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EFFECTS OF LOW INTEREST RATES ON THE POOR IN LOW INCOME COUNTRIES

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Over the past three decades, agricultural credit has received considerable attention in low income countries as governments have tried to stimulate output and help the rural poor through credit. Recent analyses, however, reveal major problems in many agricultural credit programmes. Cheap credit policies appear to fragment rural financial markets so that resources are not allocated efficiently. Low interest rates also undermine the financial integrity of financial intermediaries and force them to become highly dependent on loanable funds from central banks or external aid agencies. Despite the high hopes held for cheap credit as an effective way to help the rural poor, it tends to increase rather than decrease income concentration.

In the discussion that follows, we briefly outline four ways that financial markets affect income distribution--through negative impacts on savers, leverage, negative real rates of interest, and defaults. We conclude with suggested policy changes that might reduce the adverse impact financial markets have on income distributions.

Impact on Savers

Cheap credit policies force intermediaries to pay low rates on financial deposits. This has a twofold effect on savers--they receive a lower rate of return than they would if higher rates were paid, and intermediaries usually offer fewer deposit services. With weak incentives to save, depositors often keep only small accounts, and few people open new accounts. This may result in deposits being an expensive way for the intermediary to mobilize loanable funds, despite the low interest rates paid. As a result, intermediaries often do not provide deposit services, and if they do the quality of the services is very poor. Intermediaries may even discourage savings deposits because cheaper funds are available from the central bank through rediscount windows.

Under appropriate conditions, financial savings deposits are a major way for low and medium income groups to hold a significant part of their assets. This was especially true some years ago in Taiwan where the rural poor were given opportunities and incentives to expand savings deposits (Ong et al.). While the rural rich use financial deposits for transaction needs, they are too financially sophisticated to hold a large part of their assets in this form when interest rates are low. Low interest rates effectively tax those who hold these financial assets--the low and the medium income groups. Although difficult to quantify, low interest rates on savings have a very adverse effect on actual and potential incomes of the poor.

Loan Leverage

If farmers expect to repay loans and pay positive real rates of interest on loans, they must expect to realize a profit from borrowing. Expected gains from leverage are the driving force behind normal loan demand for productive purposes. Depending on the circumstances, some borrowers will realize net gains that exceed their expectations, while others will realize less. Those farmers who get consistently high rates of net return from loan use will gain in income and assets relative to those who realize low net rates of return or who do not borrow.

If credit were allocated on the basis of expected economic returns, and all producers had equal access to loans, the equity implications of the benefits from leverage might be overlooked. As Gonzalez-Vega points out, however, relatively few farmers in most low income countries receive formal institutional loans. In most of these countries, fewer than 20 percent of the farmers receive formal loans, and it is common for less than one quarter of the borrowers to receive three quarters or more of the total amount of formal loans extended. This result is due to excess demand caused by low interest rates. Excess demand forces lenders to minimize lending costs by stressing large loans to established borrowers with abundant collateral and ample net worth. These borrowers may or may not realize the highest net returns from the use of borrowed resources. It is just as likely that some of the excluded individuals--small potential borrowers, those without loan experience, and those with less collateral--may have higher marginal returns.

Differential access to credit and the effect of leverage can have a substantial impact on income distributions over time. It is virtually impossible to document the actual impact, but Gonzalez-Vega provides a hypothetical example that illustrates how powerful the impact can be. He discusses a two-producer case where only one has access to credit. Initially, both producers have the same net worth, and realize the same average returns from investments. If the borrower realizes a constant average real return of 25 percent on investments, pays a real rate of interest of 5 percent and borrows an amount equal to net worth each year, in 5 years he will have more than twice the net worth of the nonborrower. In 10 years, the borrower's net worth will be more than 4 times the amount of the nonborrower, and in 20 years it will be almost 20 times the net worth of the nonborrower.

Subsidies via Negative Real Rates of Interest

Loans are different from other commodities because credit carries two prices: nominal and real. The nominal price is the loan's contractual interest rate. The real rate is the nominal rate adjusted for changes in the purchasing power of money. The value of financial instruments is largely tied to their exchange value for real goods and services. The purchasing power of these claims declines with inflation. If the rate of inflation exceeds the nominal rate of interest on a loan, the purchasing power of the loan declines between the time it is made and the time it is repaid. With negative real rates of interest, purchasing power is transferred from lenders (or savers) to borrowers.

A simple example can be used to illustrate this income transfer. Assume a borrower receives a 1 year, $1,000 loan at a nominal 10 percent rate. Also assume that he uses the loan to buy products that inflate in nominal value at a rate of 30 percent during the year. At the end of the year, the borrower sells the products for $1,300, but only needs to repay the lender $1,100, so he ends up with $200 in additional purchasing power (or income). However, the lender ends up with $1,100 that will only buy approximately 80 percent of the goods and services that could have been purchased with the original $1,000. Roughly one fifth of the original purchasing power of the loan was transferred from lender to borrower because of the negative real interest rate.

Recently, negative real rates of interest have been in force in virtually all low income countries. Regionally, these problems have been most severe in Latin America where the regional annual weighted average rate of inflation in the past few years has exceeded 50 percent. Inflation has also intensified in Africa and the Middle Eastern countries in recent years. While inflation has been less serious in Asian countries, few countries in the region have maintained positive real rates on agricultural loans over the past decade.

It is difficult precisely to estimate the amount of income transferred to borrowers via negative real rates of interest. Multiple nominal interest rates are commonly applied to agricultural loans, and information is not available on the volume of loans extended at each rate. It is also difficult to determine the economic characteristics of borrowers; banks generally maintain information on the characteristics of loans, not borrowers. Because of multiple loans to wealthy borrowers, it is incorrect to infer much about borrower characteristics from loan characteristics. It is also common for wealthy borrowers to have outstanding loans simultaneously from several lenders.

Substantial insights into who receives the benefits of negative real rates of interest on agricultural loans can be gleaned from recent research on Brazilian agricultural credit. That research shows that the subsidy is very large and heavily concentrated (Adams and Tommy; Araujo; Rego and Wright; and Sayad). Because formal agricultural credit in Brazil makes up close to half of the total formal loans extended in low income countries, transfers in that country carry substantial weight in worldwide transers.

Cheap agricultural credit has been the main focus of Brazilian agricultural development policies. From 1960 to 1970, the real value of formal agricultural loans made each year quadrupled (Meyer et al.). In the period 1970 to 1980, the real value quadrupled again (table 1). Total annual lending rose from about US$400 million in 1960 to about US$16 billion[2] in 1980. The ratio of agricultural credit to value of farm production exceeded unity in 1975. Table 1 shows Brazilian inflation rates during the 1970s. These rates are typical of the past three decades. Nominal interest rates on loans, however, have been relatively fixed, usually resulting in negative real rates. During the 1970s, real interest rates ranged from zero in 1972-1973 to minus 30 percent for some loans in 1980. The total volume of purchasing power transferred from lenders to borrowers in the 1970s exceeded US$13 billion, and the transfer exceeded $3.6 billion in 1980 alone.

Table 1. Implicit Interest Rate Subsidies in Brazilian Agricultural Credit, 1970-1980

Year	Cash received: Number of contracts	Cash received: Nominal value	Cash received: Deflated value	Annual inflation rate	Implicit subsidy
	Thou.	Mil. CR$	Mil. CR$	Pct.	Mil. US$
1970	1,191	9,248	213,648	19.6	72.5
1971	1,253	12,870	246,870	19.4	78.0
1972	1,266	18,669	306,162	15.8	12.2
1973	1,400	30,334	432,119	15.5	10.6
1974	1,450	48,273	534,771	34.6	960.1
1975	1,856	89,997	780,102	29.2	1,023.4
1976	1,832	130,226	799,030	46.4	2,178.5
1977	1,722	165,859	713,021	38.8	1,147.3
1978	1,896	233,942	725,238	40.8	1,618.6
1979	2,373	448,731	903,380	77.2	2,843.0
1980	2,766	859,193	859,193	100.9	3,665.3
Total					13,609.5

Few data exist on the magnitude of interest rate subsidies in other countries. Total loans made in all other countries may total about US$20 billion. After Brazil, the next largest agricultural credit portfolios are in India and Mexico, with about US$6 billion each. If it is assumed that the average real interest rate on all loans outside Brazil is about minus 5 percent, then the implicit subsidy is about US$1 billion which, when added to Brazil, implies $2 billion to $4 billion in interest subsidies each year.

Recent studies show that only about 15 percent of the farmers in Brazil receive formal loans in most years. Census data in 1970 and 1975 show that 10 or 11 percent of the farmers (those with over 100 hectares of land) received 60 to 70 percent of the total value of formal loans extended (Araujo). Research in Costa Rica and the Dominican Republic suggests that this high degree of loan concentration is common. Gonzalez-Vega helps to explain why this concentration results from the mutual interest of lenders and borrowers. Vogel also presents arguments that show why it is very difficult to force even nationalized lenders to lessen this loan concentration.

Loan Default

In recent years, several agricultural credit programmes have collected virtually none of the loans extended; e.g., Jamaica, Ghana, and Kenya. Default rates of 40 to 60 percent are common in many countries. While the financial system may eventually collect part of these overdue loans, it often happens that 20 to 30 percent of the loans are essentially stolen from the lender through nonrepayment. Over the years, nonrepayment of loans has seriously undermined lending activities in India, the Philippines, Bolivia, Ghana, Honduras, and a number of other countries. These repayment problems can seriously undermine the vitality of financial intermediaries.

In most countries, default problems among small borrowers often make the headlines. All too often it is concluded that only the poor do not repay. Defaults are often rationalized by policymakers on the basis of nonrepaid loans being welfare payments to the poor. At the same time, while it is seldom publicly reported, it is not uncommon for a number of very large agricultural loans to be in default in many countries (Boakye-Dankwa). In some cases, politicians may force lenders to tolerate defaults as a way of allocating political patronage to affluent borrowers. Small loans to the poor may make up the large majority of the number of loans in default, but it is not uncommon for a majority of the total value of defaulted loans to come from medium and large sized loans held by the wealthy. The relevant measure of the income transferred by default is the total amount stolen, not the number of thefts.

The income transfer of defaulted loans is enormous. If 10 percent of the US$20 billion in estimated loans made worldwide (excluding Brazil[3]) are never repaid, then US$2 billion is transferred from lenders to borrowers.

Conclusions

Although difficult to document, it is increasingly apparent that rural financial markets have a powerful impact on the distribution of wealth and income in many low income countries. Rapid increases in the volume of agricultural loans, inflexible nominal rates of interest, persistent inflation, and loan default contribute to the income concentration process. It is too often forgotten that all the benefits from loan use are proportional to the amount of credit used. Nonborrowers get no benefit from the leverage afforded by loans or from negative real rates of interest, and cannot default. A large majority of the rural poor receive no formal loans, and therefore receive no borrowing benefits. Likewise, borrowers of small amounts receive small leverage benefits, small income transfers due to negative real rates of interest, and are able to take only small amounts if they default on their loans. At the same time, borrowers of large amounts can receive large benefits through leverage, negative real rates of interest, and default.

The amount of income transferred through negative interest rates and loan defaults is enormous. Together these two sources represent $4 billion to $6 billion in purchasing power transferred to borrowers per year. Total lending for all agricultural purposes by the World Bank in 1981 was only $3.8 billion by comparison. Assistance for agricultural credit by donors is a small stream compared to the river of benefits transferred to borrowers through these credit systems.

Even under the best of circumstances, it is unlikely that financial markets can significantly improve rural income distribution. Even if all loan defaults are eliminated, positive real rates of interest are charged on all agricultural loans, and poor savers are adequately rewarded for saving, leverage will always favour the large borrower. It is also unlikely that stringent controls by policymakers can ever force lenders to spread their loan portfolios when interest rates are controlled. Reducing the default problem and increasing the real rate of interest would, however, substantially reduce the extent to which financial markets worsen income distribution. We conclude that more of the resources currently wasted in attempts to assist the poor through distorted financial markets ought to be channelled elsewhere. Offering attractive savings alternatives is one of the main ways that financial markets could consistently help the poor.

Notes

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[2]Billion in this paper equals 1,000,000,000 [eds.].

[3]Default is not a serious problem in Brazil.

References

Adams, D. W., and Tommy, J. L., "Financing Small Farms: The Brazilian Experience 1965-1969," *Agricultural Finance Review*, Vol. 35, Oct. 1974, pp. 36-41.

Araujo, P. F. C. de, "Análise da Politica de Crédito a Agricultura Brasileira," unpublished Livre-Docente thesis, Universidade do São Paulo, Piracicaba, São Paulo, Sept. 1980.

Boakye-Dankwa, K., "A Review of the Farm Loan Repayment Problem in Low Income Countries," *Savings and Development*, Vol. 3, 1979, pp. 235-252.

Gonzalez-Vega, C., "Cheap Agricultural Credit: Redistribution in Reverse," paper prepared for the Colloquium on Rural Finance, World Bank, Washington, D.C., September 1-3, 1981.

Meyer, R. L. et al., "Rural Capital Markets and Small Farmers in Brazil," in *Small Farmer Credit in South America*, USAID Spring Review of Small Farmer Credit, Vol. 3, Washington, D.C., Feb. 1973.

Ong, M. L. et al., "Voluntary Rural Savings Capacities in Taiwan, 1960-1970," *American Journal of Agricultural Economics*, Vol. 58, No. 3, Aug. 1976, pp. 578-582.

Rego, A. J. C. and Wright, C. L., "Uma Análise do Distribuição do Crédito Rural no Brasil," *Revista de Economia Rural*, Vol. 19, No. 2, April/June 1981.

Sayad, J., "The Impact of Rural Credit on Production and Income Distribution in Brasil," in Pischke, J. D. von et al. (Eds.), *Rural Financial Markets in Low Income Countries: Their Uses and Abuses*, Johns Hopkins University Press, Baltimore, forthcoming.

Vogel, R. C., "Cheap Agricultural Credit and the Distribution of Income in Costa Rica," unpublished paper, Department of Economics, Southern Illinois University, Carbondale, 1977.