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ANALYZING THE FARM LEVEL IMPACT OF AGRICULTURAL CREDIT: DISCUSSION

by

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Abstract

Credit impact studies have traditionally been plagued by a variety of methodological problems which make their results suspect. This discussion represents a reaction to three credit impact studies conducted on very different agricultural situations in Brazil, Kenya, and China. The key finance features of the studies are reviewed and some general comments are made concerning their implications for the debate about how to develop formal financial systems in developing countries.

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Richard L. Meyer*

In the 1960s and 1970s, many studies were conducted to evaluate and measure the demand for agricultural credit in developing countries and the impact of many subsidized credit programs then in effect, especially those designed to increase small farmer access to loans. The 1973 AID Spring Review of Small Farmer Credit[1], a comprehensive review of programs in several developing countries, represented the first major occasion when serious doubts were raised about the real impact of such programs. Our critical review of research conducted up to the late 1970s led us to question the basic methodology of many impact studies and, therefore, their empirical results (David and Meyer). One fundamental problem was that much of the research failed to account for the wide range of production, consumption, and investment activities undertaken by a rural household. Given the fungibility of farm-household cash flow management, it is difficult to identify the true impact of loans supposedly given for farm production. Production loans from financial institutions may not contribute much additionality to farm input use and output if, due to fungibility, they simply substitute for own savings or other sources of loans.

A second shortcoming concerned the well-known attribution problem. Many studies tried to measure credit impact by observing differences between borrowers and non-borrowers or before and after borrowing. But loans were often granted as part of

multipurpose agricultural programs which provided subsidized inputs and intensive extension services in addition to credit. Often the authors simply attributed to credit any positive differences found between borrower and nonborrower groups, thereby ignoring the possible impact of these inputs and extension.

A third problem arose because of the concessionary loan interest rates employed in most programs. Low interest led to excess demand for loans and the nonprice rationing that occurred often resulted in large loans to farmers with greater factor endowments, access to better inputs and technical information, and better management. Therefore borrowing could be the result rather than the cause of differences observed between borrowers and non-borrowers.

The interesting studies presented in this session employ new theoretical and quantitative approaches to explore more contemporary credit impact issues in three widely different developing countries. In the first paper Anderson analyzes the possible link between changes in farm labor contracts and the large increases that occurred during the past decade in real interest rates on rural loans for sugarcane farmers in northeast Brazil. This research is particularly interesting because no developing country matches Brazil in the magnitude of credit subsidies used to stimulate agricultural growth during the past couple of decades. Anderson notes that during the cheap credit period of the 1970s, permanent employment grew faster than temporary (volante) employment because permanent contracts became an increasingly attractive way to guarantee the availability of harvest season labor. During the 1980s, however, the permanent labor share reportedly declined. On her sample farms, the decline was from 65 percent in 1978-79 to 57 percent in 1988-89. Her review of

empirical data leads her to discount the role of rising wage rates and cane prices, extended social security benefits, mechanization, and herbicide use in explaining increased reliance on temporary harvest labor. Rather she believes it is due to the sharp increase in interest rates, from a negative 60 or 70 percent real rate in the early 1980s to a positive 7 to 9 percent by 1987, that raised the cost of slack season labor. Her arguments are plausible and well presented, but she lacks robust time series data to rigorously test them and her cross-sectional model does not contribute strong evidence. No information is provided to show if the borrowing patterns of sugarcane farmers actually changed over time in response to the interest rate changes. We should expect that a long regime of subsidized rural lending, such as existed in Brazil, would have distorted resource allocation. Shifting to positive interest rates should encourage adjustments which, among other impacts, could alter labor relations. If the huge credit subsidies led to a build up of mechanization on farms and in sugarcane mills, their abrupt removal could prompt a reduction in aggregate employment in the entire sugar sector. Under such circumstances, interest rate reform would likely have broad consequences.

In the second paper, Carter and Wiebe model how differential farm access to production and consumption credit can influence productivity and agricultural structure in the Kenyan highlands. Without describing the characteristics of the sample, they analyze patterns of output, net returns, family income, and profits per acre for 109 farms. They find the typical result that small farms produce relatively fewer commercial crops, and earn lower income and profits than larger farms. They model a household that must finance subsistence, purchased labor and fertilizer out of wage earnings and borrowed funds. They

assume, without providing evidence, that credit is a function of land endowment so it is not surprising that small farmers face binding working capital constraints due to limited family labor and borrowing capacity. This helps explain the pattern of land allocation and related farm profits, and suggests that large farms will be able to outbid small farms when land markets become active.[2]

In a sense this paper takes us back more than twenty years because it is precisely the concern about differential access to credit that prompted the subsidized small farmer credit programs of the 1960s and 1970s. But evidence subsequently showed that targeted lending is not effective in resolving equity problems (Adams and Meyer). What we can hope for is that financial institutions will become increasingly sophisticated over time so that if Kenyan lenders currently ration loans exclusively on land size they will increasingly look at broader debt repayment capacity criteria in their future lending. It would have been interesting to have learned the authors' views about credit supply problems and their possible reform, in addition to the traditional warning about productivity and structure problems.

In the final paper Feder et al. explore how credit constraints may affect farm efficiency following the adoption of the household responsibility system in northeast China. The strength of this research is in the careful analysis of survey data described in this and their other referenced papers. These papers really need to be read as a collection to fully appreciate their analysis. This particular paper reports on the data analyzed from a sample of 187 households in the corn belt of northeastern China. The other papers analyze data also collected in other regions.

The authors are concerned that Chinese farmers face binding liquidity constraints leading to suboptimal use of production inputs. Unlike other countries with well-developed informal lenders, they argue that noninstitutional credit in this region is mostly provided interest free by relatives and friends for purposes other than production in circumstances that can be effectively monitored. Thus the bulk of fungible credit comes from institutional sources.

Farmers who borrowed institutional credit but indicated a desire to borrow more at current rates of interest, and nonborrowers who responded that they could not obtain such credit were classified as credit-constrained. This group, representing 37 percent of the farmers, also reported significantly lower deposits in financial institutions and had 12 percent less liquid resources per unit of land. In an earlier paper (1989), they show that credit constrained farmers had lower levels of input use and lower output than non-constrained farmers in the sample. Their econometric results suggest that a doubling of formal loans would lead to an output gain of 3.8 percent. An additional dollar of liquidity in short-term funds would yield about 23 cents of additional value, but the long term effect would depend on the return generated from funds diverted to investment.

Intriguing credit issues remain in this research. What explains the reported unsatisfied demand for credit? Relatively few farmers report input supply constraints. No strong evidence is presented of rapid mechanization or enterprise changes. Land cannot be easily transferred so presumably farm size is fairly constant. In addition to the new production possibilities, the Chinese reforms seem to have unleashed a strong demand for housing investment, consumption, and ceremonial expenditures. Many of these expenditures

are fairly large relative to the typical size of production loans, and are not normally authorized uses of institutional credit. These circumstances give rise to the observed pattern and uses of noninstitutional loans, and to a desire to divert production loans and household savings to these uses. Interest rates of 7 to 14 percent may be a small price to pay for fungible institutional loans if it helps the borrower escape scrutiny and monitoring of the friends and relatives who grant consumption and investment loans. However, there are always potential risks of discovery when diverting institutional loans. An even larger demand for such loans would likely emerge if the constraints on their use were relaxed.

What can we learn from these papers that contributes to the long-standing debate over the nature of rural financial markets in developing countries and the appropriate strategy to use in improving them? The China example reminds us that if there are serious constraints in production inputs there will be little demand for production loans. But if there are liquidity demands for consumption and investment, there will be a strong demand to divert fungible loans to these purposes. The greater the fungibility of institutional loans and the lower their interest rates relative to alternative sources, the more valuable they will be and the more likely will be the diversion of funds. Low interest rates lead to excess demand and nonprice rationing. This gives larger, more powerful farmers a reason to use their influence to get a larger share of the pie. It also gives rent-seeking loan officers an opportunity to extract bribes and other considerations from rationed borrowers. Borrowers who "buy" loans see little reason to repay them so loan recovery is compromised along with the viability of financial institutions.

There is no question that getting an advantage in the credit market by obtaining a larger loan or better loan terms can translate into advantages in other markets. Access to loans and loan size are usually correlated with land ownership, particularly in underdeveloped formal financial systems. Therefore, inequalities in land are often at once the cause and the effect of credit market inequalities, as implied by Carter and Wiebe. This fact prompts policymakers to try to regulate financial markets so that certain groups, such as small farmers, gain greater access. But experience shows that this has been an ineffective policy so equity concerns must be addressed more directly through interventions in other markets, especially land. The most that can be expected from the financial markets is that through experience lenders will learn to correctly assess risks and returns so agricultural loans become part of their efficient portfolios.

It is also clear that regulation-induced distortions in financial markets, when a large volume of credit is involved as was the case in Brazil, will greatly exacerbate existing inequalities and create distortions in resource allocation. There will be gainers and losers in the painful adjustment process following removal of such regulations. The cost of adjustment should be, but is not likely to be, part of the evaluation process when such regulations are considered in the first place.

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1. This review was the last of the large scale reviews conducted by AID of specific development issues. The results of this ambitious undertaking are summarized in Donald.

2. The potential that larger farmers with higher profits and more favorable loan terms have for offering higher land bid prices is well established in the literature concerning U.S. agriculture. One well-known model for evaluating land prices is presented in Lee and Rask.