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RURAL FINANCE RESEARCH: PRIORITIES, DISSEMINATION, AND POLICY IMPACT

by

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Abstract

This paper reviews the evolution in thinking about rural finance policy that has occurred during the past couple of decades. The Farm Finance approach with its emphasis on agricultural credit has given way to the Rural Financial Markets approach which concerns financial intermediation and the development of viable, self-sustaining financial institutions. Much information is needed about appropriate policies for use in developing a sound financial system. Research priorities are identified in the areas of financial reforms, financial innovations, risk reduction, regulation and supervision, nonfarm and micro-enterprises, women's access to financial services, and informal finance. The policy making process is reviewed in an attempt to understand why the pace of financial reforms seems slow relative to the well-established literature that demonstrates the need for it. The role of the RACAs (Regional Agricultural Credit Associations) is reviewed and suggestions are made about ways to increase their effectiveness in influencing financial policies.

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Richard L. Meyer[1]

I. INTRODUCTION

Designing effective and sound policies to support the development of viable rural financial institutions and systems in developing countries requires a good information base. Decision makers need information about a wide variety of topics such as the nature of financial markets, the operations and problems of formal financial institutions, the characteristics of informal finance, the linkages between formal and informal finance, the financial services useful to rural people, and the general economic environment within which financial services are supplied and demanded. Information is needed not only concerning the situation and needs of a decision maker's own country, but also about relevant developments elsewhere that may offer examples and ideas that can be emulated.

A large amount of information is available today that provides insights into the policies that are needed to develop a strong, dynamic financial sector. The problems of past efforts to push cheap credit into agriculture, to subsidize loans for priority uses, to create specialized institutions for developmental lending, and to tightly target loans for specific borrowers have been fairly well documented. In spite of this information, however, there are still a surprisingly large number of programs and projects that are proposed or are in operation based on the incorrect assumptions and approaches of the past. Furthermore, there are still significant areas of rural finance that lack systematic research or where substantial contradictions and lack of concensus exist.

This paper reviews the issue of rural finance research as it relates to the development of appropriate policies. It is divided into five sections. The first section provides a brief overview of the evolution of thinking that has occured about rural finance. The second section provides a brief summary of recent research findings concerning several research themes related to the viability of rural financial institutions. The third section identifies several key areas where additional research is needed. The fourth section discusses the process of policy making in developing countries. The final section presents some ideas about the role of the SACRED system in encouraging policy oriented research and utilizing the results to stimulate policy changes.

II. CONFLICTING VIEWS ABOUT RURAL FINANCE AND INSTITUTIONAL VIABILITY

Two conflicting views have dominated thinking about rural finance during the past couple of decades. Egaitsu has characterized them as the Farm Finance (FF) and the Rural Financial Markets (RFM) approaches. He argues that the FF approach emphasizes the input of farm loans into agricultural production. He associates the RFM approach with The Ohio State University (especially with my colleague Dale W Adams) in which finance is viewed as the intermediation process through which financial assets and debts are exchanged and reallocated among rural economic entities. Egaitsu argues that these two approaches emphasize two different criteria for evaluating the performance of the rural financial system.

The first is the contribution criterion which concerns how finance contributes to growth and equity in the economy. The second concerns whether RFMs are self-sustaining or not.

A review of the rural finance literature for the past two decades shows the clear conflict between the two finance approaches and a preoccupation about how rural financial systems have performed with respect to these two general evaluation criteria. Most countries adopted the FF approach during the 1960s and early 1970s as part of their growth and equity objectives. Since credit was viewed as an input, policies and programs were employed to expand the amount and reduce the cost of loans made to agriculture, and especially to small farmers To increase the supply of funds to agriculture, policy makers adopted a variety of policies and programs, including:

1. loan portfolio quotas or targets,
2. Central Bank rediscount programs, often funded by donors,
3. the creation of specialized lending institutions,
4. grants and subsidies to non-financial institutions (ministries, departments, institutes, NGOs, PVOs),
5. nationalization of banks that failed to meet social objectives,
6. the creation of crop and loan guarantee programs designed to reduce lending risks, and
7. the detailed specification of production practices and input use required for borrowers receiving subsidized loans.

To reduce the interest rates charged on loans to agriculture, the policymakers:

1. set low interest rate ceilings on loans to priority sectors and borrowers,

2. charged low interest rates on refinance funds provided by the central banks,
3. encouraged lenders to cross-subsidize by charging higher interest rates to non-priority borrowers in compensation for lower rates to priority borrowers, and
4. provided direct government subsidies to lenders.

Research on the countries that strongly pursued the FF approach subsequently showed that most failed in two important respects. First, they often did not meet their growth and equity objectives, and second the approach was not sustainable because viable financial institutions were not created. In fact, in several cases the FF approach undermined the financial institutions and left them imparied and, in some cases, bankrupt because of uncollectable agricultural loans. By revealing these problems, the research heightened interest in the RFM approach with its emphasis on the sustainability criterion and the viability of financial institutions.

Although institutional viability has become a primary concern, there is no clear agreement about what the concept really means. I argued that a viable financial institution is one that is self-sustaining, that covers its costs, that provides services valued by rural households and businesses, that serves an increasing number of rural customers, that is dynamic in seeking to produce new financial products and services, and that actively searches for ways to reduce transaction costs for itself and/or its customers (Meyer, 1988). Gonzalez-Vega (1990) recently added that viable institutions possess credability and are able to mobilize deposits from the public, to collect their loans, and to retain good management and staff.

An institution to be self-sustaining must be successful in several aspects of its operations. First, it must be profitable over time. Institutions may suffer temporary losses, but a viable institution must be profitable over time so it can cover its costs, and generate a surplus that can be invested to improve operations, to adopt new technologies, and to provide new services to its customers. Second, an institution must be efficient so it provides services at competitive costs, and remunerates factors of production adequately so it can attract good quality human and material inputs. Third, an institution must be innovative so it can reduce its own costs over time as well as the costs of its customers.

Some would argue that institutions can be viable and self-sustaining, even if they are not profitable, efficient and innovative, as long as governments and donors are willing to continually subsidize them. However, advocates of the RFM approach argue that for institutions, to be self-sustaining, they must also be independent. They must be independent in their sources of funds so they are not tied to the unpredictable whims and budgets of governments and donors. They must also be independent from political intrusion into the question of what types of loans to make, under what terms, who receives them, and who must repay. Otherwise customers will lose faith in them, will fail to repay their loans, and loan default will kill the institution. Furthermore, high loan default will discourage donors from making new funds available.

III. RESEARCH ON RURAL FINANCE

A large body of research has emerged in the past several years describing the evolution in thinking about rural finance in developing countries, and analyzing the factors that influence the creation of viable rural financial systems. Space does not permit a comprehensive review, but some key topics are summarized here to highlight the general state of the art. Several publications are available for those who wish to pursue these topics in greater detail.[2] The research summarized in this section is organized around five central themes.

Interest Rate Structure

No single issue distinguishes advocates of the FF from the RFM approaches as consistently as does interest rates. FF advocates argue for low interest rates on loans. They believe that borrowers need these low rates to stimulate production, to speed the adoption of new technology and modern inputs, and to offset the negative effects of policies that discriminate against agricultural producers.[3] Frequently rates are set so low on targeted loans to agriculture that a subsidy is involved. In economies with high inflation, low nominal rates often result in negative real rates.

Of course there is a possibility that low interest rates will actually accomplish these objectives. But in practice, the distortions they introduce are counterproductive. First, interest expenses tend to be a fairly small proportion of total production costs faced by farmers so raising or lowering interest rates a few percentage points makes only a small impact on farm income compared to the large impact of raising or lowering other input prices or product prices. Second, providing subsidized credit to stimulate the production of certain commodities will likely fail due to fungibility in the use of loan funds if the underlying production conditions are unfavorable. Gonzalez-Vega noted that: "Subsidized loans do not make unprofitable investments profitable. Credit does not make the required inputs available; it does not build nonexistent roads, bridges or storage facilities; it does not create missing markets or reduce yield variability." (1986, p. 9). The fact that agricultural output has continued to grow during the past few years after interest rates were raised and agricultural loans were sharply reduced in Brazil and the Philippines is evidence of these arguments.

A third negative aspect of a low interest rate structure concerns the equity objective of financial policies. Interest rates that are set at low levels, supposedly to help poor borrowers, have had a perverse effect on loan distribution. Subequilibrium interest rates lead to nonprice rationing as lenders are forced to use methods other than price to allocate the excess demand for loan funds. As shown by the Iron Law of Interest-Rate Restrictions, the rationing process will likely result in poor borrowers getting fewer, rather than more, loans because lenders will be induced to concentrate loans among larger, wealthier, less risky borrowers (Gonzalez-Vega, 1984).

Although low interest rates may have only a limited impact on farmers, they have a very negative effect on financial institutions and savers. Interest income is the largest single source of income for most financial institutions. Therefore, raising or lowering interest rates a few percentage points has a large impact on their income. Low rates also encourage lenders to pass some of their transaction costs on to borrowers. Cuevas (1984) found that in Honduras, for example, borrower transaction costs and interest rates were negatively correlated implying that as interest rates rose lenders reduced borrower transaction costs by streamlining procedures and improving efficiency. Likewise Gonzalez-Vega and Gonzalez-Garita found that in Costa Rica a reduction in interest rates of one percentage point was accompained by an increase in noninterest borrowing costs of 5.5 points. Low rates on loans imply that savings rates must also be low (unless savers are subsidized) and this discourages rural financial savings. Finally, the need to ration loans among potential borrowers provides great opportunities for corruption. Bank officials can charge bribes from borowers who want to receive loans, and the wealthy and the politically well-connected can use their influence to get loans for themselves or their clients.

Finally, at the macroeconomic level, many governments find they simply don't have sufficient resources to provide interest rate subsidies to a large number of borrowers. Therefore the alternatives are to favor a few lucky borrowers with subsidies, while denying credit to the rest, versus eliminating the subsidies so a larger number of borrowers can obtain more realistically priced loans.

There is still considerable debate about interest rates but the terms of that debate have shifted. There is no longer a widespread strong defense of low, subsidized rates. Rather the question now is more one of determining the levels to which rates should be raised and how rates should be adjusted to reflect changes in risk and inflation. Financial reforms in some countries have permitted market forces to play a much greater role in determining interest rates for both loans and savings.

Transaction Costs

Transaction costs refer to the resources required to transfer (lend) one unit (e.g. dollar, or peso) of currency from a saver to a borrower, and to recover that unit of currency at a later date plus interest. The magnitude and allocation of transaction costs between savers, borrowers, and financial intermediaries represent an important performance measure. The total borrowing costs for small formal loans in some countries are so high that borrowers prefer informal rather than formal loans in spite of the latter's subsidized rates (Ahmed; Ladman).

A comparison of borrower transaction costs in several developing countries shows that they are quite variable, ranging from about 1 percent of the loan to over 20 percent (Meyer and Cuevas). Transaction costs as a percent of loan interest charges vary from less than 5 to almost 200 percent. The cost of loan administration for financial institutions are reported from 2 to almost 10 percent of the value of agricultural loans. When risk premium are added, total noninterest costs vary from 4 to 21 percent of the loan amount.

Compared to borrowing costs, there is much less systematic analysis about depositor transaction costs. Generally it is expected that these costs are fairly low since there are incentives for most financial institutions to attract depositors. The principal factors affecting these costs in many countries will be distance and travel time. The less well developed the network of deposit-taking institutions in rural areas, the greater will be the travel time and costs required for holding deposits. While many countries have expanded their banking networks to facilitate deposit mobilization, some countries that have an extensive network of development banks to make loans prohibit them from accepting deposits even though they may be the only bank in the region.

High transaction costs impede the growth of the financial system. The specific causes for these high costs may be unique to each country but several general causes can be identified. First, the level of development of a country determines the degree of development and maturity of the financial system. Poor communication and transportation infrastructure and a weak and inefficient legal system, increase the costs of banking operations. Second, regulations affect intermediation costs. For example, barriers to bank entry, high reserve requirements, and taxes on financial operations raise intermediation costs in the Philippines (Lamberte and Relampagos). Third, specialized lending institutions created to service specific clientele groups often operate at too small a volume to achieve economies of scale, and by only making loans they fail to achieve the economies of scope available to institutions that offer a more balanced mix of deposit and loan services. Fourth, some institutions are just not managed very well and do not effectively employ cost-reducing technologies and innovations. Fifth, regulations often create a segmented financial market in which each institution faces little competition as it offers a single product in a specific market area. Therefore there are few incentives for it to search for greater efficiency and profitability.

Sources of Loanable Funds and Savings Mobilization

Because the FF approach has usually involved subsidized lending, many of the funds used by banks, cooperatives, and credit unions for retailing the loans have come from the government and/or donors. Furthermore, it is frequently assumed that rural households, especially the poor, have little capacity to save so deposit mobilization and rural savings represent the forgotten half of rural finance (Vogel). Lenders have been used merely as a conduit for the easy disbursement of funds. Loan disbursement has been the primary criteria for evaluation, and there have been few incentives for loan recovery. The borrowers perceive this situation and respond by ignoring the timely repayment of loans. Clients develop a weak loyalty to their lending institutions (Gonzalez-Vega, 1990).

Even though funds from the government and donors appear to be cheap, in practice they may be expensive. For example, Cuevas and Graham found that lender transaction costs for a private bank in Honduras using donor funds were nearly five times the cost of lending its own money to farmers because of the many information and reporting requirements of donors. The lending costs far exceeded the 3 to 4 percent margin allowed by the donors.

Greater emphasis on deposit mobilization can help correct some of the problems and distortions found in RFMs.[4] Not only will rural residents benefit through improved opportunities for financial savings, but institutional viability can be enhanced. First, as noted above, deposit mobilization may represent a cheaper source of funds than other sources. Second, because of economies of scope, it may be cost effective for a lending institution to add savings services to its lending functions. Third, loan recovery may improve with deposit mobilization. The information that bank clients reveal about their financial affairs through their savings behavior is useful when they are evaluated for loans. Furthermore, when they mobilize deposits, lending institutions can develop loan programs and practices more appropriate for their clients that the targeted programs developed by the government in a distant capital city. With their own programs, they can avoid some political pressures regarding loan allocation and recovery.[5] Borrowers may also feel more obligation to repay loans when they know that local deposits are the source of loan funds.

Poyo presented important empirical evidence about the linkage between source of funds and loan recovery. He observed that Honduran credit unions that mobilized a large amount of deposits were saver-dominated. They developed policies and procedures that protected depositors and ensured loan recovery. On the other hand, credit unions that relied on borrowing became borrower-dominated and experienced lower loan recovery.

Loan Recovery

Loan recovery has emerged as one of the key factors that affects the viability of a financial institution and the entire finance system. Recent problems with banks, savings and loan associations, and the Farm Credit System in the United States provide ample evidence of how a sharp deterioration in loan recovery can quickly destroy bank capital. The large number of failures of unit rural banks in the Philippines when the Central Bank closed its rediscount window for banks with large arrearages is another recent example. In many countries, large arrearages are hidden by creative accounting methods and government subsidies, but it is increasingly obvious that the large number of rural financial institutions that are in trouble contribute to the financial crisis that exists in many countries in the world (Long).

Many early studies of loan recovery placed the recovery problems on borrowers and their inability to repay or their willful default (Boakye-Donkwa). Although low and variable farm income and unexpected events such as floods, droughts, frosts, and insect and disease outbreaks obviously influence a borrower's capacity to repay, the emphasis today has shifted toward identifying problems of institutional design, efficiency of operations, and the political economy of rural credit as being the more important culprits in explaining poor loan recovery. First, there is the problem of institutional incentives. Development banks and other institutions designed primarily as conduits for loans have few incentives to collect. Performance is measured in terms of loans made rather than loans recovered. Borrowers often understand this situation and know they can get away without paying (Gonzalez-Vega, 1990). Second, many financial institutions are not organized to collect their accounts are not up-to-date, arrears are not aged, and their statistics on loan recovery are not believe-able.[6] They often don't even know the repayment status of individual loans, and don't have regular follow-up and collection procedures for overdue loans. Yet one interesting case study showed that the collection procedures of the lender explained more of the repayment performance of individual borrowers than did variables such as borrower income and wealth (Maharjan, Lookawenchit, and Meyer).

Third, the general political economy of rural financial policies and political intervention in the lending and loan recovery process are increasingly identified as determinants of loan recovery. They are indirectly responsible when they create the incentive systems which foster low loan recovery. They are directly responsible when politics enters into the process of determining who receives and who must repay loans. Programs which attempt to entice or force lenders to make loans that don't cover their costs create strong disincentives for both bank and borrower. Pulley noted this problem with the IRDP program in India: "The fact that IRDR is a losing proposition for banks even in the best of circumstances (i.e., full recovery) means that lending institutions will minimize losses by keeping overhead costs low and limiting exposure to beneficiaries that necessitate cross subsidization. The results are poor appraisal standards, low recovery, and continued marginalization of the poor from banking services. Borrowers likewise have insufficient incentives to repay since honoring obligations does not necessarily bring future access to credit." (p. 32).

Programs designed by governments and donors often contain lending and recovery provisions that limit an institution's ability to make good loans and recover them. This problem was recently documented in detail by Aguilera, Gonzalez-Vega, and Graham for the Agricultural Development Bank of the Dominican Republic. This study involved the detailed tracking of loans over a two-year period. Only 4.2 percent of the loans made from funds mobilized through savings accounts were in default, while 11 to 74 percent of the loans made through government or donor targeted funds were in default. This difference was attributed to the fact that sponsored funds force bank managers to allocate funds to targeted groups, regions, and agricultural activities regardless of the potential risk involved, while they have some degree of flexibility to choose their clientele for loans made with own funds.

The analysis of loan recovery problems in Bangladesh demonstrates how political intervention affects loan recovery. In this case, the government has used the problems of natural disasters to justify interest forgiveness programs (Rashid). These programs may accelerate recovery in the short-term but contribute to a long term fall in recovery as borrowers anticipate future forgiveness programs. Furthermore, rural politicians and elites intervene in local bank branch operations to determine who receives and who repays loans. These problems have contributed to the general deterioration in rural loan recoveries observed in that country during the 1980s (Khalily and Meyer).

Group Lending

One of the serious problems encountered in the FF approach is the high cost of making a large number of small individual farm loans. Group lending is often recommended as a way to reduce lender and borrower transaction costs. It is also argued that through group lending default risks can be reduced through joint liability loans, scarce manpower can reach a larger number of clients through groups, and technical services can be provided more cheaply to a few groups than to many individuals (Adams and Ladman). But in practice, group lending has not always met expectations. The well-known Grameen Bank in Bangladesh successfuly utilizes the small group approach to reach thousands of members and achieve loan recovery reported to be greater than 95 percent (Hossain). But other microenterprise lending programs employing similar principles in the country experience much less success in loan recovery (Hoque and Ahmed).

Huppi and Feder recently conducted a comprehensive review of group lending and credit cooperative experience, and also found many examples that failed to live up to expectations. No clear pattern of reduced costs or improved loan recovery emerged in their analysis. Group formation costs were high in many cases. They concluded, however, that most of the unsuccessful experiences are due to shortcomings in their implementation and complementary activities rather than an inadequacy of the approaches themselves. Each must be carefully designed to suit the unique circumstances of each country and each type of borrower.

IV. CURRENT RESEARCH PRIORITIES

The large amount of research that has been conducted on rural financial markets during the past two decades has helped clarify how many of the past policies and programs have been counterproductive. Much of this research has emphasized what should not be done. There is still much to be learned about what should be done, however, to improve the performance of financial systems and to speed their development in developing countries. This section highlights several research priorities.

Impact of Financial Reforms

Several countries have moved aggressively to reform their financial markets by deregulating interest rates, by reducing directed credit quotas, and by allowing easier entry into banking. There is an expanding literature that discusses the complexity of undertaking reforms, and the relationship and appropriate sequencing of financial reforms relative to the reforms needed in other sectors of the economy (World Bank).[7]

For those of us interested in the agricultural sector, it is important that we learn how economic and financial reforms impact on specific sectors. More research is needed of the type that has been conducted in the Philippines following financial liberalization. For example, Corales and Cuevas found that lending costs of agricultural lenders rose two to three-fold after deregulation due to sharp increases in rediscount rates, and the relatively heavy reliance on rediscount funds for agricultural lending. A.F. Quinones concluded that interest rate deregulation seemed to have contributed to increases in real interest rates on deposits and loans in rural financial institutions, but not to the volume of savings or loans.

Furthermore, it appeared that after deregulation, the portfolio of many financial institutions shifted toward more nonagricultural loans. Clemente-Corales made a comparison of small unit bank performance using pre- and post-interest rate deregulation data. She concluded that interest rate deregulation somewhat stabilized portfolio returns and risks because risk efficient bank portfolios were more diversified between loan and non-loan assets, had a lower exposure to high risk agricultural loans, and improved deposit mobilization efforts. Lapar and Graham found that credit rationing of rural loan applicants was widespread among rural banks in 1987 in spite of deregulation. Information deficiencies and costs were identified as the primary reason for this rationing and deregulation didn't resolve this problem.

It appears that in the Philippines financial reform has contributed to bank profitability, but also to higher interest rates and lower quantities of loans granted to agriculture, results that are somewhat disturbing for policy makers and which have prompted some of them to argue for a return to targeted credit policies. But the impact of these financial reforms needs to be evaluated relative to other developments that have occurred in the country such as a major economic recession, the contraction in Central Bank rediscounting, large public deficits and external debts, bank failures, uncertainties in the value of land as collateral caused by agrarian reform, and political instability, all of which could be expected to influence the supply of and demand for rural financial services. Furthermore, some regulations are still in place which raise intermediation costs and restrict bank entry. The Philippines example reveals that we need more systematic analysis of the reform process and expecially about the constraints encountered and the lags that occur in achieving the improvements in performance predicted by theory. Otherwise we will not be able to give policymakers an adequate expectation about the anticipated magnitude of benefits from undertaking reform and the speed with which these benefits will be realized.

Financial Innovations[8]

Financial reforms have stimulated the search for innovations to improve rural financial services. Many innovations are designed to reduce transaction costs for financial intitutions and/or their clients. The RACAs, and especially APRACA, have performed an important service by encouraging the search for innovations and the exchange of information about important experiments (B.R. Quinones). More research and information exchange is needed on innovations that both succeed and fail.

In many countries the economic environment is not conducive for efficient financial intermediation. Poor communications and transportation infrastructure, underdeveloped and inefficient legal systems, and unstable and biased policies raise the costs and risks of providing financial services in rural areas. These problems need to be resolved before the financial system can perform well. Until they can be systematically resolved, however, the burden is on the financial system to find innovations that will substitute for a conducive environment. Better documentation is needed about information systems that help lenders screen borrowers[9], that help identify and secure real assets as loan collateral, and that expedite the foreclosure on and disposal of property pledged as collateral. Information is needed on cost-effective ways to bring banking services closer to clients through mobile units and mini bank branches (APRACA), wholesaler-retailer relationships between banks and nonbank institutions, and linkages between banks and self-help groups (Seibel and Parhusip).

More research is needed about innovations that improve the efficiency of the internal operations of financial institutions, many of which are suspected of being quite inefficient. Much has been written about the innovative pigmy deposit schemes, employment of locally hired staff, and decentralized decision making of the Syndicate Bank of India (Bhatt). A particularly interesting innovation is the FAO-initiated MicroBanker project pioneered by Ralph Houtman which is being tested in several Asian countries (Shrestha). The preliminary results from an evaluation on its use in the Philippines suggests that the system 1) reduces labor costs, especially overtime pay, 2) improves the bank's image, and 3) assists with loan monitoring and collection.[10] The immediate savings in labor costs seem to be large relative to its installation costs. It is possible, however, that the technology will produce its largest benefit through improved information for managers. To realize these results, banks may have to train bank staff in its use, hire better quality staff, and effectively decentralize decision making so that the managers of the computerized units have sufficient authority to take actions implied by the improved information.

One of the most acclaimed institutional innovations for lending to the rural poor is the Grameen Bank in Bangladesh. Within Bangladesh, it represents a completely different approach to lending compared to the more conventional commercial and development banks. It is a low-technology approach in which intensive education and socialization of borrowers and an incentive system designed to encourage responsible borrowing and loan repayment replace the normal collateral and other screening devises traditionally employed by lenders (Hossain). A number of projects imitating the Grameen Bank model are being implemented in several Asian and African countries. These experiments need to be researched and monitored so we can learn what components of the model need to be modified for each environment, what importance charismatic leadership rather than institutional design plays in their success, and what influences their financial viability in each setting.

Risk Reduction

A great deal more research is needed on mechanisms to reduce risks. With financial reform it is expected (as noted above for the Philippines) that financial institutions will adopt more diversified portfolios than occurred under the Farm Finance approach to financial development. Diversification should help reduce risks, but some institutions, particularly small, unit banks, tend to operate in small market areas where they are exposed to the risks of their local client businesses and households.

Loan insurance and guarantee funds have been the traditional ways used to reduce the risk of lending to certain priority sectors and borrowers. The fees and administrative costs these schemes impose on lenders are expected to be more than offset by the reduction in lending risks. Borrowers are expected to gain by getting more and larger loans. The Philippines, for example, aggressively expanded several guarantee funds when it discontinued many special credit lines provided by the Department of Agriculture (Tolentino). In practice, however, publically funded schemes do not seem to have lived up to expectations;

it is especially difficult to prove that they have really contributed to additionality in lending (Levitsky and Prasad; Magno and Meyer).

A variant of the guarantee model is being used by mutual guarantee associations in which a number of households or enterprises make payments into a fund which guarantees loans taken by members. These associations may also participate in two-stage loan guarantee schemes in which a counter guarantee fund shares part of the risk and helps increase and stabilize the self-help potential of the associations (von Stockhausen). APRACA is actively promoting this concept in Asia in projects designed to link financial self-help groups with formal financial institutions (Seibel and Parhusip). This experiment needs to be systematically studied to see if it resolves some of the shortcomings of public guarantee funds.

A recent innovation in the Philippines may offer a useful solution for small financial institutions that need quick access to funds to meet unexpectedly large demands for withdrawals. A group of rural banks has created a Liquidity Pool through their federation which is deposited in the large nationwide Land Bank. It involves a three tranch arrangement in which a distressed bank draws the first two tranches from the Land Bank. The third tranch, if needed, is drawn from the Philippine Deposit Insurance Corporation (Llanto).

Regulation and Supervision

The capacity to adequately regulate and inspect financial institutions has not kept pace with their expansion and development in many countries (Palizatto). Banking regulation and supervision are key to preventing and limiting the damage of poor management.

Regulations define "the rules of the game," while supervision verifies that the rules are followed. Excessive credit concentration has been a cause of bank distress and this problem occurred in some countries because of inadequate regulation and supervision (Popiel).

Vogel and Weiland have divided regulation into two types: economic and prudential. The emphasis of the rules and regulations employed under the Farm Finance approach to financial development was of the economic type. They were designed largely to achieve distributional and economic goals. On the other hand, prudential regulations that attempt to prevent financial institutions from taking excessive risks were largely ignored. In fact, economic regulations contributed to increasing rather than decreasing the risk of lending and to ignoring the implications of such risks. First, credit targeting encouraged lending to only specific sectors (e.g., to agriculture) and types of borrowers (e.g., to small rice farmers), while subsidized interest rates led to a concentration of loans among a privileged subset of borrowers. Second, the regulatory authorities were often encouraged (sometimes coerced) to ignore unsound accounting practices that disguised the weakness and deteriorating quality of the portfolios of lenders servicing the privileged borrowers. They tolerated "evergreening" (automatic rescheduling and rollover of loans), and artificial sources of collateral (Popiel). Bad debts were not aged, and provisions for bad debts were often pitifully low, thereby inflating the earning estimates of financial institutions.

As countries now abandon economic regulations as part of their financial reforms, they need to strengthen their prudential regulations and design supervisory procedures to conserve on scarce trained manpower yet ensure that the regulations are followed. The computerization of bank records offers interesting possibilities in this regard. Innovations are also needed that operate like secondary markets in developing countries so that lenders that choose to develop expertise and specialize in certain regions, borrowers, and types of loans can diversify the risk inherant in such specialization.

The issue of what type of financial transactions and institutions should be regulated and supervised exists in most countries. A failure to regulate can have serious consequences. Vogel and Wieland describe the collapse of private finance companies in Pakistan that requested regulation but were refused it by the government. Claims on these private finance companies were being adjudiciated years after the government closed them due to the abuses of a few. The question of the appropriate regulation of credit unions is particularly timely. For example, credit unions are debating the merits of tough credit union regulatory legislation being proposed in Costa Rica. In Ecuador, credit unions are seeking the benefits of Central Bank refinance funds, but object to being regulated by the Superintendencia de Bancos which is required if they receive this benefit. In many countries, credit unions are arguing for self-regulation but it is debatable if the incentives for regulation are strong enough to produce an adequate self-regulatory system.

Another special issue concerns NGOs. Many NGOs that currently provide financial services, especially loans to microenterprises, are being encouraged to become more like financial intermediaries, that is mobilize resources and charge market interest rates (Rhyne and Otero). But generally there are no mechanisms in developing countries to regulate and supervise the large number of small NGOs scattered around the countryside. This situation is ripe for abuse and the current positive image that many NGOs now enjoy may become quickly tarnished with their first case of fraud or financial failure.

Nonfarm and Microenterprise

There is considerable interest in many countries to expand small nonfarm and microenterprises as a way to stimulate employment and the efficient use of resources. This interest has been sparked in Asia in part by the reported success of the Grameen Bank in Bangladesh in making small loans to the rural poor (Hossain), and in Latin America in part by the research of Hernando de Soto and colleagues in Peru on the informal sector. The results of the large amount of research conducted at Michigan State University on small scale industries in developing countries has been summarized by Liedholm and Mead.

With the exception of the Grameen Bank, much of this literature focuses on enterprises located in urban areas, although many have strong linkages with agriculture. Furthermore, there is a large amount of evidence that demonstrates the importance of employment in and income earned by rural households from nonfarm enterprises, especially in Asia (Onchan). Yet the magnitude and importance of nonfarm enterprises in rural areas has largely been ignored by rural financial institutions and the decision makers who designed the Farm Finance approach to financial development. Credit programs have usually been narrowly targeted towards the production of crops and livestock. On-farm processing of these products and the production of nonfarm products in rural households (e.g., weaving, blacksmithing, basket making) have largely been ignored.

Research is needed at three levels in order to clarify the relationship between this heterogenous set of economic activities and rural financial markets. First, there is the question of the finance of nonfarm activities within the farm household. These activities may represent important complementary sources of income for use in repaying farm loans, or they may represent a competitive demand for working capital. Tightly regulating the use of borrowed funds for farm enterprises may prevent borrowers from making investments in more profitable nonfarm enterprises. Second, financial institutions need better information about the possibilities for providing financial services to nonfarm enterprises in villages and small towns. Since these enterprises are heterogeneous in the types of products and services produced, it may be more difficult for financial institutions to acquire good information about them compared to the smaller number of crop and livestock enterprises that usually exist in a given market area. A particular concern is how the income from farm and nonfarm enterprises is correlated. If the correlation is low, a portfolio of farm and nonfarm loans will be less risky than one dominated by farm enterprises. Third, financial regulators need information about the riskiness of nonfarm loans so they can establish appropriate prudential regulations covering loans to this subsector.

Women's Access to Financial Services

Closely related to the concern for nonfarm and microenterprises is the increasing preoccupation about expanding income-earning opportunities for women in developing countries, many of whom earn income from nonfarm and microenterprises in rural areas. A recent publication edited by Grown summarizes some of the key issues. The heavy emphasis on credit in many small and microenterprise projects implies that this is often the best source of formal sector credit for women even when women are not specifically targeted for it.

It is frequently argued that women have less access to formal credit than men and this represents a major constraint on their ability to increase their income. Berger summarized some of the reasons identified in the literature for these barriers. First, the procedures and requirements of formal lenders often cannot be easily met by women. Many cannot meet the requirements of having a husband or male relative cosign for a loan, and they do not have title to property that can be used for the required loan collateral. In many countries, women on average attain a lower level of education so they have more difficulty than men in completing documents such as loan application forms and financial statements. Second, women generally want to borrow small amounts for trading and other activities. Because of interest rate ceilings, lenders cannot cover the transaction costs of small loans and, even if they could, women's activities often aren't included in targeted programs and are often perceived as being too risky for formal lenders. Furthermore, because of their multiple work obligations in the household and the market place, women may value the opportunity cost of their time to be too high to accept the high borrower transaction costs of getting a formal loan. Third, cultural factors influence the type of economic activities that women undertake, and their ability to engage in business and loan transactions that involve interacting with men. Fourth, outright discrimination by bank employees may prevent women from applying for or receiving a formal loan.

With restricted access to formal credit, women rely heavily on informal credit. The rural savings clubs in Zimbabwe are composed mostly of women, for example, and a number of ROSCAs in many countries are heavily represented by women in their membership. Some 75 to 80 percent of the borrowers of the Grameen Bank are women.

The problem for women with informal sector finance is similar to men. It may be costly even though transaction costs are low, it generally is not a good source for long term credit, and continual reliance on informal credit may prevent women from breaking out of the marginalization of their economic activities and entering the mainstream of formal finance.

It is important for each country to conduct research on the specific constraints to women's access to credit. These constraints may vary a great deal by economic sector, and by socio-cultural and ethnic characteristics of women. Policy recommendations will depend on the nature of the constraints identified. For example, if outright discrimination is the primary constraint, then training of bank employees will likely be the solution. If collateral and cosignor requirements are the problem, some type of collateral substitute may be identified. Or it may be necessary to create an entirely new institutional form, such as the Grameen Bank, to reach women. But if the problem is largely a broad-based cultural one that involves fundamental attitudes toward women, it will be difficult to resolve the problem with only financial reforms.

Informal Finance

With the financial crisis in the formal financial system in many countries, interest has once again turned towards the informal financial sector. The literature of a decade or two ago tended to focus on the exploitative nature of moneylenders, and attempts to explain and interpret the high interest rates they charge (e.g., Bottomley). The literature on interlinked markets, such as landlord-tenant relations, has also included reference to the possibility of exploitive relationships (Braverman and Guasch, 1986). It is not surprising, therefore, that policymakers have taken a dim view of the informal sector, and have actively taken measures to suppress it in several countries.

The more recent literature has tended to view the informal financial sector in a more favorable light. Holst reviewed the significant role of informal financial institutions in savings mobilization. Adams (1989a) recently summarized several advantages that informal finance provides and argued strongly against the exploitation argument. Ghate et al., have completed an important draft report for the Asian Development Bank summarizing a group of studies just concluded on informal finance in Asia. They argue that although informal finance appears to have declined in several countries, it has several comparative advantages, especially low transaction costs for small, short duration loans, so that policies should facilitate informal finance in these areas.

The research challenge is to determine the comparative advantage of the informal financial sector that derives from what Chandavarkar refers to as "autonomous" financial arrangements versus those that are "reactive" because they appear in response to controls over or deficiencies in the formal financial sector. Presumably the autonomous financial arrangements will persist and perhaps can even be strengthened to realize their comparative advantages, while the reactive ones will likely disappear with the liberalization of and improvements in formal finance.

This view of informal finance gives rise to a three part research agenda. First, there is a need to move beyond the current descriptive stage of the research towards more analysis of how the informal sector operates, what specific mechanisms are used to keep costs low, and how a large number of clients are serviced in conditions where formal finance fails (Adams, 1989b). The second area is to analyze how linkages can be increased between the formal and informal sector. This idea is frequently proposed (Adams, 1989b; Burkett; Germidis; Ghate et al.; Holst), but it is not clear what can and should be done. Several obvious types of linkages already exist, such as when commodity traders in the Philippines spontaneously or through government programs borrow from formal sources and on-lend to their farmer clients (Esguerra; Larson), or when savings groups in Africa hold their deposits in banks. Governments and donors are frequently interested in using these linkages to accelerate the flow of funds to disadvantaged groups. But the problem is knowing how many external resources can be provided without creating incentives and distortions that ultimately destroy informal finance, such as occurred when credit unions in Latin America began to participate in large externally funded programs (Marion). The results of APRACA's linkage program for self-help groups should provide useful insights into this issue. Third, as mentioned above, the appropriate regulation of informal finance is not well understood.

V. POLICY MAKING IN DEVELOPING COUNTRIES

Research has had an impact on rural financial policies. There is no doubt that the gradual shift from the Farm Finance to the Rural Financial Markets approach to financial development was accelerated, perhaps even initiated, by the large volume of research which documented the fact that huge volumes of subsidized credit were being channeled to farmers, but viable, self-sustaining financial systems were not being created. Yet it is a puzzle for many observers as to why financial reform generally has proceeded so slowly, and why so many policies and projects are designed even today that appear to ignore the lessons of the past. The purpose of this section is to briefly comment on the policy making process as it relates to this problem.

Generally much more is known today about the relationship between economic policies and economic performance that was the case two to three decades ago. Yet there is a large gap between theory and practice. A number of publications, including several produced as part of policy seminars in the Economics Development Institute of the World Bank, identify several reasons for the gap, and several are relevant for our interest in rural finance. One important reason concerns the political dimension of the policy process, including the nature of a country's leadership and political system, and the basic perceptions that prevail about the role of the state in society. A number of political leaders in Africa, for example, came to power believing that the state was the guardian of the long-term interests of society and that government intervention to correct market failures would enable society to more quickly achieve its objectives (Gulhati). Furthermore many political leaders have lacked a strategic vision and their actions have been dominated by a short-term horizon. In many Latin American countries, favoritisim or a form of mercantilism is deeply engrained so the state is structured to dispense economic favors to groups with a claim on power (Ardito-Barletta). Leaders in countries where these views are strong find it difficult to accept the concept that well-functioning markets rather than the state will speed economic progress. They also find it difficult to adopt policies that are perceived as hurting interest groups and clients that maintain them in power, and to build new coalitions of the gainers from policy change to advocate and support reforms. The magnitude of the reforms advocated in the past few years also must be considered. The changes recommended for many Latin American countries have not implied simple tinkering with a system that was essentially sound. Rather the changes implied a restructuring of the economy and its institutions which directly affect the benefits perceived by various groups within the existing system. It is argued that the relatively more egalitarian economic and social structure of Costa Rica and its democratic system allowed it to reorient its development strategy more easily during the 1980s than other countries in the region (Diaz-Bonilla).

A second reason concerns the role of agriculture in many developing countries. Economic policies have frequently discriminated against agriculture as part of a strategy to stimulate the industrial sector.[11] But there has been considerable debate, especially in Africa, about agricultural policy reform (Gulhati). Some analysts argue that price reforms are crucial, while others argue that the supply response to nonprice variables (including credit) is much greater. Decision makers are especially sensitive to the political risks that can result from a rise in food prices for urban consumers. Farmers are unorganized and politically inarticulate, however, so the possible political benefits from higher farm prices seem small compared to the possible political costs of higher urban food prices.

A third problem concerns the difficulty of implementing various types of reform. On the one hand, it is argued that implementation of policy reforms in World Bank and IMF structural adjustment programs has been relatively high in the policy areas of energy, finance and exchange rates, but relatively low in fiscal matters, industry, and trade (Guhati). On the other hand, policy makers report that of all the problems they face few are as difficult as those related to restoring a severely impaired financial sector (Roe and Popiel). The problem is that defunct financial institutions can continue to survive as long as they maintain a positive cash flow, and this is possible when governments continue to pump money into them.

A fourth problem is the role of donors in contributing to the problem as well as its solution. Donors have contributed to the financial problems of developing countries when they choose to meet a large part of their financial commitments to countries through subsidized and targeted credit programs. These programs are attractive to donors because they are easy and cheap to design and administer. Furthermore, many of the old-line agriculturists working in donor agencies honestly believed that this was an appropriate way to speed agricultural growth. That situation has now largely changed, however, at least at the level of institutional policy. AID has a strong financial sector policy, and the World Bank and the Asian Development Bank are working on policy statements concerning agricultural credit that are expected to take a strong stand against subsidies and targeting of credit.

Although the donors will continue to play a large role in the transfer of resources between rich and poor nations, their role in accelerating reform is unclear. One view is that the donors should refrain from heavy-handed lobbying and the appearance of excessive interference during the implementation of a reform program, so that the population does not come to believe that reforms are inspired by or imposed on them by foreigners (Curran). This view is a reaction to the conditionality imposed by donors. Conditionality has been prominent in IMF and World Bank assistance to Africa, but there have been two criticisms. First, greater coordination is needed between the two, and second it is not clear that policy conditionality has actually made a major impact on the policy histories of several countries studied (Gulhat). There is considerable agreement that policy reforms have a better change of being implemented if the analysis justifying the changes is jointly conducted by the donors working with developing countries rather than relying exclusively on outside exports. But the historic underinvestment in human capital in many countries means that it is difficult to obtain well-trained staff to work with the donors on policy analysis.

The experience of the Philippine Institute for Development Studies represents an interesting case study of a research institution devoted to policy analysis and change (Liguton). PIDS conducts studies with its own and contracted staff, sometimes in collaboration with foreign institutes, disseminates the findings widely, and periodically assesses the state of economic policies in the country relative to the recommendations made in the completed research. PIDS has been operating for more than 10 years and the impact it has had on economic policy has been substantial. My observations of PIDS over the past few years suggest that the following factors explain its success:

1. It continuously interacts with both researchers and policy makers, thereby hoping to conduct and sponsor research that will be valued by both.
2. The research is of high quality. Research projects are designed collaboratively with the expected users of the analysis, respected professionals conduct the research, and the preliminary results are subjected to careful professional review and debate before they are released.

3. The PIDS staff recognizes that the task of the researcher does not end with the preparation of the research report. Therefore PIDS issues a variety of papers, newsletters, journals, research digests, and executive memoranda, and sponsors many seminars and conferences. Research output is presented in meetings of inter-agency committees responsible for policymaking in the area covered by the research.

4. Links are maintained with external organizations so the staff can benefit from expertise and new research results from other countries. Therefore, PIDS is able to bring comparative analysis to bear on Filipino problems.

VI. THE ROLE OF SACRED IN INFORMATION DISSEMINATION AND POLICY CHANGE

SACRED and the RACAs play a useful role in the process of generating and disseminating information that contributes to policy changes. The purpose of this section is to present some ideas about how it might increase its impact in this important task.[12]

The RACAs cannot adopt the approach of major donors and use policy leverage and conditionality to influence policies. The RACAs have important resources, however, in the vast experience of their members, and the linkages their members have with policy makers in their respective countries. Furthermore, their recommendations have the advantage of being seen by policy makers as emanating from practical experience in the field rather than from theory in academia.

The RACAs face a two-part challenge, not unlike PIDS, if they expect to make an important impact on policy. First, they must generate good quality information and, second, they must communicate it to policy makers in an understandable and useable form. The following general strategy may be useful in guiding RACA activities:

1. Identify and reinforce the mutual shared interests that exist among the members of the RACAs.
2. Stimulate the development of a core literature that is widely available to all members and, through them, to all important policy makers in the finance field.
3. Identify priority issues of concern to policy makers and stimulate research on them.
4. Build a wide network of linkages with researchers, research institutions, and donor agencies interested in finance policy. Use the network to strengthen access to key policy makers, and to improve the quality of the research conducted on financial topics.

The current program of RACAs could be augmented and strengthened in the following areas:

1. Research programs. Identify specific policy-oriented research topics, communicate these priorities to researchers, and engage in matchmaking between researchers and sources of research funds. Comparative studies across countries will be particularly useful.
2. Research planning and review. Stimulate professional exchanges about research methodology and conduct peer review of completed research to ensure quality control.

3. Dissemination. Develop regional research libraries to contain a good collection of relevant literature. Duplicate and distribute copies of the core literature to member institutions. Prepare and distribute attractive newsletters, policy briefs, and other publications that will be easily readable by policy makers. Translate the core literature into local languages.

4. Special publications. Prepare a short annual state-of-the-art paper on financial issues for widespread distribution. Translate this paper into several languages. This publication should summarize the key results of research and action programs during the year. Prepare annotated bibliographies of the best research appropriate to each region.

5. News releases and feature articles. Develop a network of news correspondents and popular publications and periodically furnish them with popular articles.

6. Meetings and conferences. Conduct in-country and regional meetings on specific finance issues. Once every two or three years host an international conference to update participants on recent developments in the field and to stimulate discussion about policies.

7. Executive training. Develop special short country and regional programs for top executives and senior officials who are responsible for decision making.

8. Rosters. Develop rosters of financial institutions in each region to facilitate information exchange. Compile dossiers of individuals who can work on research and technical assistance projects.

These activities, and others appropriate to each region, would raise the visibility of SACRED and the RACAs in the finance field, and would involve them more directly in the policy process. The activities concerning research priority setting, design, and review represent a major commitment in new areas of work while the publication and dissemination activities reflect an expansion of what is already being done. Obviously, staffing would have to become more professional and budgetary support correspondingly increased. But the high priority that exists for policy reform in developing countries may make this an opportune time to think creatively. The large membership of the RACAs and their substantial accomplishments gives them an excellent base from which to begin.

VII. CONCLUSIONS

During the past couple of decades there has been a general shift in thinking about rural finance policy from the Farm Finance to the Rural Financial Markets approach. This shift has been stimulated by the large amount of research that has been conducted world-wide showing the limitations of considering credit as a input rather than as only one component of a system of financial intermediation. Concern has increased about the need to create viable, self-sustaining financial institutions. Until recent years, this was not the primary objective of many agricultural credit policies and programs.

Much of the research conducted to date has been evaluative; it has identified what should not be done in order to avoid the problems of the past, but much remains to be learned about what should be done to stimulate the development of a viable financial system. This paper discusses the need for more and better information on the topics of financial reforms, financial innovations, risk reduction, regulation and supervision, nonfarm and microenterprises, women's access to financial services, and informal finance.

The policy making process in developing countries has been the subject of considerable analysis recently. The pace of reform has quickened in many countries, but is painfully slow in others. Policy making is seen today as a complicated process involving both political and economic issues. Many of the recommendations for reform appear to have underestimated this complexity and this helps explain why some rural financial policies and program that are proposed today contain some of the same old mistakes of the past.

The RACAs and the SACRED system have had an impact on financial policies. That role can be increased if they move more aggressively into the generation of new knowledge, and expand their programs of dissemination and policy dialogue. The large membership and the linkages that exist between the members and policy makers gives the system a comparative advantage in policy making that should be exploited.

Endnotes

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2. Several publications provide useful summaries of the key research findings that document the problems of many rural credit policies and programs employed in the 1960 and 1970s. The first important general critique was prepared by Donald as a summary of the 1973 AID Spring Review of Small Farmer Credit. In 1981, Adams and Graham published an article criticizing traditional agricultural credit projects and policies. This article was followed by a book of carefully selected key rural finance readings by Von Pischke et al. in 1983, and by Adams' et al. well-known "Undermining" book in 1984. In 1986, Adams and Vogel summarized the lessons learned from rural finance research in many developing countries. Braverman and Guasch published articles in 1986 and 1989 summarizing rural finance policy and reform issues. Finally, the World Development Report of 1989 is devoted to an analysis of the role of financial systems in development, and broadly summarizes experiences related to agricultural credit.

   A number of fairly comprehensive country studies have been conducted that analyze financial progress in some countries that aggressively used farm finance as an important part of their rural growth strategy. Sacay, Agabin, and Tanchoco published a comprehensive analysis of the well-known Masagana 99 and other credit programs in the Philippines and the subsequent demise of many rural unit banks. Sayad conducted an analysis of the Brazilian experience, the country where the volume of agricultural credit grew to the highest level of any developing country. Padmanabhan analyzed the Indian experience which is characterized by a large number of programs and types of financial institutions designed to serve the rural population. There have also been some very useful recent analyses of particular programs such as Hossain's review of the Grameen Bank, and Pulley's analysis of India's massive Integrated Rural Development Program (IRDP).

3. A summary of several arguments made about interest rates can be found in Adams (1984).

4. The link between deposit mobilization and institutional viability was discussed in greater detail in my 1985 paper prepared for the Third SACRED Consultation.

5. In a recently completed study, Aguilera, Gonzalez-Vega, and Graham documented how the Agricultural Development Bank of the Dominican Republic experienced much better loan recovery on loans made with funds mobilized by the bank compared with loans made through government and donor funded lines of credit.

6. A recent World Bank study (Pulley) of the IRDR program in India highlights the difficulty of obtaining reliable data on overdues. It reported that some banks treated government subsidies as loan repayments thus giving the favorable illusion of only 38 percent overdues on IRDR lending by banks in the sample. Once the subsidy was removed, overdues rose to 68 percent.

7. The discussion in this paper is limited to reforms being undertaken in market economies. The more challenging task of financial reforms in socialist countries is described in Kessides, et al., and is referred to by Braverman and Guasch (1990) in the context of agricultural reforms.

8. A more complete discussion about financial innovation is presented in an earlier paper (Meyer and Cuevas).

9. For Example, Sri Lanka created a Credit Information Bureau in July 1990 to collect and distribute information on all borrowers and potential borrowers of institutions, with the objective of reducing the traditional collateral requirements of banks (Central Bank of Sri Lanka).

10. Personal communication with Ralph Houtman and Lauri M. Vilenuis.

11. Recent research by Krueger, et al., quantifies the magnitude of direct and indirect interventions on agricultural prices. This intervention appears to have contributed to price stability, but distorted prices and returns to farms through subsidies on imported food and taxes on agricultural exports.

12. Some of the ideas in this section are borrowed from the program of the International Center for Economic Growth, graciously shared with me by A. Lawrence Chickering and Pamela Rubin.

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