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2134

Economics and Sociology
Occasional Paper No. 2134

**STAGES IN THE EVOLUTION OF THOUGHT ON RURAL FINANCE
A Vision from The Ohio State University**

by

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June 1994

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JUL 14 1994

AGRICULTURAL ECONOMICS
& RURAL SOCIOLOGY

RURAL SOC.

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Abstract

This paper was motivated by the problems of using financial markets to pursue non-financial objectives. It explores the roles of financial policies, technologies, and organizations in facilitating access to financial services for small rural producers, from the perspective of the Rural Finance Program at The Ohio State University. To place these views in historical context, the paper utilizes optimum intervention theory as a framework for interpretation of the evolution of thought on rural finance. It claims that an inadequate diagnosis of market imperfections and the failure to recognize an incomplete physical and institutional infrastructure as a key explanation of lack of access to credit led to the development of unsuccessful rural finance programs. The paper examines instances of policy failure and offers recommendations for the search of appropriate interventions. It identifies the costs of incorrect interventions in rural financial markets and it emphasizes the importance of institutional viability. The paper concludes that the provision of financial services is costly. The associated costs cannot be reduced by decree. This would require innovations in financial technologies and institutional organization.

STAGES IN THE EVOLUTION OF THOUGHT ON RURAL FINANCE
A Vision from The Ohio State University

by

Claudio Gonzalez-Vega¹

Most people are not indifferent about finance. One way or another, finance matters. Indeed, there is at present substantial interest in financial markets from a policy perspective. This interest has been accompanied by frequent proposals to use credit programs to pursue all kinds of worthy objectives. Somehow credit is perceived to be a flexible and powerful policy tool. A few examples illustrate this greater attention:

- (a) Consider the Clinton/Gore proposal for the creation of 100 community development banks, patterned after the Grameen Bank in Bangladesh, in order to revitalize poor communities in U.S. inner cities.
- (b) Since 1988, the United States Congress has earmarked funds for lending to the poor abroad, as part of AID's programs for microenterprise development.
- (c) Financial reform, undertaken in earnest in the 1980s is one of the most hotly debated macroeconomic policy issues in many developing countries.

¹ Professor of Agricultural Economics and of Economics at The Ohio State University. This is a revised version of a presentation at the Finance 2000 Conference on *Financial Markets and Institutions in Developing Countries: Reassessing Perspectives*, held in Washington, D.C. on May 27-28, 1993, sponsored by the Office of Economic and Institutional Development of AID. This paper will be part of a general review of the conference by the author. Comments by Rodrigo A. Chaves, Douglas H. Graham, David Johnston, Richard Meyer, Bharat Nauriyal, Gloria Steele, Robert Townsend and other conference participants are acknowledged. The views expressed are only the author's. The style of the oral presentation is preserved.

- (d) The building of financial institutions and systems (almost from scratch) is one of the greatest challenges in Eastern Europe and the former Soviet Union and it has attracted considerable attention.
- (e) FAO has discussed how to incorporate environmental accountability into lending policies and contribute to natural resource management.

The topic is important and it is not new. The problems involved are not easy to solve. Despite all of the enthusiasm, a careful understanding of the history of government-sponsored credit programs suggests, however, a cautious attitude when harnessing financial markets for varied and multiple purposes. At a minimum, one would keep in mind some of the main lessons learned during earlier attempts to use financial markets in the pursuit of worthwhile non-financial causes.

I. The Rural Finance Program

The Rural Finance Program at The Ohio State University, sponsored by AID, is well known for its continuing long-term concern with and systematic analysis of the interactions between financial market performance and rural development.² As vehicle and focus for the interaction among research findings, donor programs, and policymaking in developing countries, the Rural Finance Program has been a source of numerous lessons about:

- (a) substance (what to do and what not to do),
- (b) procedure (how to go about it), and

² Support has been received through the Cooperative Agreement on Financial Resources Management (FIRM), coordinated by G/EG/EID/RAD at the Global Bureau in Washington, D.C.

- (c) persuasion (how to convince people to attempt something socially attractive).³

The perspective of the Rural Finance Program at Ohio State has been anything but static. Its focus has evolved over time, shaped by the insights of faculty, students, and consultants; energized by academic interactions; strengthened by lessons learned; and, particularly, adjusted to respond to new challenges from the field.

Actually, one can identify three stages in the evolution of the Ohio State vision about rural finance:⁴

- (a) The message of the 1970s was "policies matter."
- (b) The message of the 1980s was "while policies continue to matter, financial technologies matter too."
- (c) The emerging message of the 1990s may be "organizational design matters, for appropriate policies and cost-effective technologies to be adopted and implemented."

Once the importance of all three factors is recognized, in any particular circumstances the right combination of policies, technologies and organizations would be a function of the initial conditions and of the existing constraints on behavior. This is certainly the case when answering questions about what is the most appropriate financial technology and what is the most potentially successful institutional type in any given environment. It may even be true for

³ These dimensions correspond to three sets of activities: research, technical assistance, and policy dialogue (including dissemination) incorporated in The Ohio State University's Cooperative Agreement with AID.

⁴ For a detailed account see Claudio Gonzalez-Vega, "From Policies, to Technologies, to Organizations: The Evolution of The Ohio State University Vision of Rural Financial Markets," paper presented at the Finance 2000 Conference, Washington, D.C., May 1992.

policies, although some robust generalizations are possible about the expected impact of the regulatory framework.

Indeed, work in several dozen countries and a long-term interaction with a network of practitioners from around the world has allowed the Rural Finance Program to identify common problems and common causes of failure or common determinants of the success of attempts to expand the supply of financial services to marginal clientele. These commonalities have led to generalizations that must be adapted to particular environments.

II. A Methodology for the Choice of a Rural Finance Intervention

In attempting this adaptation of established principles, careful procedures must be adopted for the design of particular interventions. The essence of the methodology is to answer the following four questions:

- (a) What is the nature and the magnitude of the problem to be addressed?
- (b) What is the appropriate instrument to deal with this particular problem?
- (c) Is the solution suggested by theory feasible, given technological, legal, and political constraints?
- (d) How much will it cost?

This methodology is a straightforward application of optimum intervention theory. It will be used here as a framework for examining the evolution of thought on rural finance.⁵

⁵ For a general discussion of optimum intervention theory see Jagdish N. Bhagwati and T.N. Srinivasan, *Lectures in International Trade*, Cambridge, Mass.: The MIT Press, 1983.

III. The Rural Finance Problem

The following statements illustrate this methodological approach by looking at the history of rural financial market interventions in developing countries. In the 1950s, the rural finance problem was defined as:

- (a) a generalized lack of access to formal, institutional credit;
- (b) too high and dispersed rates of interest in informal credit transactions; and
- (c) some access to mostly short-term informal loans, which are not a good vehicle to finance productive investment.

In answer to the first methodological question (what is the problem?), the diagnosis in the 1950s was that the observed patterns of rural finance were mostly a reflection of two types of market failure:

- (a) First, something vaguely described by the statement that “the commercial banks are too conservative.” (The reluctance of the banks to make rural loans may have reflected market imperfections associated with information problems, in addition to risk aversion, but in the 1950s we were still a long way from Stiglitz and Weiss and modern information theory).⁶
- (b) Second, the excessive monopoly power of moneylenders.

⁶ See Joseph E. Stiglitz and Andrew Weiss, “Credit Rationing in Markets with Imperfect Information,” *American Economic Review*, Vol. 71, No. 3, 1981, pp. 393-410. Interestingly enough, we believe that market failure may lead banks and other depository institutions to be not sufficiently conservative. Instead, given moral hazard, their opportunistic behavior may result in too risky portfolios, which provides justification for prudential regulation and supervision. For this see Rodrigo A. Chaves and Claudio Gonzalez-Vega, “Principles of Regulation and Prudential Supervision and their Relevance for Microenterprise Finance Organizations,” in Maria Otero and Elisabeth Rhyne (eds.), *The New World of Microenterprise Finance. Building Healthy Financial Institutions for the Poor*, West Hartford, Conn.: Kumarian Press, 1994.

IV. Two Alternative Interpretations

Once such “market imperfections” had been diagnosed, a “correction” was required; that is, “the government had to do something about it.” Typical policy answers to these “problems” were:

- (a) the creation of public development banks, and
- (b) the establishment of subsidized, targeted credit programs, in attempts to control either the price or the quantity of financial transactions or both, to direct the use of borrowed funds, and/or to restrict competition.

But, were those two instances of market failure the only possible explanation of the patterns of rural finance observed? Not at all. Lack of access to formal credit and the high cost and short term of informal loans may have also resulted from an incomplete organizational framework. These “shortcomings” would reflect the high transaction costs required to overcome the “frictions” that result from an inadequate infrastructure or an incomplete organizational/institutional framework.⁷

Thus, for example, the observation of regional differences in the price of rice, different farm-gate/wholesale/retail prices, seasonal price variations, even the lack of availability of a given commodity (rice, computers, or credit) in a particular location, are not necessarily distortions that reflect market imperfections. Rather, those phenomena reflect the costs of harvesting, sorting, bulking up, transporting, insuring, storing. These and similar transaction costs depend, in turn, on the development of the physical and institutional infrastructure (e.g.,

⁷ See, on the role of organizational completeness, Hla Myint, “Organizational Dualism and Economic Development,” in Deepak Lal (ed.), *Development Economics*, Brookfield, VT: Edward Elgar Publishing Co., 1992.

with no good roads, price differentials across localities would be wider). The same is true of financial markets.

Thus, to the question "what is the problem?" one may have some alternative answers:

- (a) The problem is the presence of some market imperfection that must be corrected with a particular tax-cum-subsidy (quasi-fiscal) intervention or with some planned (administrative rather than a market) allocation of resources (the protectionist explanation), or
- (b) there are in this case opportunities for an improved allocation of resources, to be achieved by the further development of the country's physical and institutional infrastructure (the institutional economics explanation).

The development of the organizational framework is still a function of the state, but essentially in the provision of public goods, rather than in the direct allocation of credit. Unfortunately, in practice the problem for the policymaker is that the distinction between these two alternative situations is not evident: frequently the symptoms of the two are mixed up and it is not easy to disentangle them. The choice of the "correct" intervention critically depends, however, on the accurate identification of the nature of the problem.

Moreover, the challenge for the policymaker is that although the identification of a (theoretical) reason for intervention is a necessary condition for government action, it is not a sufficient condition. First, a correct identification of the problem is required, among other things, to guide the choice of the appropriate policy instrument. Such a correct diagnosis and

the corresponding choice of tools are necessary in order to avoid excessive/needless social costs.⁸

Because of an imprecise identification of the problem as resulting from market failure, however, the choice of instruments in traditional rural finance programs and the determination of the dosage (e.g., magnitude of the interest rate subsidy) were in no way related to what would have been an accurate identification and measurement of the potential distortion. The resulting welfare losses were very high.

V. Principles for Intervention

The considerations above suggest rules for appropriate interventions in rural financial markets. Some of these rules are:

- (1) "Do not intervene unless a clear (theoretical) reason for intervention has been precisely and accurately identified."

As already established, a correct diagnosis is a necessary first step in this methodology for optimum intervention. A second rule is:

- (2) "Choose an instrument (intervention) appropriate for the problem to be addressed."

That is, select a tool that matches the nature and magnitude of the problem being addressed. The intervention must always be compatible with the size of the problem to be solved.

That the (theoretical) identification of a reason for intervention is a necessary, but not a sufficient condition for government action can be illustrated with the following example.

⁸ Economic theory has developed rules for the choice of optimum and second-best (constrained-optimum) instruments, for the assessment of the correct dosage for any intervention, and for successful mechanism design. See Bhagwati and Srinivasan, *op. cit.*

Consider that an opportunity to improve the physical infrastructure has been identified (e.g., the development of a network of bank branches). This usually requires a large commitment of resources. The appropriate course of action would be to compare the expected costs and benefits from the intervention; if the costs are higher than the benefits, the present situation would be the best attainable position, given the existing technology and market size. There would be no reason for government intervention in this case (even if as a result some people continue not to have access to formal credit or other financial services).

A third task for the policymaker is to always ask: "intervention at what cost?" The rule is:

- (3) "Intervene only when the social benefits exceed social costs."

Fourth, one must ask questions about feasibility:

- (a) Does the government possess sufficient and adequate information about the problem? (This is the question of measurement).
- (b) Does the set of institutions required to implement the adopted policies exist? (This is the question of completeness of the administrative capability).

An incomplete infrastructure and/or organization constrains the actions of government as much as it limits the operation of the market, perhaps even more. If the observed shortcomings are a result of such organizational deficiencies, government action may not be better than the market. The rule is:

- (4) "Intervene only when sufficient information is available and the institutional infrastructure allows policy enforcement at a reasonable cost."

A final question is: “will the existing political economy forces capture and distort the intervention?” The rule here is:

- (5) “Do not operate in a political vacuum.”

Since every policy intervention is a political decision, a political economy scenario must be taken into account. It is critical to identify potential winners and losers and foresee their strategic reactions. Frequently, interventions adopted with the best of intentions end up producing undesirable results, mostly for political economy reasons.⁹

VI. Determinants of Policy Failures

With the above criteria in mind, Ohio State researchers attributed the policy failures observed worldwide in rural financial markets to:

- (a) Incorrect assumptions about behavior which supported the policy choices (*a wrong diagnosis*).
- (b) Unrealistic expectations about the ability of credit programs to achieve the proposed goals (*choice of the wrong instrument*).
- (c) Too optimistic expectations about the absence of government failure and of (politically effective) interest groups that might capture the rents and subsidies (meant for others) from the interventions (*lack of feasibility and neglect of political economy constraints*).
- (d) A lack of concern with the scarcity of resources. In those days donor and government funds appeared to be unlimited (*excessive cost of the intervention*).

⁹ See Edward J. Kane “Political Economy of Subsidizing Agricultural Credit in Developing Countries,” in Dale W Adams, Douglas H. Graham, and J.D. Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press, 1984.

Ultimately, the key theoretical question would be to understand the sources and consequences of market failure and of government failure.¹⁰

Recently, elegant economic theory has emphasized market failure again.¹¹ Indeed, the profession has made much progress at the theoretical level in understanding market failure in the case of finance, resulting mostly as a consequence of asymmetric information and opportunistic behavior that leads to moral hazard and adverse selection problems. Still, we are some distance away from being able to use these theoretical results to recommend robust classes of cases for widespread government intervention and to identify feasible instruments for such interventions.¹² Among other things, one must recognize the difficulties of enlightened intervention in quantifying the relevant magnitudes of both the market imperfection and the policy dose and in overcoming the dangers emerging from the political economy arena.

For researchers, the two tasks ahead would be:

- (a) to improve the application of theory to clear cases of market failure, where the consequences matter, and where the intervention can be cost effective (e.g., the prudential supervision of deposit-taking intermediaries), and

¹⁰ See Joseph E. Stiglitz, "The Role of the State in Financial Markets," Washington, D.C.: Proceedings of The World Bank Annual Conference on Development Economics, 1993, pp. 19-62.

¹¹ Mansorra Rashid and Robert Townsend, "Targeting Credit and Insurance: Efficiency, Mechanism Design, and Program Evaluation," unpublished paper prepared for The World Bank, December, 1992.

¹² For this view, see Timothy Besley, "How Do Market Failures Justify Interventions in Rural Credit Markets?" *The World Bank Research Observer*, Vol. 9, No. 1, January 1994, pp. 27-48.

- (b) to understand better the nature of government failure, particularly in choosing a strategy for policy reform and in selecting the correct approach to institutional design.

The general advice is to follow a parsimonious approach to government intervention in rural financial markets:

“intervene only if you really need to and you expect to be effective.”

VII. Costs of Intervention

In the 1970s, the Rural Finance Program's concern with policies resulted both from theory (through adopting Shaw-McKinnon paradigm of financial repression/financial deepening), and particularly from first-hand observation of widespread policy failures and of the resulting high costs.¹³ There are three main components of these costs.

First, there are the standard efficiency costs that result from the policy-induced distortions (e.g., restrictions on interest rates and the administrative allocation of loans or restrictions to entry). These distortions reduce depositor, borrower, and intermediary welfare. They are among the negative implications of financial repression identified by Shaw and McKinnon.¹⁴

Although these efficiency costs are important, Ohio State's main contribution was to identify and emphasize two additional sources of cost associated with the protectionist interventions. One emerged from the (implicit) assumption of the traditional programs that subsidized credit is a powerful instrument to pursue all kinds of objectives, such as:

¹³ Most of these policy failures were documented for a multitude of cases in the 20 volumes of the *AID Spring Review of Small Farmer Credit*, Washington, D.C.: Agency for International Development, 1973. Ohio State researchers made some of the key contributions.

¹⁴ See Edward S. Shaw, *Financial Deepening in Economic Development*, New York: Oxford University Press, 1973 and Ronald I. McKinnon, *Money and Capital in Economic Development*, Washington, D.C.: Brookings Institution, 1973.

- (a) the promotion of particular activities (e.g., the adoption of a technological innovation);
- (b) the redistribution of income (e.g., poverty lending);
- (c) compensation for other repressive policies (e.g., to reverse the impact of the urban bias of import-substitution industrialization); or
- (d) the liberation of farmers from the grip of exploitative moneylenders.

The most important contribution of the Rural Finance Program was to explain why and to illustrate how these protectionist policies had not been able in practice and could not conceptually be able to achieve their ostensible "social" objectives. That, despite the best of intentions, these interventions had frequently turned out to be unexpectedly harmful for the particular (marginal) clientele that they had set out to help. Thus, these policies did not promote anything, did not displace informal moneylenders, and they only redistributed income in reverse.¹⁵

In conclusion, if subsidized and targeted credit programs are a weak instrument to achieve these non-financial objectives (rather than the panacea that they are assumed to be), the cost/benefit ratio for the intervention would be unfavorable: too much effort would be spent in order to obtain meager results.

In the end, the primary objective of improving access to formal credit was poorly met, if at all. Despite the massive flows of funds channelled to the rural areas, access to institutional loans remained limited. Moreover, a reduction in the cost of borrowing was achieved for only a few large producers, while small borrowers were saddled with high and regressive transaction costs. For them, formal credit was not cheap, despite the artificially low interest rates.

¹⁵ Numerous illustrations are found in Dale W Adams, Douglas H. Graham, and J.D. Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder: Westview Press, 1984.

Actually, subsidized credit turned out to be quite expensive, both for the intermediary disbursing the funds and, particularly, for the targeted small borrowers. The conditionality of supervised loans, long delays in disbursement and restrictions on uses of the funds, excessive red tape and a heavy and slow procedure increased borrower transaction costs. Loan-size credit rationing made it even more difficult for small clients to dilute these costs. Unreliability reduced the value of the bank-client relationship.

Furthermore, credit portfolios became concentrated in a few hands. Only a small proportion of rural producers had access to these loans. Among these, a handful of larger borrowers (e.g., 10 percent of the number) captured the largest portion of the portfolio (e.g., 80 percent of the amounts). Thus, the powerful but inevitably regressive redistributions attempted through credit subsidies worsened income distribution in the rural areas of many developing countries.¹⁶ When the subsidy was followed by default on the principal, the regressive distributional consequences were even more dramatic.

Because credit cannot create investment opportunities, and given the fungibility of funds, these promotion efforts had a limited additionality. Ostensible objectives were only partially met. This increased the cost/benefit ratios of the promotion attempts. Thus, substantial amounts of resources were spent to get meager results, at best, or unexpectedly negative outcomes, most of the time. Resources were wasted.

For these reasons, in the 1970s Ohio State researchers focused on the need to revise these policies, not in blind defense of supply and demand, but from a clear understanding (obtained

¹⁶ Claudio Gonzalez-Vega, "Interest Rate Restrictions and Income Distribution," *American Journal of Agricultural Economics*, Vol. 59, 1977, pp. 973-976.

first-hand in dozens of countries) of the shortcomings of these policies and of the high social costs that they imposed. Further, the Rural Finance Program recommended that attention shifted to non-financial (e.g., output and input price) policies and to interventions in technology adoption and infrastructure development, in order to promote rural growth and thereby increase both the creditworthiness of farmers and their (already high) savings capacity. Financial deepening would follow, to some extent, these improvements in the non-financial environment. Without them, financial markets would have a limited contribution to make.

So far this paper has examined two types of costs resulting from incorrect rural finance policies: those emerging from the distortion of key price signals, such as interest rates (allocative inefficiencies), and those emerging from the waste of resources in the implementation of policy intervention with a limited capacity to achieve the desired results (operational inefficiencies). One additional source of social costs that resulted from the incomplete diagnosis of the problem (the suggestion that it mainly reflected market failure, rather than an incomplete organization) were the deadweight losses inflicted in terms of ineffective economic organization. These policies repressed/stunted the normal development of the institutions needed to address the rural finance challenge (dynamic inefficiencies). Actually:

- (a) The existing institutions utilized to implement these programs were eventually destroyed by them. The institutional landscape of the developing countries is littered with failed development banks and specialized credit programs.
- (b) The organizations specifically created to channel the funds never had a chance, by design, to become viable institutions.

- (c) Most importantly, the monopoly powers granted to public lenders (e.g., nationalized banks) or their unfair market practices suppressed the development of endogenous (private, indigenous) organizations that would have provided those services as market size grew and the physical and organizational infrastructure was developed. Inefficient (subsidized) public agencies outcompeted their more socially efficient rivals.

VIII. Institutional Viability

Thus, from the perspective of the Rural Finance Program, the most severe deficiency of these earlier protectionist solutions to the rural finance problem was the lack of institutional viability of the organizations that were created. Why does viability matter? Concern with viability springs from a clear recognition of the scarcity of resources. If resources are limited, without self-sufficient financial institutions there is little hope for reaching the numbers of rural (poor) firm-households who are potential borrowers and depositors. The amounts required are beyond the ability and willingness of governments and donors to provide them.¹⁷ The alternative to viable organizations are expensive, inviable quasi-fiscal programs that reach only a select few beneficiaries. Thus, viability matters the most from this equity perspective. Moreover, if the objective is a one-time injection of (welfare) funds, lump-sum transfers are more efficient. If, on the other hand, sustainability is important, then the viability of the financial organization matters.

Financial viability is also a useful conceptual hub from which to evaluate policies and procedures, financial technologies, and organizational designs. Attention to viability brings out

¹⁷ See María Otero and Elisabeth Rhyne (eds.), *The New World of Microenterprise Finance*, cit.

the links among all dimensions of the financial intermediary's performance. In addition to being fiscally feasible, the most important contribution of a concern with institutional viability is that it elicits the appropriate incentives among all the parties involved.¹⁸

Thus, for example, while poor loan recovery destroys viability, an image of viability improves repayment discipline in any financial intermediary. A reputation as a good borrower in an established bank-client relationship is a more valuable asset if the financial institution is expected to be permanent rather than transitory. When this intangible asset is sufficiently valuable, it elicits punctual repayment. When the organization's survival is questioned, on the other hand, default follows in stampede, and institutional breakdown becomes a self-fulfilling prophecy. Viability matters when repayment matters.

A concern with viability makes it possible to identify one possible way how interest rates and default rates are linked. Too low interest rates that cause intermediary losses are perceived by borrowers as signals of lack of permanency and delinquency follows. Moreover, in the same way that very high interest rates may induce adverse selection, too low rates tend to attract rent seekers who eventually default. Both too high or too low interest policies reduce expected intermediary profits through higher expected default rates. The relationship between interest rates and rates of default may then follow a U-shaped curve. Ohio State researchers have emphasized the impact of too low rates, in environments where most rates have been negative in real terms,

¹⁸ In this sense *financial viability* concerns are a substitute of (reflect) and appropriate structure of property rights in generating compatible incentives among both the staff and the clients of the organization.

while Stiglitz and Weiss have emphasized the moral hazard and adverse selection problems associated with too high rates.¹⁹

There is not necessarily a conflict between these two views. Simply, they are applicable in different environments. What is critical is the ability to interpret the situation correctly (diagnosis), to choose the appropriate policy prescription (instruments). From the Ohio State perspective, most frequently the demise of financial institutions has come from charging too low rather than too high interest rates. Moreover, the concern in the literature has been that interest rate liberalization may lead to too high interest rates and to credit rationing by institutional lenders, in their efforts to reduce losses from adverse selection. Interest rate ceilings are recommended by some authors. Constraints on interest rates also lead, however, to credit rationing. The widespread adoption of interest rate ceilings in the past did not lead to increased access to credit. Information problems must rather be addressed by improvements in screening technology (to improve portfolio management) and by promoting financial intermediaries with informational advantages in particular market niches. Moral hazard on the part of the banks must be met, on the other hand, by an adequate prudential regulation and supervision.²⁰

¹⁹ Moreover, in the presence of moral hazard and adverse selection problems, financial intermediaries will *voluntarily* choose interest rates below market-clearing levels and resort to credit rationing. Adverse selection is a consequence of incomplete information. When rates go up, lenders fear that the proportion of risky borrowers in their portfolio would go up and, therefore, do not lend at too high rates.

²⁰ See Ronald I. McKinnon, "Macroeconomic Instability and Moral Hazard in Banking in a Liberalizing Economy," in Philip L. Brock, Michael B. Connolly and Claudio Gonzalez-Vega (eds.), *Latin American Debt and Adjustment. External Shocks and Macroeconomic Policies*, New York: Praeger, 1989. Building on McKinnon, for the optimum path of interest rate liberalization, given different inflation and prudential supervision scenarios, at the Finance 2000 Conference, Delano Villanueva and Abeas Mirakhor discussed their paper "Strategies for Financial Reforms."

In addition, cheap credit frequently turned out to be very expensive. Too low interest rates resulted in higher transaction costs for all market participants and had an ambiguous impact (usually upwards) on the total cost of funds for borrowers.²¹ Targeting of loan uses, made impotent by the fungibility of funds, also increased both lender and borrower transaction costs and reduced both the quality of the services supplied by the intermediary and the value of the bank-client relationship.

Thus, targeting hurt viability in several ways. It reduced the scope for portfolio diversification in already highly specialized lenders. It limited the lender's degrees of freedom in screening loan applicants and reduced incentives for vigorous loan collection, shifting accountability for default from the lender to the donor that had conditioned the availability of funds to their use for specific targets.²² More interested in monitoring compliance with the targets, for a long time the donors themselves ignored the impact of targeting on delinquency, but were very *surprised* when default destroyed the institutions that had been (ab)used to channel their funds.

The importance of deposit mobilization is also intimately linked to institutional viability. Deposits provide information to the lender about the potential borrower, create a basis of mutual trust, and facilitate the accumulation of a downpayment that can serve as a deductible in any loan contract. Deposits contribute, therefore, to the solution of information problems. Moreover,

²¹ See Marco A. González-Garita, "Farmer Borrowing Costs: The Case of Costa Rica," Master's Thesis, The Ohio State University, 1986.

²² See Nelson Aguilera-Alfred and Claudio Gonzalez-Vega, "A Multinomial Logit Analysis of Loan Targeting and Repayment at the Agricultural Development Bank of the Dominican Republic," *Agricultural Finance Review*, Vol. 53, 1993, pp. 55-64.

healthy deposit mobilization creates an image of viability that promotes repayment. While donor-funded loans may not be repaid, those funded with neighbor's deposits are. Most importantly, depositors create institutional independence from the whims of donors and politicians; they shield the organization from political intrusion.²³ Deposit mobilization contributes to sustainability and to an organizational environment where permanency becomes an important (compatible) incentive for managers and the agency's staff. For them, the value of their relationship with the organization increases. This encourages correct decisions and effort.

IX. Lessons Learned

From the observation of these regularities, the Rural Finance Program has identified the following general lessons:

- (a) An appropriate policy framework is a necessary condition for increased access by broad segments of the population to financial services. A repressive policy framework makes it extremely difficult for formal financial services for marginal clientele to flourish. Moreover, even the provision of semi-formal and of informal financial services is jeopardized by a repressive regulatory framework.
- (b) Thus, at the macroeconomic level, financial reform is a necessary condition for financial deepening and improved access to financial services.
- (c) One may also claim that at the microeconomic level the financial viability of the intermediary is (almost) a necessary condition for its success in reaching marginal clientele.

²³ See the paper by Jeffrey Poyo, Claudio Gonzalez-Vega and Nelson Aguilera-Alfred, "The Depositor as a Principal in Public Development Banks and Credit Unions: Illustrations from the Dominican Republic," presented at the Finance 2000 Conference.

- (d) Good policies (and institutional viability) are not a sufficient condition, however, to rapidly increase access to financial services by marginal clientele.
- (e) Appropriate (cost-effective) financial technologies are also a necessary but not a sufficient condition for success in expanding the outreach of financial intermediary services.
- (f) Organizational design matters. Without compatible incentives, appropriate policies and technologies will not be adopted.

X. The Costs of Finance

The main reason behind these conclusions is that the provision of financial services is very expensive. Formal financial services are (almost) a luxury good. Their production requires valuable human and material resources with high opportunity costs. Moreover, mistakes in the evaluation of creditworthiness are costly, for the intermediary and for society.

Some of these costs are associated with getting the parties together. In this task, formal finance usually implies high fixed costs; this is certainly the case with bank branches. These fixed costs loom particularly high when the clients are small, heterogeneous, and dispersed in sparsely populated areas. The key to the level of these costs is market size. This is not unique to financial services. It is expensive to provide health, education, or entertainment in remote areas with a low density of population.

Moreover, successful finance requires inputs for screening loan applicants (information management), monitoring borrowers, and the efficient design and enforcement of contracts. These costs are a function of distance (geographic, occupational, ethnic) and of feasible technologies. In addition, alternative technological arrangements result in specific comparative advantages in the provision of financial services in specific market niches. The choice of appro-

priate technology thus becomes critical. The key is to design an intervention properly dimensioned to the size of the market and compatible with the nature of the clientele. Traditional banking technology, for example, is prohibitively expensive for the rural poor. Both lender and borrower costs are too high in this case. The challenge is to bring together those who have the informational and enforcement advantages (usually local agents) and those with sufficient resources and a willingness to lend (governments and donors). This generates additional agency costs.²⁴

Thus, there are two possible approaches to the question of improving access to credit by particular groups:

- (a) One may mandate portfolio quotas at banks and create special targeted lines of credit within existing institutions. Most likely this will not be the appropriate technology to reach, for example, the rural poor. One may even mandate subsidized loans for the target group; this has always been counterproductive, in the end hurting the intended beneficiaries.
- (b) Alternatively, one may promote the development of intermediaries with a vocation for and a comparative advantage in specific market niches. The desired clientele would be reached indirectly, by targeting the institutions that typically service these groups. That is, the problem will be addressed by developing an appropriate technology.

The experience of the Rural Finance Program has shown, moreover, that no constraints on risk management should be levied on the lender, which should have full flexibility in eval-

²⁴ See the paper by Rodrigo A. Chaves and Claudio Gonzalez-Vega, "The Design of Successful Rural Financial Intermediaries: Evidence from Indonesia," presented at the Finance 2000 Conference.

uating creditworthiness and in collecting loans and should be allowed to operate on market terms. These are common features of successful interventions.

Thus, appropriate technology is a necessary condition for reaching marginal clientele with financial services. This is not a sufficient condition, either. Policies and procedures matter; technologies also matter. But policies will not be enacted, procedures will not be revised, and technologies will not be adopted, unless it is in someone's interest to do so. In the end, all decisions are made by individuals, who pursue their own objective functions, given existing constraints.

Institutions do constrain individual behavior, define property rights and incentives, and embody the rules of the game. Organizational design matters because individual choices are induced and/or constrained by the existing structure of incentives. In this respect, sustained practical experience has proved to be an effective teacher for Ohio State researchers. In reaction to second-generation problems, the Rural Finance Program is now mostly concerned with institutions. One major source of preoccupation results from a clear instance of market failure: the negative externalities triggered by the opportunistic behavior of deposit-taking organizations. Deposit mobilization matters a lot, but it does require the government to develop a key piece of the institutional infrastructure that is frequently missing: a capability for the prudential regulation and supervision of financial intermediaries.

Moreover, in recent years Ohio State researchers have focused again on informal and endogenous semi-formal financial arrangements, not as examples of market failure, but as instances of viable market-oriented, constrained-optimum solutions. In the end, the key question is why do some organizations succeed and others do not? Ohio State researchers have compared

the contractual and organizational design of these endogenous intermediaries with those of exogenously introduced agencies, such as those created by governments and donors since the 1950s. They have explored how features of informal endogenous solutions of the rural finance problem can be mimicked by formal agencies, for greater institutional viability and broader outreach. Moreover, because of several limitations of locally-based financial arrangements, appropriate links to the aggregate financial system are also being explored. Ultimately, what matters is the development of systems and networks (e.g., new ways of economic organization) to increase the viability of informationally-advantaged agents, which suffer from local, covariant systemic risks and from limited opportunities for intermediation between surplus and deficit units. As markets grow and institutions are developed, however, formality increases and the introduction of modern institutions will be required. For this, appropriate policies, cost-effective technologies, and viable organizational designs will still be needed.