations closely associated with agriculture in the CNE clientele was estimated to be about 15 percent, a share substantially larger than that estimated in previous studies in the same institution.

TABLE 1

## DISTRIBUTION OF SAVINGS DEPOSITS IN URBAN CENTERS AND RURAL AREAS

Urban Centers and Rural Localities	Deposit Accounts		Deposit Amounts, FCFA 1986		
	Number	% of Total Sample	Average per Account	Total	% of Total Sample
Urban Centers	4030	57.73	22530	90832522	64.21
Niamey	3301	47.29	24401	80548581	56.94
Maradi	368	5.27	12262	4512498	3.19
Zinder	361	5.17	15987	5771443	4.08
Rural Localities	2950	42.26	17163	50629363	35.79
Total Sample	6980	100.00	20267	141461885	100.00

Source: CNE data survey, 1986.

TABLE 2

## DISTRIBUTION OF SAVINGS DEPOSITS BY AGE GROUP

Age Category	Deposit Accounts		Deposit Amounts, FCFA 1986		
	Number	% of Total Sample	Average per Account	Total	% of Total Sample
(less than 14 Minors years old)	1725	49.43	12111	20891466	25.47
14-25 years old	1292	37.02	25536	32992928	40.22
26-45 years old	285	8.17	40348	11493156	14.02.
46 and older	188	5.39	88538	16645200	20.29
Total	3490	100.00	23504	82028750	100.00

Source: CNE data survey, 1986.

Table 3  
Distribution of Savings Deposits in Rural Areas by Occupational Groups

Occupation <sup>a</sup>	Deposit Accounts		Deposit Amounts, FCFA 1986		
	Number	Percent of total sample	Average per Account	Total	Percent of total sample
Public employees, rural	156	8.2	18753	2925427	8.2
Public employees, non-rural	735	38.6	19818	14566403	40.9
Non Agricultural	826	43.4	16561	13679568	38.4
Agricultural	53	2.8	19138	1014288	2.8
Traders and merchants	68	3.6	14027	953832	2.7
Other	64	3.4	38821	2484556	7.0
Total	1902	100.0	18730	35624074	100.0

Source: CNE data survey, 1986.

a Excludes minors and organizations.

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