CHINA'S RURAL DEVELOPMENT MIRACLE

WITH INTERNATIONAL COMPARISONS

Papers presented at an
International Symposium
held at Beijing, China

25–29 October, 1987

Edited by
John W. Longworth

International Association of Agricultural Economists
in association with
Australian International Development Assistance Bureau
and published by
University of Queensland Press

36

ATTEMPTING TOO MUCH AND ACHIEVING TOO LITTLE THROUGH RURAL FINANCIAL MARKETS

D.W Adams and R.L. Meyer
The Ohio State University,
Columbus, Ohio, USA

All modern economies, centrally planned or market-oriented, need financial markets. Without them the transactions costs of barter would strangle exchange and make it impossible to run a modern economy. There is also widespread agreement among policy makers of virtually all political persuasions that rural financial markets (RFMs) ought to be used to promote agricultural production and to distribute subsidies. In countries as diverse as Brazil, Nigeria, Thailand, Nicaragua and Iraq agricultural credit programs have been at the forefront of rural development policies.

This emphasis on credit has not been free of problems. Many of these programs have required large subsidies, loan recovery has often been disappointing, the rural poor have had difficulty in getting cheap loans, and it is not clear that large increases in formal lending have accelerated agricultural development. Even more importantly, many of the financial intermediaries conducting these programs are not self-sustaining.

In the following discussion we argue that, in part, these problems result from an over-reliance on financial markets to meet development goals. We conclude that employing these markets to transfer subsidies results in inequitable distribution of incomes and assets, that targeted loans have little effect on borrower behaviour, and that loan targeting and subsidies seriously damage the ability of these financial markets to carry out their primary role of improving the efficiency of resource allocation, a topic to which we now turn.

FINANCE AND RESOURCE ALLOCATION

The subtle nature of financial intermediation obscures the role it plays in resource allocation: a role performed through the transfer of claims on resources, and ultimately productive resources, from firms and households that have surplus resources to those with deficits. This, in turn, accelerates economic specialization and allows producers to increase trade and flex comparative advantages. This role is strongly affected by the economic conditions of RFM clients as well as financial market policies.

Because financial institutions are highly leveraged, their health strongly depends on the economic vitality of their clients. A dramatic demonstration of this is the financial difficulty recently experienced by the Farm Credit System in the United States. The recent sharp declines in U.S. farm income and land values have debilitated this system and forced it to seek government help.

Various government regulations further shape and limit what these market can do (Johnson). High reserve requirements in many developing countries, for example, effectively tax deposits, thus discouraging intermediaries from deposit mobilization. Some intermediaries are prohibited by law from opening new branches, providing certain services, or extending services in specified geographic areas. Government restrictions on interest rates of formal intermediaries further constrict RFMs.

If financial instruments were abolished, the search costs of surplus and deficit units to make contact and exchange goods and services through barter would be prohibitive for most individuals. In addition to reducing the transactions costs of exchange, a financial system also facilitates movement of goods and services among parties who are far distant from each other. It does this by mobilizing claims on resources (deposits) from units that are surplus, and allocating these claims (loans) to units that have too few resources. When these claims are spent in product and factor markets, a reallocation of resources occurs from surplus to deficit units.

Policy makers often apply stereotypes to rural households and firms, thus overlooking their heterogeneity. Differences result from variations in climate, land, access to transportation, sources of income, enterprise mix, family size, manager capabilities, and luck. Also, because of the ebbs and flows of agricultural production, it is common for a rural firm to be short of liquidity at one time and then have excess liquidity at other times. Typically, these disparities across firms, and within firms over time, increase with development. The life cycle of rural firms and the breakdown of extended families add to the need for financial markets (Meyer and Alicbusan).

Heterogeneity is also reflected in major differences across rural units in marginal return to operating expenses, investments, and consumption. Barter may allow a few contiguous units to exchange goods and services and thus narrow these differences among participating units. Informal financial markets allow a larger circle of people to exchange goods and services than is possible through barter, but these markets are limited to the personal acquaintances of the lender and informal intermediaries offer few deposit services. Only an integrated formal RFM can intermediate among individuals who are geographically widely separated, and at the same time offer the liquidity and security necessary to attract substantial deposits.

What does an economy lose if its formal financial market is fragmented or poorly developed (Shaw)? While difficult to measure, there are substantial costs to an economy when heterogeneous units are not connected by efficient RFMs. A simple two-firm example may illustrate these losses. Assume that firms 'D' and 'S' are too distant from each other to exchange through barter or through an informal intermediary. Further assume that 'D' has too little liquidity to capitalize on high marginal rates of return on available productive investments, while 'S' has excess liquidity and expects low marginal rates-of-return on all intra-firm investments. Without financial intermediation, 'D' is forced to under-produce for lack of additional claims on resources, while 'S' is forced to consume surplus goods or to invest in low rates-of-return activities. Access to an efficient financial system allows 'S' to avoid low return consumption or investment activities through increasing deposits with an intermediary. If, in turn, the intermediary grants a loan to 'D' out of the funds deposited, 'D' can use these claims on resources to purchase inputs that increase his, as well as society's, output. If financial markets are repressed, or are shallow, and connect only a few firms or households in a society, the resulting losses in aggregate output can be substantial when millions of units are involved. Assisting in this reallocation of resources is the most important contribution that financial markets make to development.

LIMITATIONS OF RFMs IN DISTRIBUTING SUBSIDIES

Virtually all countries attempt to use financial markets to help poor people. In some cases concessionary credit is the principal government program to alleviate rural poverty. There are three ways that loans help a borrower: through the income transfer embodied in concessionary interest rates, through an income transfer realized by borrowers who steal all or part of their loans, and through the increased net income produced by the borrower through resources acquired with borrowed funds. If interest rates on loans are fixed below the rate of inflation, if substantial amounts of loan default are tolerated, and if credit programs are large, these income transfers can be substantial.

There are serious drawbacks, however, in using RFMs to redistribute income to the poor. These markets are ill suited, for at least three reasons, to be fiscal agents for the poor. First, and most importantly, any subsidy tied to a loan is always proportional to the size of the loan: large loan, large subsidy; small loan, small subsidy; and no loan, no subsidy (Gonzalez-Vega). Since loan access and size of loan are highly correlated with income and assets of borrowers, loans are a regressive tool for distributing subsidies.

Second, the problems mentioned above are not resolved by charging lower interest rates on small loans than on large loans, or by being permissive on loan defaults among borrowers of small amounts, while taking a hard line with borrowers of large amounts. This strategy presents a perverse set of incentives to lenders. On the one hand, the policy makers are telling the intermediary to give priority to loans to the poor. On the other hand, to effect the desired income transfer, policies are set so the intermediary is forced to charge the lowest interest rates and absorb the highest default rates on those loans that are most costly to service per unit of money lent. This is tantamount to asking the lender to commit financial suicide, regardless of who owns the institution. Lenders who fail to cover their lending costs, the capital erosion due to inflation, and the loan losses with interest receipts become mendicants for public assistance, or collapse. This, in turn, makes lending more susceptible to politicians, allows greater access to concessionary funds for those with political power, and undermines the financial integrity of the lender.

It is unrealistic to believe that the economically powerful will long tolerate subsidies in which they do not participate. The intermediary's desire to sustain the institution by reducing costs coincides with the interests of the economically powerful to capture the bulk of subsidies in financial markets. These forces have resulted in the concentration of cheap loans in the hands of the relatively well to do in most countries under virtually every type of political regime. There are too many widely scattered participants in RFMs and too many transactions for any central authority to force those with power inside financial institutions to do something that is not in their self interests.

The third argument against using RFMs to transfer subsidies has to do with potential deposits (Vogel). When interest rates are low on loans intermediaries must pay an even lower rate of interest on deposits. The subsidy received by borrowers is paid for by taxing depositors through repressed interest rates. The rural poor with fewer savings alternatives are affected more by these taxes on deposits than are the well-to-do. The small amount of savings available, the deficiency of information, and the lack of physical access to other savings alternatives force the rural poor to hold their savings in cash, animal and crop inventories, and in deposits, regardless of the expected rates of return. At the same time, those with more income can buy land, equipment, cattle, gold, and buildings when the rates of return from deposits are low. Thus, the well-to-do can avoid most of the deposit 'tax' while the poor cannot.

While often well intentioned, attempts to use RFMs as fiscal agents to help the poor have effects similar to bleeding a patient to treat a broken leg. Not only does the treatment not relieve the problem, but it also has important adverse side effects.

LIMITATIONS OF TARGETED LOANS

In addition to using financial markets as income transfer agents, it is also common for governments to target loans for a crop, an input, or an investment. These targeted loans often carry inducements such as low interest rates and repayment grace periods. The two key assumptions behind targeting are: that individuals can be bribed into doing what they would otherwise not do, or do too slowly, through concessionary loans. And, that most individuals targeted have too little liquidity to make a desirable investment without a loan.

Usually, targeted credit programs are implemented through concessionary rediscount lines in central banks. In some large countries (Indonesia for example) there may be hundreds of these lines aimed at rural areas. Even in small countries, it is not uncommon for the central bank to offer dozens of these lines. Each line is aimed at a target group, area, or activity, and each carries its own reporting requirements and lending terms.

There are two hoped-for results of targeting: an interest-rate effect and a loan-volume effect. For example, it is hoped that low interest rates on fertilizer loans will induce borrowers to use more fertilizer than they would if higher interest rates were charged. Or, that concessionary interest rates on loans made to rice farmers will induce them to produce more rice than they would otherwise grow. The key assumption here is that the price of the loan directly affects the relative profitability of the targeted input, investment, or enterprise.

A critique of the interest-rate-effect argument requires understanding the sources and uses of liquidity available to rural borrowers. Almost all farm households have multiple enterprises and sources of income, only part of which may be agricultural. These enterprises and the inputs used in them frequently have a relatively high degree of substitutability. Most farmers choose their enterprise mix and input proportions based on product and input prices, plus the contribution of inputs to production. Likewise, most farmers have multiple sources of liquidity.

Since sources and uses of liquidity are highly interchangeable—fungible—there is no reason to expect a direct, causal relationship between the costs of one source of liquidity, and changes in the relative profitability of any input used, investment made, or product produced (Von Pischke and Adams). If fertilizer use, in the opinion of the borrower, did not pay before getting a cheap loan, it still does not pay to use fertilizer after getting a cheap loan. The relative profitability of an enterprise depends on product prices, yields, and the costs of inputs, not the interest rate on a loan!

Trying to promote an enterprise, investment, or input through cheap credit is like pushing a wet rope. Raising the price of the targeted product, lowering the price of the targeted input, and/or enhancing the productive capabilities of inputs are the principal incentives that motivate borrowers. While cheap credit, combined with high rice prices, will cause farmers to produce more rice, realistically priced loans combined with high rice prices will provide largely the same production incentives, but with less government expense and with less damage to financial intermediaries.

The effect of an increase in loan volume on targeted activities is less straight forward. The main assumptions behind many credit programs are that most farmers need loans to undertake a targeted activity, and that the targeted activity offers the highest expected return among all marginal returns faced by the borrower. Thus, with the loan the borrower has incentive to channel the liquidity provided by the loan to the activity targeted. Policy makers are often so confident of these assumptions that they decree formula loans to fill farmers' 'credit needs.'

How much simpler development would be if these assumptions mirrored reality. Tremendous diversity, rather than simple stereotypes, however, typify rural firms and households. One farmer may expect a high marginal rate of return from the targeted activity, but expect even higher rates of return from other investments. At the same time, his neighbor may have excess liquidity, face low marginal rates of return from all potential investments and, thus, place priority on using additional liquidity for consumption. The fungibility of financial instruments, and the possibility for borrowers to exercise financial substitution, make it very difficult to assign cause and effect among loans and targeted activities.

These problems are compounded by multiple motives for taking a loan. One cannot assume that all of the amount borrowed goes to the targeted activity. Some individuals may borrow large amounts because of the subsidy provided by negative real rates of interest, or through weak loan recovery. The demand for these soft loans is essentially infinite, and the desire to borrow has only a weak relationship with the rates of return that borrowers expect from a targeted activity. Under these conditions, the preferred clients of intermediaries may obtain funds far in excess of the amounts they would otherwise use.

Two recent country examples illustrate the tenuous relationship between interest rates and loan volume, on the one hand, and increases in agricultural output on the other. In both Brazil and Indonesia during the 1970s the governments rapidly increased the volume of concessionary priced loans as a way of promoting agricultural production. For various reasons, both governments subsequently reduced their support of these cheap credit programs so that the real volume of agricultural credit went down sharply during the early part of the

1980s. Substantial increases were also made in the real rates of interest charged on formal agricultural loans. These major adjustments in RFMs appear to have had little or no adverse effect on agricultural production in either country. Product and input prices, along with cost reducing production technologies, are far more effective in affecting production than are activities in RFMs (Timmer, Araujo and Meyer).

Lending will be positively correlated with increases in targeted activities only if loans go to individuals who can realize high rates of return on targeted endeavors. Because of the thousands of heterogeneous borrowers involved, it is impossible for a policy maker in a far distant capital to pre-program how much and who should get these loans. Ultimately, the intermediaries must make these decision.

In sum, the volume effect of loans on the expansion of targeted activities is contingent on two other factors: the relative rates of return borrowers expect from these activities—rates that are determined independent of the ebbs and flows in loan supply. And, how efficiently the lender rations loans to those who have the highest rates of returns, a topic that is treated next.

CONFLICTS BETWEEN LOAN TARGETING AND RESOURCE ALLOCATION

Targeting affects lenders in unanticipated ways; it forces them to allocate loan subsidies regressively, forces them to incur additional transactions costs in making loans, and distorts their financial innovations. Even worse, targeting causes the financial system to be less effective in carrying out its normal function of reallocating resources among surplus and deficit units.

Providing rural financial services is expensive, as evidenced by the unwillingness of many intermediaries to do it without being forced. Small transactions, transportation costs, and uncertainties in farming increase these costs. Loan targeting further raises these costs through multiplying lines of credit and increasing reporting requirements, as well as distorting the information flows through financial systems. This happens at the expense of monitoring loan recovery, controlling costs, and discovering cost-reducing technologies. Often, for example, the intermediary has up-to-date information on the amount of fertilizer supposedly purchased with a line of credit, but is unable to determine the recovery status of these loans or the intermediary's costs of making them.

Targeting forces RFMs to contract, uses resources that might be better employed elsewhere, and forces RFM managers to prepare reports on targeting activities that are not useful for efficient management of the financial institution.

When interest rates are controlled, which is common with targeting, lenders are forced to shift their transactions costs and increase collateral requirement as ways of rationing loans (Cuevas and Graham). This results in additional hurdles for small borrowers, for first-time borrowers, and for borrowers with limited collateral. The effective costs of borrowing for non-preferred borrowers are substantially increased above levels they would otherwise pay, if market rates of interest were in force. At the same time, preferred individuals who have borrowed previously from the intermediary, those requesting large loans, and those with extensive collateral may find their loan transactions costs are reduced—their effective costs of borrowing are likely to be substantially lower than if market rates of interest were charged. This, of course, means that some individuals get more claims on additional resources than is justified by the returns to investments within their firm, and that resources are inefficiently allocated among borrowers and potential borrowers.

Targeting causes similar inefficiencies among surplus units. Since the rediscount lines that provide the targeted funds often carry concessionary terms, it is cheaper for intermediaries to use targeted funds than to mobilize deposits. Many rural financial intermediaries have little interest in accepting deposits because of this disincentive. This results in large numbers of rural units being denied access to deposit services they might otherwise use. Firms and households with surpluses, thus, are forced to hold them in forms that provide low returns or to consume them. In either case, resources are less efficiently allocated than they would be if financial markets offered attractive deposit alternatives. In extreme cases, extensive loan targeting at highly concessionary terms, through rediscount lines, destroys the ability and willingness of the financial system to intermediate among surplus and deficit units.

The extensive use of banks and cooperatives as fiscal agents and as retail outlets for central banks also undermines professionalism and warps the orientation of intermediaries. Loan officers who mainly handle formula, targeted, and politically flavored loans do not develop skills necessary to lend on the basis of creditworthiness. Also, it is difficult for employees to resist taxing, through bribes, income transfers that pass through their hands. The extensive use of rediscount lines, moreover, forms a patronal financial system that sustains itself by transferring favors granted by government to borrowers. The reference group for RFM managers becomes the patron above, rather than the borrowers and potential depositor below. The former are cultivated and flattered, while the latter are treated with contempt inflicted on mendicants. Political intrusions into intermediation, plus feasts-and-famines in flows of funds through the system, result in over staffing, serious loan recovery problems, and low quality financial services.

Loan targeting also distorts research and evaluation. To justify targeting, policy makers often ask about the impact of targeted loans on borrowers' income, employment, output, investments, or use of a particular input. The resulting studies usually look at borrowers before and after receiving their targeted loan, or compare the performance of borrowers with a control group of non-borrowers. With either method, the measurement of impact is problematic because of fungibility, financial substitution, and problems of determining what the borrower would have done without the loan (David and Meyer). At the same time, few studies have been done on how targeted programs affect the well being of the financial system itself and its ability to function efficiently and equitably.

CONCLUSIONS

Policy makers, regardless of their economic philosophy, often advocate concessionary and targeted loans in responding to rural problems: credit programs are easy to start, transfer subsidies that are hidden, and cause mainly latent problems. There would be nothing seriously wrong with these uses of RFMs if they were somewhat successful and had few bad side effects. Unfortunately, loan targeting does little to alter borrower behaviour in ways desired by policy makers, and subsidies transferred through financial markets gravitate to the non-poor.

Trying the easy, but largely impossible, through targeting and using RFMs as fiscal agents, seriously damages the fundamental ability of RFMs to intermediate. RFMs, including those in China, would achieve more in terms of equity and efficiency if policy makers and donors used them less to achieve these objectives.

REFERENCES

Araujo, Paulo F.C., and Richard L. Meyer. "Two Decades of Subsidized Agricultural Credit in Brazil," Economics and Sociology Occasional Paper No. 1303, Department of Agricultural Economics and Rural Sociology, The Ohio State University, June, 1987.

Cuevas, Carlos E., and Douglas H. Graham. "Agricultural Lending Costs in Honduras." *Undermining Rural Development with Cheap Credit*, ed. Dale W Adams, Douglas H. Graham, and J.D. Von Pischke, pp. 96 – 103. Boulder: Westview Press, 1984.

David, Cristina C., and Richard L. Meyer. "Measuring the Farm Level Impact of Agricultural Loans." *Borrowers and Lenders: Rural Financial Markets and Institutions in Developing Countries*, ed. John Howell, pp. 201 – 34. London: Overseas Development Institute, 1980.

Gonzalez-Vega, Claudio. "Interest Rate Restrictions and Income Distribution." *Amer. J. Agr. Econ* 59(1977):973 – 6.

Johnson, Omotunde E. G. "Credit Controls as Instruments of Development Policy in the Light of Economic Theory." *Journal of Money, Credit and Banking* 6(1974):85 – 99.

Meyer, Richard L., and Adelaida P. Alicbusan. "Farm-Household Heterogeneity and Rural Financial Markets: Insights from Thailand." *Undermining Rural Development with Cheap Credit*, ed. Dale W Adams, Douglas H. Graham, and J. D. Von Pischke, pp. 22 – 35. Boulder: Westview Press, 1984.

Shaw, Edward S. *Financial Deepening in Economic Development*. New York: Oxford University Press, 1973.

Sideri, Sandro. "China's Financial System and Economic Development." *Savings and Development* 11(1987):77 – 92.

Timmer, C. Peter. "The Role of Price Policy in Rice Production in Indonesia, 1968 – 1982." *Research in Domestic and International Agribusiness Management* 6(1986):55 – 106.

Vogel, Robert C. "Subsidised Interest Rates and the Rationing of Agricultural Credit in Developing Countries." *Problems and Issues of Agricultural Credit and Rural Finance*, pp. 27 – 34, Dacca: Bangladesh Bank, 1979.

Von Pischke, J.D., and Dale W Adams. "Fungibility and the Design of Agricultural Credit Projects." *Amer. J. Agr. Econ.* 62(1980):719 – 26.