

DALE W. ADAMS

# RURAL FINANCIAL MARKETS AND INCOME DISTRIBUTION IN LOW INCOME COUNTRIES

Excerpt from

**Savings and Development**

**Finafrica**

Centre for Financial Assistance to African Countries

Foundation established by

CAFRI/ILC



# RURAL FINANCIAL MARKETS AND INCOME DISTRIBUTION IN LOW INCOME COUNTRIES

Dale W. Adams  
The Ohio State University

---

## 1. Introduction:

The past several decades a large amount of attention has been given to agricultural credit programs in low income countries. This has been justified by the positive impact that loans are thought to have on agricultural production. While some attempts have been made to form cheap credit programs for the rural poor, few questions have been raised about the ways and extent to which financial markets affect income distribution (Boulding and Wilson). A widely held assumption is that the normal workings of financial markets have little impact on these distributions, and that a few carefully chosen policies can tilt the operations of these markets in favor of the poor.

In the following discussion I will argue this assumption is incorrect and that the workings of rural financial markets in most low income countries are causing much more inequitable distributions of income. The operations of financial markets may affect income distributions in three ways: through the net returns that borrowers realize from activities financed by loans, through negative real rates of interest charged on loans and paid on deposits, and through default on loan repayment. I also argue that cheap credit combined with inflation are major factors that help explain this problem.

## 2. Net Returns from Borrowing

People who are honest and incur positive real costs of borrowing request loans because they hope to make a net return from the use of borrowed monies. Those individuals successful in increasing their net returns through the use of loans may boost their income relative to those who do not use loans, and also improve their income over what it would have been without a loan. If returns from investments are high, those individuals and firms that borrow may rapidly increase their incomes in comparison with those who do not borrow. Loans allow aggressive entrepreneurs to capitalize on investment opportunities immediately, rather than waiting until they can assemble their own surpluses. Loans allow compounding of income growth because borrowers are able to use, not only the additional resources that the loan allows, but they are able to invest the additional net returns realized from borrowed funds.

---

---

Little research has been done on the extent to which these net returns from borrowing affect income distribution; they have to be substantial, however. It is widely held that one of the main functions of financial markets is to allocate claims on resources from individuals with low pay-off opportunities to those with high pay-off investments. Most people feel this is a legitimate way to increase income, and there have been few ethical questions raised about it. It is generally held that this is a proper reward for those willing to take the risks necessary to be levered entrepreneurs.

### 3. Negative Real Rates of Interest

In sharp contrast, there is a good deal of controversy over the ethics of transferring income to borrowers through negative real rates of interest. Most governments regulate interest rates in formal financial markets. Some regulations are tied to controlling usury, others result from attempts to manage the economy, still other interest rate regulations are aimed at aiding a particular activity or group. Suppression of interest rates is particularly severe in rural financial markets in low income countries. In these countries interest rates on agricultural credit are set well below rates on commercial, non-agricultural loans. It is also typical that loans to small farmers and other rural poor carry even lower interest rate ceilings. Because interest rates on formal rural loans are set low, rates paid on rural savings deposits are set even lower (Kane).

Interest rates are prices. Unlike prices on physical goods, however, financial instruments may have two prices: nominal and real.<sup>1</sup> The nominal interest rate, or price, is the contractual interest rate included in loan agreements; it is the 5 percent received on savings accounts in commercial banks, the 15 percent that one pays on a home mortgage, and the 18 percent one pays if an account is not

---

1 The real rate of interest is the nominal rate of interest adjusted by the percentage change in some price index: e.g. consumer prices. Where the percentage change in prices is small the real rate of interest is approximately equal to the nominal rate of interest minus the change in the price index. If there are large changes in overall prices, the real rate of interest is equal to  $\frac{1+i}{1+p} - 1$ , where  $i$  equals the nominal rate of interest and  $p$  equals the change in the price index.

---

paid in full monthly. Nominal interest rates are the prices of financial instruments that most people talk about and readily recognize.

It is possible to ignore real interest rates when there is little or no change in overall prices. Inflation or deflation, however, cause a divergence between nominal and real rates of interest. Because financial instruments are claims on resources, and not real resources, their value is represented by their purchasing power. The purchasing power of these instruments may change over time, depending on what happens to overall prices. The purchasing power of financial instruments varies inversely with changes in overall prices. These changes in the purchasing power of financial instruments, or changes in real price, occur independent of the fixed nominal interest rate or nominal price. The real interest rate or price of a financial instrument, unlike real goods prices, can result in negative rates if changes in prices exceed nominal rates of interest.

An example may help to clarify the difference between nominal and real interest rates. Let's assume that a person has a hundred dollars at the beginning of the year. They have the choice of using that money to buy an inexpensive 3-piece suit or placing the money in a savings account and receiving a 5 percent nominal interest payment. Let's further assume that they cannot make up their minds about the kind and color of suit they want and decide to deposit that money for a year. They are living in a country where overall prices go up by 15 percent during the 12 months that their money is on deposit. At the end of the year they withdraw the deposit and receive the principal plus \$5 in interest, a total of \$105. They take this money to the local department store with a clear idea of the kind of suit they want to buy. To their discomfort, however, they find that the inexpensive suit they want, that sold 12 months ago for \$100, now costs \$115. The purchasing power of their money, even with the nominal interest earned, has declined to the point that they are forced to buy the suit without the vest. The real price or value of their claims on resources went down by about 10 percent during the year that they stored them with the financial intermediary.

This lost purchasing power did not evaporate into thin air. The depositors' loss was someone else's gain. The gains were passed along to those able to get loans from the intermediary at concessionary interest rates. That is, at rates that are lower than the expected rate of inflation. Let's say that the borrower is the owner of the department store, and assume that they are able to get the loan at a nominal interest rate only slightly above the 5 percent that the bank pays to the depo-

---

---

sitor, say 6 percent per year. The owner decides to invest the borrowed money in additional inventory of inexpensive suits. At the end of the year the store owner finds that the suit inventory has increased in value by 15 percent. The borrower can sell this inventory, repay the loan, pay the 6 percent interest, and still realize an almost 10 percent gain from borrowing and holding additional inventory. When rates of inflation exceed nominal interest rates, borrowers received income transfers almost equal to the purchasing power lost by depositors.

Negative real rates of interest not only transfer income from depositor to borrowers, but also affect income distributions among borrowers. Because the income transfer from negative interest rates is proportional to the size of the loan, borrowers of large amounts receive much larger subsidies than do borrowers of small amounts (Gonzalez-Vega, 1977). It goes without saying that non-borrowers receive no benefits from cheap credit.

What has all this to do with income distributions in low income countries and with rural financial markets? Most low income countries have fixed and low nominal interest rates on formal agricultural credit, have rates of inflation that substantially exceed nominal interest rates, and are aggressively expanding the amount of money lent at concessionary rates. Negative real rates of interest are in force in almost all of these countries on rapidly increasing amounts of money lent. In Brazil the income transfers due to negative real rates of interest in rural financial markets on an annual basis is several billions of dollars (Sayad). In other countries like India and Mexico the amount transferred approaches a billion dollars each year (Reynolds and Corredor). In still other countries such as Venezuela, Colombia, The Philippines, and Thailand the annual transfer is in the hundreds of millions.

While some people have argued that financial markets can be used to tilt this income transfer in favor of the poor, recent research results strongly suggest this may not be possible. Negative real rates of interest force lenders, both private and governmental, to ration cheap loans (Vogel 1981). When real rates of interest on loans are negative, borrowers who get these loans, and also incur only modest additional loan transaction costs, have almost insatiable loan demand due to the implied income transfer or subsidy associated with negative real rates of interest. Individuals can capture these subsidies by converting the loan into any kind of real asset that appreciates in value more rapidly than the rate of inflation: e.g. land, cattle, gold, crop inventories, machinery. When the real asset is liquida-

---

---

led to repay the loan the borrower only repays part of the purchasing power that was received from the lender and is able to retain part of the purchasing power despite having paid a nominal interest payment.

When interest rates are negative in real terms, influential borrowers have powerful incentives to stroke formal lenders into giving them loans. At the same time, the formal lender is very susceptible to being stroked. With excess demand for the supply of cheap loans available, lenders can select mainly those loan applications that minimize the total transaction costs of lending. Per unit of money lent, it is cheaper for the lender to extend large loans than it is small loans (Gonzalez-Vega, 1981). It is also less expensive to lend to borrowers who have previously borrowed from the lender than it is to assemble costly creditworthiness information on new customers. Because the lender is doing the borrower a substantial favor in granting the negatively priced loan, borrowers may find it in their interest to give the lender gifts. The lender can also insist on very secure loan collateral.

This excess demand, and the rationing process it forces on formal lender, results in most of the cheap loans going to the well-to-do and the politically influential (Robert). The borrowers of small amounts, the individuals who have not done business with the formal lender, and those who have weak collateral find it very difficult to stick their noses into the stream of subsidies involved in concessionary priced credit (Vogel 1977, Adams and Tommy). Formal lenders may make a token number of loans to the rural poor for purposes of public relations. Most of the rural poor, however, will be excluded from formal loans by rude treatment, long waits in line to process loan applications, unreasonable loan collateral requirements and credit terms that are very inflexible and undesirable from the viewpoint of the borrower (Adams and Nehman). Because of interest rate restrictions the poor also receive very low rates of return on their savings accounts. The rich can find higher return investments.

#### 4. Default Transfers

In a number of low income countries a substantial percent of the loans made by formal rural lenders is not repaid. Recently, the Philippines, Ghana, and Jamaica among others, have had a very difficult time collecting a substantial amount of the money lent in some agricultural credit programs. Default leakage to the tune

---

---

of tens of millions of dollars per year is not uncommon. When a loan is not repayed, it obviously involves an income transfer from the lender to the borrower. As with the income transfer associated with the negative real rates of interest, the default transfer is proportional to the size of the loan. Defaulting borrowers of large loans receive large transfers. Borrowers of small amounts who default get small transfers, and those individuals who get no formal loans do not participate in income transfers through loan default.

While it is often true that small borrowers may make up a large majority of the total number of defaulted loans, it is also true that, in terms of the total amount of money in defaulted loans, big borrowers bulk large. It is also true that large defaulters, who are also politically influential, receive relatively little press coverage while small borrowers who default attract a good deal more public attention. It is often possible for those who have political and economic clout to resist pressure from formal lenders to repay their loans (Ladman and Tinnermeier).

## 5. Policy Implications

It is becoming increasingly apparent that rural financial markets are having a very adverse impact on the distribution of income as well as assets in most of the low income countries. Only those who receive the bulk of the formal loans get the net returns from credit use, receive the income transfer due to the negative real rates of interest, and also capture most of the benefits of not repaying the loan. In Latin America, for example, about 3 percent of the agricultural producers receive 80 percent of the total value of formal loans (Gonzalez-Vega, 1981). Those who do not borrow, who borrow only small amounts, or those who are forced to hold part of their savings in accounts that pay negative real rates of interest fall behind in the process. These income distribution problems increase in importance when formal rural financial markets expand, real rates of interest are highly negative, and/or when many formal loans are not repaid. Large numbers of countries fall into this category currently.

The most common reaction to these problems is to attempt to increase the amount of financial market regulation. This includes nationalization of banks, loan portfolio restrictions, and political harranging. Typically, the results of increased regulation is different from what was anticipated because of the fungible

---

---

nature of financial instruments. After looking at the operations of rural financial markets in a number of low income countries, I believe that it is virtually impossible to reduce inequalities in income distributions through financial market subsidies. Most attempts to do so will mainly benefit the rich. At the same time I also believe that reforms in current financial market policies would force these markets to sharply reduce the amount of income and asset distribution concentration that they are currently causing. More flexible and generally positive real rates of interest are key factors in these necessary changes. The main question is, will those who currently benefit from cheap credit policies allow these changes to take place?

Because of the nature of finance I felt that it is virtually impossible to adjust the performance of rural financial markets so that will benefit the poor at the expense of the rich. Under the very best of circumstances, financial markets can have a neutral to slightly negative effect on income distributions.

### Bibliography

- Adams, D.W and G.I. Nehman, 1979, « Borrowing Costs and The Demand for Rural Credit », *The Journal of Development Studies*, Vol. 15, No. 2, January, pp. 165-176.
- Adams, Dale W and Joseph L. Tommy, 1974, « Financing Small Farms: The Brazilian Experience 1965-69 », *Agricultural Finance Review*, Vol. 35, October, pp. 36-41.
- Boulding, Kenneth E. and Thomas Frederik Wilson (eds.), 1978, *Redistribution Through the Financial System: The Grants Economics of Money and Credit*, (New York) Praeger Publishing Co.).
- Gonzalez-Vega, Claudio, 1977, « Interest Rate Restrictions and Income Distribution », *American Journal of Agricultural Economics*, Vol. 59, No. 5, December, pp. 973-976.
- Gonzalez-Vega, Claudio, 1981, « Interest Rate Policies, Agricultural Credit and Income Distributions in Latin America », unpublished paper, Department of Economics, University of Costa Rica, San Jose, Costa Rica, April.
- Kane, Edward J., 1970, « Short Changing The Small Saver: Federal Government Discrimination Against Small Savers During the Vietnam War », *Journal of Money, Credit and Banking*, Vol. 2, pp. 513-522.
- Ladman, Jerry R., and Ronald L. Tinnermeier, 1981, « The Political Economy of Agricultural Credit: The Case of Bolivia », *American Journal of Agricultural Economics*, Vol. 63, No. 1, February, pp. 66-72.
- Reynolds, Clark W. and Jaime I. Corredor, 1976, « The Effects of The Financial System on The Distribution of Income and Wealth in Mexico », *Food Research Institute Studies*, Vol. 15, pp. 71-89.
- Robert, Bruce L. Jr., 1979, « Agricultural Credit Cooperative in Madras, 1893-1937: Rural Development and Agrarian Politics In Pre-Independence India », *The Indian Economic and Social History Review*, Vol. 16, No. 2, April-June, pp. 163-184.
-

- 
- Sayad, Joao, 1979, « The Impact of Rural Credit on Production and Income Distribution », unpublished paper, Fundacao Instituto de Pesquisas, University of Sao Paulo, Sao Paulo, Brazil.
- Vogel, Robert C., 1977, « The Effects of Subsidized Agricultural Credit on The Distribution of Income in Costa Rica », unpublished paper, Department of Economics, Southern Illinois University, Carbon-dale, Illinois.
- Vogel, Robert C., 1981, « Rural Financial Market Performance: Implications of Low Delinquency Rates », *American Journal of Agricultural Economics*, Vol. 63, No. 1, February, pp. 58-65.

## **MARCHES FINANCIERS AGRICOLES ET DISTRIBUTION DES REVENUS DANS LES PAYS A BAS REVENU**

### **RESUME**

*Il est de plus en plus apparent que les marchés financiers agricoles ont une influence toujours plus négative en ce qui concerne la distribution des revenus et de l'actif dans la plupart des Pays à bas revenu. Seulement ceux qui reçoivent la plus grande partie des prêts formels obtiennent des bénéfices nets de l'utilisation du crédit, jouissent du transfert de revenus dû aux taux d'intérêt réels négatifs, et bénéficient des avantages qui proviennent du fait de ne pas devoir rembourser le prêt.*

*Ceux qui n'empruntent pas, ou qui empruntent seulement de petites sommes, ou ceux qui sont obligés de garder une partie de leurs économies sur des comptes qui payent des taux d'intérêt réels négatifs restent en arrière dans ce processus. Ces problèmes de distribution de revenus augmentent encore lorsque les marchés financiers agricoles formels augmentent, les taux d'intérêt réels deviennent très négatifs et/ou lorsque beaucoup de prêts formels ne sont pas remboursés.*

*Actuellement un grand nombre de pays rentrent dans cette catégorie.*

*La réaction la plus courante à ce genre de problème est la tentative d'augmenter le nombre de normes du marché financier; ceci comprend: la nationalisation des banques, la restriction du porte-feuille des prêts, de nouvelles mesures politiques.*

---

*Cependant il arrive régulièrement que les résultats d'une augmentation des normes sont différents de ce qu'on avait prévu à cause du caractère fongible des instruments financiers.*

*Après avoir examiné les opérations des marchés financiers agricoles dans un certain nombre de pays à bas revenu il semble pratiquement impossible de pouvoir réduire les déséquilibres de distribution des revenus au moyen de subventions des marchés financiers. La plus grande partie des tentatives en cette direction ira presque exclusivement au bénéfice des riches. En même temps il est également possible de voir que les réformes de la politique actuelle en matière de marchés financiers forcent cesdits marchés à réduire d'une façon draconienne la concentration de la distribution des revenus et de l'actif dont ils sont à présent la cause. Des taux d'intérêt réels plus flexibles et en général positifs sont les éléments clé de ces changements nécessaires. La principale question est de savoir si ceux qui bénéficient actuellement des politiques de crédit à bon marché vont permettre ces changements.*

*A cause de la nature même de la finance il est pratiquement impossible de régler le rendement des marchés financiers agricoles de façon à ce qu'ils avantagent les pauvres aux frais des riches. Dans la meilleure des circonstances les marchés financiers peuvent avoir une influence allant du neutre au légèrement négatif sur la distribution des revenus.*

# **Savings and Development**

a quarterly review published since 1977 by Finafrica Foundation

## **EDITORIAL BOARD**

Antonio Confalonieri	Università Cattolica di Milano
Dale W Adams	Ohio State University
Sergio Bortolani	Università di Torino
David T. Edwards	University of Bradford
Jack M. Guttentag	University of Pennsylvania
Ronald I. McKinnon	Stanford University
Paolo Mottura	Università di Parma
Hugh Patrick	Yale University
Roberto Ruozi	Università Bocconi
Edward S. Shaw	Stanford University
Edward Wieczorek	Warsaw University

**EDITOR:** ARNALDO MAURI Università di Milano

**CO-EDITOR:** MARIO MASINI Università di Firenze

**EDITORIAL OFFICE:** FINAFRICA, Via S. Vigilio 10, 20142 MILANO (Italy)

Tel. 8135341 - Telex 313223 FINAFRI

Reproduction allowed provided source is indicated

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.

## **RASSEGNA TRIMESTRALE**

REGISTRATA PRESSO IL TRIBUNALE DI MILANO AL N. 102 DEL 27.3.1974

DIREZIONE, REDAZIONE, AMMINISTRAZIONE

FINAFRICA CARIPLO - VIA S. VIGILIO, 10 - 20142 MILANO

Direttore Responsabile

**GIUSEPPE VILLA**

Tipografia MORI - Via Gucciardini, 66 - 21100 Varese