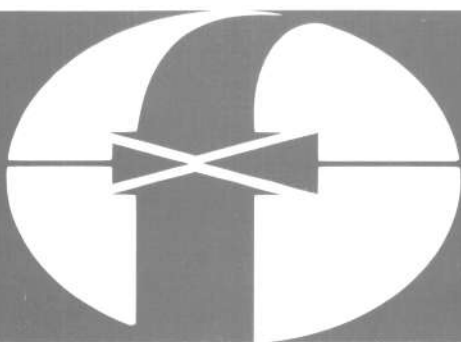


Savings and Development



Finafrica

Centre for Financial Assistance to African Countries

Foundation established by

CARIPLO

Quarterly Review - No. 4 - 1991 - XV



Savings and Development

Editor

Arnaldo Mauri

Università di Milano

Co-editors

Oscar Garavello

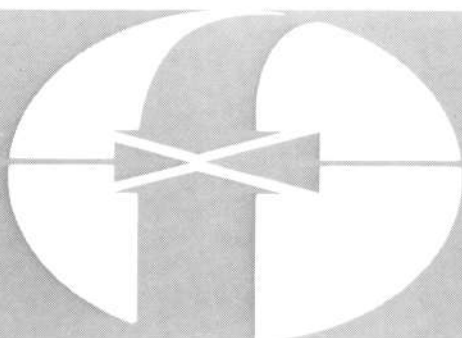
Università di Milano

Mario Masini

Università di Bergamo

Publisher

Giuseppe Villa



Finafrica

Centre for Financial Assistance to African Countries

Foundation established by

CARIPLO

Milan - Italy

Quarterly Review - No. 4 - 1991 - XV

Finafrica

BOARD OF DIRECTORS

Angelo Caloia	Chairman
Marzio Astarita	Director
Giovanni Battistini	Director
Gabriele Cioccarelli	Director
Dario Damiani	Director
Pio Invernizzi	Director
Francesco C. Rampulla	Director
Carlo M. Uslenghi	Director
Albino Zucca	Director
Felice Tambussi	Secretary General

BOARD OF AUDITORS

Graziano Falcone	Member
Enrico Massara	Member
Aldo Sosio	Member

FINAFRICA is a non-profit institution established by CARIPLO - Cassa di Risparmio delle Province Lombarde - Milan (Italy), its goal being the promotion of social and economic development of less developed countries, especially in Africa, through research and documentation on savings mobilization and financial development, technical assistance for the creation and re-organization of financial institutions, training of bank staff.

FINAFRICA est une institution sans but lucratif créée par CARIPLO - Cassa di Risparmio delle Province Lombarde - Milan (Italie). Elle vise à promouvoir le développement économique et social des pays moins développés, en particulier en Afrique, à travers la recherche et la documentation sur la mobilisation de l'épargne et le développement financier, l'assistance technique pour la création et la réorganisation des institutions financières, la formation des cadres bancaires.

Via S. Vigilio 10 - 20142 Milano - Italy
Tel. 8135341 - Telex 313223 FINAFR I



Savings and Development

EDITORIAL BOARD

Antonio Confalonieri	Università Cattolica di Milano
Dale W. Adams	Ohio State University
Sergio Bortolani	Università di Torino
Peter J. Drake	Australian Catholic University
David T. Edwards	University of Bradford
Maxwell J. Fry	University of Birmingham
Jack M. Guttentag	University of Pennsylvania
Sándor Ligeti	University of Budapest
Ronald I. McKinnon	Stanford University
Nurul-Islam Mian	Agricultural University of Peshawar
Paolo Mottura	Università Bocconi
Hugh Patrick	Columbia University

ADVISORY BOARD

Louis Emmerij	President, Organisation for Economic Co-operation and Development
Idriss Jazary	President of IFAD
Göran Ohlin	Assistant Secretary General, United Nations
Jean-Marie Pesant	Directeur Général de l'Institut International des Caisses d'Epargne
Benjamin R. Quinones	Secretary General, Asian and Pacific Regional Agricultural Credit Association
Roberto Ruozzi	Secrétaire Général de la Confédération Internationale de Crédit Agricole
Ariffin Siregar	Governor, Bank of Indonesia
U Tun Wal	Senior Consultant, IMF Institute

Contents

DETERMINANTS OF RURAL SAVINGS IN PAPUA NEW GUINEA <i>by Nimal A. Fernando</i>	319
COUNTERPURCHASE: A POTENTIAL INSTRUMENT FOR DEBT RELIEF IN SELECTED AFRICAN COUNTRIES <i>by V. Monaldi, K. Netter</i>	333
SAVINGS AND THE RATE OF INTEREST IN TRINIDAD & TOBAGO: AN EMPIRICAL ANALYSIS <i>by Patrick K. Watson, Carlyn Ramlogan</i>	349
NIGERIAN VILLAGE MONEY LENDERS AND THEIR USURIOUS INTEREST RATES: AN ANALYSIS OF INTERVENING FACTORS <i>by E. C. Eboh, O. Ugama, O. Okereke</i>	361
A NOTE ON INTEREST AND BANKING IN ISLAM <i>by Farhad Ghannadian, John J. Klein</i>	373
THE DETERMINATION OF THE EXTERNAL DEBT OF HONDURAS <i>by Luis René Cáceres</i>	385
BOOK REVIEWS	408

Sommaire

DETERMINANTS DE L'ÉPARGNE RURALE EN PAPOUASIE-NOUVELLE GUINÉE <i>par Nimal A. Fernando</i>	319
ACHATS DE COMPENSATION: UN INSTRUMENT POTENTIEL POUR L'ALLEGEMENT DE LA DETTE DANS L'AFRIQUE SUB-SAHARIENNE <i>par V. Monaldi, K. Netter</i>	333
L'ÉPARGNE ET LE TAUX D'INTERET À TRINIDAD ET TOBAGO: UNE ANALYSE EM- PIRIQUE <i>par Patrick K. Watson, Carlyn Ramlogan</i>	349
LES PRETEURS DE VILLAGE DU NIGERIA ET LES FACTEURS QUI INFLUENT SUR LEURS TAUX D'INTERET <i>par E. C. Eboh, O. Ugama, O. Okereke</i>	361
REFLEXIONS SUR LES TAUX D'INTERET ET LA BANQUE DANS L'ISLAM <i>par Farhad Ghannadian, John J. Klein</i>	373
LA DETERMINATION DE LA DETTE EXTERNE D'HONDURAS <i>par Luis René Cáceres</i>	385
REVUE BIBLIOGRAPHIQUE	408

DETERMINANTS OF RURAL SAVINGS IN PAPUA NEW GUINEA

Nimal A. Fernando

Papua New Guinea Institute of Applied Social and Economic Research

1. Introduction

About two decades ago "rural savings" remained in Robert Vogel's (1984) terms the "forgotten half" of rural finance in a large number of developing countries for a variety of reasons. This situation seems to have changed in the recent past and a fundamental rethinking of the conventional approach to rural savings mobilisation has emerged due to several factors (Meyer 1989).

The new perspectives on rural savings are based largely on the assumption that rural people have both the capacity and willingness to save, despite low incomes. (Mauri 1977). The conventional approach placed too much emphasis on income variable and neglected other determinants of rural savings (Adams 1978). The new perspectives tend to stress a variety of factors including income.

The main purpose of this paper is to briefly discuss determinants of rural savings in Papua New Guinea, which has a large semi-subsistence rural sector. As very little research has been done on the subject of rural savings in this country, the author also hopes that this will induce further more rigorous research in future.

2. The Rural Economy

About 85 percent of Papua New Guinea's 3.5 million people lives in the rural sector. They are almost entirely dependent on agricultural activities. The agriculture sector is highly dualistic in market orientation: the food crop sector which accounts for nearly 50 percent of the total agricultural output is largely subsistence orientated while the non-food crop sector, which includes coffee, cocoa, oil palm and coconut is entirely export market orientated. Smallholders account for about three-quarters of the total combined production of these four major export crops.

The rural non-farm sector is small and at an early stage of development. It includes basket weaving, cane furniture making, production of artifacts and retail trading. Except for retail trading, other activities are regionalised, not broad-based.

The degree of monetisation of the rural economy is low: the food crop sector uses very little cash inputs and about 75 percent of the output is consumed by producer households themselves; the non-food crop smallholders also use very little cash inputs although the output is sold in the market. This seems to have important implications on rural savings.

3. Determinants of Rural Savings

Rural savings are influenced by a multiplicity of variables. Data on such variables and empirical evidence are scanty. These factors do not permit fine generalisation about rural savings behaviour. Determinants of savings at the household level is even more complex and difficult to discuss than those at the sectoral level. The extremely diverse nature of the rural economy, extraordinarily diverse culture and society together with limited empirical evidence on the subject of determinants of rural savings in Papua New Guinea present serious and complex problems which make generalisations misleading.

However, subject to these constraints, one can broadly conclude that, as occurs in other developing countries, rural savings in Papua New Guinea is not only a function of income but also a variety of other factors. These include social, cultural and economic factors and may be listed as follows:

- (a) cash income;
- (b) size and productivity of food gardens;
- (c) consumption;
- (d) cultural and sociological factors;
- (e) access to institutions;
- (f) appropriateness of savings instruments and procedures;
- (g) real rate of interest;
- (h) degree of linkages with credit facilities; and
- (i) law and order problems.

(a) Cash Income

Cash incomes of rural households undoubtedly influence rural savings through their effects on capacity and willingness to save. In the rural sector, cash incomes are derived by households basically through the following sources:

- cultivation of export crops - mainly coffee, cocoa, oil palm, coconut and, to a lesser extent, rubber;
- working as labourers on coffee, cocoa, oil palm and tea plantations (most of the labourers on plantations are migrants);
- cultivation of introduced vegetables and traditional vegetables partly for the market;

-
- small-scale livestock operations; and
 - rural non-farm activities such as fishing, tradestore businesses and the production and sale of artifacts.

Of these sources, the most important ones are the coffee, cocoa, coconut and oil palm cultivation and agriculture labour on plantations. In 1985, the total export earnings from these four crops (except earnings from copra oil) amounted to K275 million and the estimated income share of the smallholder sector amounted to K164 million - 60 percent of the total earnings. The estate wages and salaries during 1985 were estimated at around K44 million (World Bank 1988). The total number of persons employed in the plantation sector was about 43 000 in the same year.

The number of farmers deriving income from the sale of food crops including betelnuts, in the local markets may be large, but the quantum of income is not as large as that generated by export crops. According to some estimates, only about one-quarter of the total food crop production is marketed by the producers. Thus, in 1984, the food crops may have generated about K90 million to the rural farm households. However, unlike export crop earnings, sale proceeds from food crops represent mostly intra-rural transactions and only a small proportion constitutes a net injection to the flow of rural sector income. Therefore, from the point of view of the sectoral savings capacity, its significance is much smaller, although it may be of significance at household level.

Geographical distribution of export crops as well as the other activities introduces significant regional variation to the importance of different crops and activities. Thus, coffee is heavily concentrated in Eastern Highlands and Western Highlands Provinces — their combined share being approximately 80 percent of total production (1988). East New Britain and North Solomons Provinces account for 85-90 percent of the cocoa production while oil palm is concentrated in West New Britain and Oro Provinces and to a lesser extent in Milne Bay Province. Coconut is also grown mainly in East New Britain and North Solomons Provinces. In 1985, six provinces accounted for 77 percent of the estimated smallholder income from coffee, cocoa, oil palm and coconut while the other 13 provinces accounted for the balance of 23 percent.

Fisheries are significant only in the coastal areas as inland fisheries activities are relatively insignificant. Artifacts are important sources of cash income for people in East Sepik Province. Tradestores are found in each village and are owned mostly by well-to-do households in the rural society.

Unlike some of the countries in Asia, Africa and the South Pacific, inward remittances

of labour income from overseas is not a significant source of income to the rural sector in Papua New Guinea. The available scattered evidence also suggests that urban to rural sector inward remittances are not a significant source, although at provincial level this appears to be significant in Central and Gulf Provinces which have a relatively easy access to the National Capital District where most of the urban white and blue collar workers work and live.

Mining activities are becoming an increasingly important source of income for the rural sector at provincial level. During the construction phase of mining activities, rural labour is offered employment opportunities. In the production phase, surrounding rural areas are affected by linkages. The rise in demand for food enables nearby farmers to increase their marketed share of food crops and livestock¹. Also, landowners in the area receive compensation payments and royalties from the mining companies. In addition, mining and associated activities generate a greater demand for services such as transport which bring cash income to the rural areas. However, the number of people directly and positively affected by mining activities has been and will continue to be small. Therefore, the impact of mining on household savings capacity is likely to be confined to a small number of households in a limited geographical area.

The relative significance of various sources strongly suggests that export prices, and productivity in the export crop sector are overwhelmingly important factors influencing cash incomes in the rural economy, and therefore, rural households' capacities to save. When export incomes rise, their savings capacity rises considerably. This was the case with the 1976 and 1984-86 coffee price booms, the 1984-85 cocoa price boom, the 1984 copra price boom and the 1984-85 oil palm price boom. During these periods, farmers cultivating these crops had a much greater capacity to save. National level data show that, the biggest absolute increase of K21.4 million in savings deposits with commercial banks over the 1983-1990 period, occurred in 1984, the year in which the export earnings of four major agricultural crops recorded their most dramatic absolute increase of K119 million.

The other variable influencing farmers' cash income levels is the total production in their land holdings which in turn is determined by yield. As export prices are beyond the control of policy makers (because PNG is a price taker in these crops in the world market) the yield variable is of much more significance in an operational approach to rural

¹ This was the case in North Solomons Province when the Bougainville Copper Mine commenced its operations in the early 1970s (see O'Faircheallaigh 1984).

income improvement and hence savings promotion. Empirical evidence tends to suggest that there is considerable potential for raising yields from existing levels in all major tree crops grown by smallholders through the application of better, labour-intensive, less capital demanding, technology. For example, it has been argued that better weed control alone has the potential for greatly increasing coffee yield in the short term (Silva and Tisdell 1987). Realisation of such potential depends largely on the effectiveness of rural agriculture extension services. Availability of better crop varieties for smallholder conditions in certain areas will also be of considerable importance for long-term yield improvements. This underscores the significance of non-financial policies for the development of rural financial markets.

(b) Size and Productivity of Food Gardens

In rural Papua New Guinea, due to the communal ownership of land and the low density of population, virtually every household has a food garden. The bulk of the households meet a major proportion of their consumption needs with production from the food gardens. Therefore, food gardens play a crucial and multiple role in determining the savings capacity of rural households. Because a large number of export crop farmers sell a small proportion of their surplus production of foods, gardens also provide a little cash income for them².

More importantly, food gardens enable rural farmers to expand their export crop base, by increasing the risk-bearing ability of farmers, functioning as a shock absorber of export market fluctuations. Also, gardens enable them to mobilise more labour than they could afford to, with their cash income, and thereby enhance labour resources within their command. The larger the size of the garden and the productivity, the larger is the ability to mobilise more labour and have the capacity to expand export crop cultivation. All these factors, finally contribute to a better income, hence, a better capacity to save. This could be clearly seen in converse form among certain oil palm settlers whose garden size is limited, relative to the household needs. This has compelled them to rely more on store goods, reducing their net cash surpluses and hence, capacity to save.

The fact that farmers are able to meet most of their food requirements with garden produce significantly affects the marginal rate of savings in these households. When cash

² For example, in 1980, in Western Highlands Province which is the major coffee growing province of the country, 54 percent of the households marketed some of their food crops.

incomes rise due to better prices or better production, they tend to have a capacity to save a greater proportion of the incremental income.

The food garden also enables farmers to meet their contributions to village or clan ceremonies and other numerous social obligations in kind for which cash would be otherwise required. Thus, the garden, in this manner, enables farmers to save a greater proportion of their export crop income.

(c) Consumption

Consumption is also an important factor affecting rural savings in developing countries. Availability of consumer goods could stimulate the desire among rural people to save. Although, savings are explained as abstinence from consumption, in rural Papua New Guinea, availability of consumer goods which are not affordable on current incomes (within easy access), could provide a significant incentive to save with a view to purchasing them later. It appears that rural people in areas with better infrastructure facilities such as roads and electricity have a greater willingness to save. Thus inaccessibility of such goods may have an adverse impact on the desire to earn a greater income and hence, save more.

It has been argued recently (See Deaton 1989) that farmers in developing countries save primarily to smooth their consumption in the face of volatile and unpredictable income, in order to prevent deterioration of their already poor living standards. However, empirical evidence in Papua New Guinea does not seem to support this view of savings determination. Most Papua New Guinean farmers have a reasonably adequate food production base to ensure a stable food consumption level, due to the food garden. Yet, they save, despite the fact savings are not required for "consumption smoothing". It could be argued that, in rural Papua New Guinea (perhaps also in many other rural societies), farmers save for "consumption diversification" rather than "smoothing". Thus, it may be argued that greater potential for such diversification may lead to greater savings in this society.

(d) Cultural and Sociological Factors

At early stages of economic development cultural and sociological factors also play a major role in savings. This is particularly true with respect to Papua New Guinea where an extraordinarily diverse culture exists with 700 different local languages. Cultural and sociological factors influence not only the amount of savings but also the form of savings.

In rural Papua New Guinea, Melanesian cultural values appear to emphasise "distribution" much more than "accumulation" and "consumption" much more than "savings". This is evident from the various type of traditional exchange ceremonies in which big feasts play a predominant role. In the rural society, social status is measured by how much one gives away rather than how much one has or earns (Fernando 1991a). One who does not wish to share one's surpluses — whether food or income — is considered "rubbish" by his wantoks. He is not respected and supported by his own clan members and others in the village. These cultural values, therefore, have a significant influence on rural savings.

Culture and sociological factors determine the form of savings as well. If big ceremonies and exchange festivities are monetised activities, a "big-man" in the rural society might tend to save in financial assets. But this is not the case in rural Papua New Guinea. The commodities which figure prominently in them are pigs, shell money, bananas, kaukau and other foods grown locally and accumulated for the festival, in part through commodity exchanges on a reciprocal basis. Therefore, the need for finance does not arise often in these exchange ceremonies. The nature of goods used, their ready availability in the area and significance of reciprocity in rural culture give them a non-monetary character. Thus, a "big-man" who plans to have an exchange ceremony in the next year or so would not save money, rather he would raise more pigs. Although, pigs from his point of view, constitute savings, it does not contribute to financial intermediation directly. The same holds true with respect to "bride-price" payments, although in certain areas this activity is being gradually monetised.

Another significant socio-cultural factor is the *wantok* system (social obligation to help relatives) which also requires persons to assist wantoks. However, unlike exchange ceremonies, the impact of the wantok system on savings is not clear, and becomes an empirical question. Because it can promote as well as discourage savings, one cannot a priori make a generalisation on the direction of its impact. Also, an income earner in the rural society is expected to assist his wantoks and such obligations when foreseen can lead to greater target savings, depending on the nature and magnitude of the obligation. On the other hand, if a person does not have a tangible surplus in the eyes of potential beneficiaries, he may be excused for not being able to contribute to the required need. Therefore, one could in such cases argue that the system does not generate an additional pressure on the income earner to work hard, reduce his own consumption and save more.

The impact of non-economic, socio-cultural factors on income and savings is shown

by the complex behavioural pattern of oil palm settlers, who cultivate under a rather controlled system of contract farming. A common, complex phenomenon in oil palm settlements has been the settlers' reluctance to harvest their blocks fully, despite the fact that there is a ready market and price which would more than offset the cost of harvesting, even if hired labour is utilised for the purpose. In Popondetta (Oro Province), the production losses due to partial harvesting and non-harvesting of some blocks in 1990 is estimated to be around 60-70 percent of the actually harvested quantity. The entirety of this cannot be explained in terms of socio-cultural factors, as there could be good economic reasons such as family labour constraints in some cases. Nevertheless, a great deal of this may be explained in terms of socio-cultural values which do not demand an economically rational behaviour from the farmers. While this foregone harvest represents an enormous dead loss to the farmers, and the society, from the point of view of farmers, it may not be a loss — explanation for which may lie in socio-cultural values of farmers rather than in prices or other economic factors.

(e) Access to Institutions

Access to institutions is one of the most significant institutional factors influencing savings in any rural society (Fischer 1989). Rural savings mobilisation requires an institutional network which provides easy access to potential savers. The significance of this factor is shown by the widespread use of informal arrangements of savings in the rural society. If institutions are within the easy reach of farmers, they tend to make use of them, *ceteris paribus*. Facilities themselves influence the degree of willingness to save. The absence of institutions collecting deposits from the rural sector may simply discourage any desire to earn more or encourage consumption and perhaps wasteful expenditure, or it may lead to savings in forms which are not useful to the society. In fact, the less developed a country's rural sector, the greater is the need for institutional mechanisms to collect small savings of the broad mass of farmers in the sector.

In Papua New Guinea, the institutional network for rural savings mobilisation consists of bank branches located in provincial towns, and the agencies of the two major commercial banks, namely the state-owned Papua New Guinea Banking Corporation (PNGBC) and the Westpac Bank, which is the largest private commercial bank in the country. At the end of 1989, there were 85 commercial bank branches in the country, of which 67 were located outside the National Capital District. However, access to these branches is limited to those rural people who are in close proximity.

It is the agency networks of the PNGBC and the Westpac Bank which provide com-

paratively greater access to the rural population for financial saving. At the end of 1990, these two banks together had about 200 agencies scattered throughout the country, with about 90 percent of them located in rural areas. However, a significant proportion of the rural population still appears to lack easy access to either of these two types of institutions. This is evident, in part, from the widespread practice of hoarding in many rural areas of the country (Fernando 1991b). The access problem is particularly severe in those areas which are at a very low level of commercialisation.

An important aspect of the access to deposit institutions for rural Papua New Guineans is the contraction in the agency network during the recent past. Between 1986 and 1990, the agency network has declined by about 36 percent. The decline is a combined effect of law and order problems in rural areas and poor economic viability of some of the rural agencies. However, the unfortunate effect of this development is that it has been the rural people in remote areas — particularly those belonging to low income groups — who have been adversely affected. Because agencies are primarily involved in the savings market, rural people's access to formal savings facilities have deteriorated.

Besides geographical dimension, the access has an economic dimension as well — the ease with which a rural household member could deposit his or her savings and withdraw them. This is reflected in transactions costs to depositors. If transactions costs are high per unit of deposit, it will discourage people from using the formal facilities. They may turn to informal arrangements. Minimum deposit requirements, restrictions on withdrawal amounts and the number of withdrawals per given unit of time, and more importantly, the transport costs involved in reaching the institutions are important explicit expenditure components in transactions costs. In addition there are implicit costs as well, such as the income foregone due to time spent on the transactions.

It appears that transactions costs related to opening new accounts, and making deposits and withdrawals are relatively low in some commercial banks, while they are very high in others in relation to the small savers, who are in close proximity to a bank branch or an agency of a bank. However, many are not in close proximity to such institutions and they constitute the smallest of smallholders. For them, transactions costs are prohibitive, mainly due to transport costs which keep them out of the formal savings network.

(f) Appropriateness of Savings Instruments and Procedures

The appropriateness of savings instruments offered by institutions determines the will-

ingness to save with institutions. If the instruments are appropriate from the point of view of the potential users, they tend to utilise them, given the capacity to do so. Also, one can argue that capacity itself may be influenced to some extent by the compatibility of instruments. This is one major reason why institutions should make a wider array of instruments available for potential users to choose from, according to their requirements.

Appropriateness has two dimensions — economic compatibility and cultural compatibility. Economic compatibility encompasses the ease with which one can acquire a particular instrument, attractiveness of its return, safety and liquidity of deposits (Mauri 1977; Gonzalez-Vega 1986). In rural Papua New Guinea, safety of savings and the confidence in institutions appear to be dominant factors in financial savings with institutions. Lack of confidence and perceived safety tend to dampen financial savings among many rural households.

Cultural compatibility is equally significant. In the rural society, people are used to saving informally in particular forms and ways for a long period. These forms and ways have become an integral part of their culture. Acceptance of instruments offered by formal institutions depends largely on the extent to which they fit into these cultural norms and values. It is for this reason that institutionalisation of savings in rural societies becomes largely a question of financial technology (Mauri 1985). For example, when people are used to saving secretly, facilities provided by formal institutions, use of which can be seen by any person in the vicinity, may not be appropriate. In fact, this appears to be one of the problems with financial savings instruments in rural Papua New Guinea. A passbook savings account is the only savings instrument offered to the rural sector. However, a rural farmer cannot use this instrument for transactions as secretly as he or she can use "tin box" for saving in his or her own household.

Of similar importance are the procedures adopted by collection agencies for institutionalising savings. Lengthy form filling, non-use of local languages, requirement for the potential customer to come to the agency and wait for his or her turn and other formalities may simply discourage rural households from saving with formal institutions. In a recent sociological investigation carried out by the National Research Institute of Papua New Guinea, many farmers in remote areas, as well as those in close proximity to bank branches indicated their dislike for formal procedures adopted by banks which often make the potential customers think that they are "aliens" — those who do not fit into the formal sector exemplified by the banks.

(g) *Real Rate of Interest*

It has been pointed out that savings is a positive function of real rate of interest which is determined by the nominal rate of interest and the rate of inflation in the country during a given period. Although there is considerable debate over the influence of real rate of interest on savings, and the effect of higher interest rates on savings appears to be particularly ambiguous in a rural society, there is less disagreement on its effect on the form in which people save. Higher rates tend to promote savings more in financial than non-financial forms (World Bank 1989).

However, the field work carried out by the author in late 1990, indicated very clearly that the supply of savings in the rural sector of Papua New Guinea continues to be more "service elastic". Although nearly 160 passbook-holder farmers in different provinces were interviewed, none of them knew the interest rate paid on their deposits. While some said that no interest is paid on their deposits, many others said that some interest is paid. When asked for reasons for saving, none of the respondents mentioned "interest earnings". While one cannot deny that higher rates will have a positive effect on supply, evidently other factors such as convenience and safety appear to play a more important role, in part due to the relatively low level of financial development of the rural society at present.

However, this should not be interpreted as concluding that the real rate of interest is an insignificant determinant of rural savings. Because marginal propensity to save is, in general, higher than the average propensity to save, rural households who have access to formal institutions or their agents are likely to respond positively to higher real rates of interest, although a large segment of the rural society may not be affected by such higher rates, simply due to the lack of easy access to such institutions. For them, service is the dominant factor. For those who have geographical access, service as well as interest appear to be significant factors. In other words, the overall significance of interest rates is to some extent reduced by geographical fragmentation of the savings market.

(h) *Degree of Linkage with Credit*

The extent to which credit facilities are linked to savings has an important bearing on rural savings (Vogel and Burkett 1986). When deposits are used to establish the credit-worthiness of potential borrowers, rural households may have a greater tendency to save with such lenders. This was found to be an important determinant of savings in

several rural areas of Papua New Guinea. A number of commercial banks had persuaded potential borrowers to save with them with a view to obtaining a loan in future.

(i) Law and Order Problems

Law and order problems are a significant factor influencing savings and the forms in which rural people are willing to keep their savings. This factor affects both formal institutions, and certain informal arrangements, as well as the supply of deposits. First, law and order problems prevent formal institutions from operating in certain areas which are considered high risk. This reduces geographical access. Second, they increase the operational costs and reduce the ability to pay better interest rates on deposits. On the supply side, the direction of the impact is not clear and becomes an empirical question. Some farmers, when interviewed, said that they deposit their savings now with banks, due to law and order problems, which have increased the risk of hoarding. However, it appears that it is the savings of the relatively better-off households which are positively affected in this manner. Due to the impact on the demand side, many more rural households are affected adversely and the overall impact on savings, therefore, appears to be significantly negative.

4. Conclusion

The foregoing analysis shows that the factors influencing the form and volume of rural savings in Papua New Guinea are complex and include economic factors such as real rates of interest, liquidity and transactions costs as well as a variety of sociological and cultural factors. It is difficult to rank the relative significance of these factors. However, it appears that greater access to formal or semi-formal institutional facilities would bring a large number of small savers into the financial systems, while higher real rates of interest would induce those who have had institutional access for some years to increase their volume of financial savings. The capacity to save can be largely improved through a more broad-based agricultural development strategy compiled with the development of rural non-farm activities. However, there is still a felt need for more culturally compatible savings instruments for rural people.

References

- Adams, D.W., 1978. "Mobilising Household Savings through Rural Financial Markets", *Economic Development and Cultural Change*, Vol. 26, No.3.
- Deaton, A., 1989. "Savings in Developing Countries: Theory and Review", Proceedings of the World Bank Annual Conference on Development Economics, 1989. Washington, D.C.: World Bank.
- Fernando, N.A., 1991a. "Informal Finance in Papua New Guinea: An Overview", in D.W. Adams and D. Fitchet, (eds.), *Informal Finance in Low Income Countries* (Forthcoming).
- Fernando, N.A., 1991b. "Mobilising Rural Savings in Papua New Guinea: Myths, Realities and Needed Policy Reforms", *The Developing Economies* (Forthcoming).
- Fischer, B., 1989. "Savings Mobilisation in Developing Countries: Bottlenecks and Reform Proposals", *Savings and Development*, Vol. 13, No.2.
- Gonzalez-Vega, C., 1989. "Strengthening Agriculture Banking and Credit Systems in Latin America and the Caribbean, (Mimeo.), Columbus: Ohio State University.
- Mauri, A., 1977. "A Policy to Mobilize Rural Savings in Developing Countries", *Savings and Development*, Vol. 2, No.1.
- Mauri, A., 1985. "The Role of Innovative Financial Technologies in Promoting Rural Development in LDCs", *Rivista Internazionale di Scienze Economiche e Commerciali*, Vol. 32, No.10-11.
- Meyer, R.L., 1989. "Mobilising Rural Deposits: Discovering the Forgotten Half of Financial Intermediation. "Development Southern Africa, Vol. 6, No. 3.
- O'Faircheallaigh, C., 1985. *Mining and Development*. London: Croom Helm.
- Silva, N.T.M.H. and Tisdell, C.A., 1987. "Available Options and Research Needs for Weed Control in Coffee in Papua New Guinea", *PNG Coffee*, Vol. 6, No. 1.
- Vogel, R.C., 1984. "Savings Mobilisation: The Forgotten Half of Rural Finance" in Dale W. Adams et.al., (eds.), *Undermining Rural Development with Cheap Credit*. Boulder: Westview Press.
- Vogel, R.C. and Burkett, P., 1986. "Deposit Mobilisation in Developing Countries: The Importance of Reciprocity in Lending", *The Journal of Developing Areas*, Vol.20, No. 4.
- World Bank, 1989. *World Development Report 1989*. Oxford, Oxford University Press.

Abstract

Rural savings in developing countries are influenced by a multitude of factors. These include not only economic but also socio-cultural factors. While some of the determinants of rural savings are common to many developing countries, there appears to be some country-specific factors as well. Therefore discussions of determinants of rural savings in individual countries are important.

In Papua New Guinea, rural savings are influenced by smallholder export earnings and the size and the productivity of food gardens of rural households. Although only a small proportion of the produce of the food gardens is marketed, gardens enhance the savings capacity of households in numerous ways. The economic and cultural compatibility of savings instruments offered by the formal sector and the consumption and distribution oriented socio-cultural system also have a significant bearing on rural savings in the country. Although, real rate of interest seems to have an influence, it appears that rural savings are more service elastic rather than interest-elastic. Greater access to institutional facilities will have a considerable effect on volume of rural savings with financial institutions, as evident from the widespread practice of hoarding an apparently large volume of hoarded money in the sector.

DETERMINANTS DE L'EPARGNE RURALE EN PAPOUASIE-NOUVELLE GUINEE

RESUME

L'épargne rurale dans les PVD est déterminée par plusieurs facteurs d'ordre économique aussi bien que socio-culturel, dont une partie est commune à beaucoup de pays, tandis que d'autres sont typiques de chaque pays. Il est, donc, important d'analyser les déterminants de l'épargne rurale pays par pays.

En Papouasie-Nouvelle Guinée, l'épargne rurale est influencée par le recettes des exportations des petits fermiers aussi bien que par les dimensions et la productivité des potagers des ménages paysans. Bien que seulement une petite partie du produit des potagers soit commercialisée, les potagers augmentent la capacité d'épargne des ménages de plusieurs façons. Deux autres facteurs inflent de manière significative sur l'épargne rurale d'un pays, à savoir la compatibilité économique et culturelle des instruments d'épargne offerts par le secteur formel et l'orientation vers la consommation et la distribution du système socio-culturel. Quoique le taux d'intérêt réel semble influencer sur la détermination de l'épargne, l'épargne rurale en particulier montre une plus grande élasticité par rapport aux services que par rapport aux taux d'intérêt.

Un accès plus facile au réseau institutionnel pourrait avoir un impact considérable sur le volume d'épargne rurale placé dans les institutions financières si l'on considère la pratique généralisée de la thésaurisation et le volume apparemment important d'argent thésaurisé dans le secteur.
