Paving the Way Forward for Rural Finance

An International Conference on Best Practices

June 2-4, 2003

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Paving the Way Forward for Rural Finance:
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Conference Agenda

DAY 1: Monday, June 2, 2003

7:30 a.m. - 8:20 a.m.	Registration and Coffee/Continental Breakfast	**Amphitheater Foyer**
8:30 a.m. - 9:10 a.m.	*General Session: Welcome, Opening Remarks, Q&A* Welcome: •Emmy Simmons (Assistant Administrator - USAID) Keynote Speaker: •Andrew Natsios (Administrator - USAID)	**Amphitheater**
9:15 a.m. - 10:45 a.m.	*General Session: Macro Economic Policy & Reality* Moderator: •Michael Carter (BASIS CRSP, UW-Madison) Presenter: •Claudio Gonzalez-Vega (Rural Finance Program of the Ohio State U.) *Deepening Rural Financial Markets: Macroeconomic Policy and Political Dimensions* Discussants: •Carolina Trivelli Avila (Peruvian Studies Institute) •Nimal Sanderatne (Sri Lanka P.G. Institute of Agricultural Economics)	**Amphitheater**
10:45 a.m. - 11:15 a.m.	Coffee Break	**Amphitheater Foyer**
11:15 a.m. - 12:45 p.m.	*General Session: Legal Policy & Ramifications for Rural Finance* Moderator: •Martin Hanratty (USAID) Presenter: •Heywood Fleisig and Nuria de la Peña (Center for the Economic Analysis of Law) *Legal and Regulatory Requirements for Effective Rural Financial Markets* Discussants: •Jolyne Sanjak, (USAID) •Stefan Staschen (Consultant)	**Amphitheater**
12:45 p.m. - 2:15 p.m.	*Luncheon: Experience with Risk Management: What Worked, What was a Challenge* Introduction: •Arthur Arnold (President and CEO - WOCCU) Keynote Speaker: •Carole Brookins (U.S. Executive Director -World Bank)	**Atrium Ballroom**
2:15 p.m. - 3:45 p.m.	*General Session: Risk Management* Moderator: •Lena Heron (USAID) Presenter: •Jerry Skees (GlobalAgRisk, Inc. & U. of Kentucky), *Risk Management Challenges in Rural Financial Markets: Blending Risk Management Innovations with Rural Finance* Discussants: •Tsend Munkh-Orgil (Ministry of Justice and Home Affairs of Mongolia) •Hector Ibarra (Agroasemex) •Ulrich Hess (World Bank)	**Amphitheater**
3:45 p.m. - 4:15 p.m.	Coffee Break	**Amphitheater Foyer**
4:15 p.m. - 5:45 p .m.	*Breakout Sessions* (7 concurrent sessions) **See insert for more detail about each session** Breakout #1: Regulation for Expanding Rural Financial Services Breakout #2: Surveys of Delivery Systems in Rural Finance Breakout #3: Risk Management: Pricing, Insurance, Guarantees Breakout #4: Agricultural Lending Practices: Non-financial Services with Financial Products Breakout #5: Rural Finance Expansion: Experience in Commercialization Breakout #6: Risk Management: Islamic Financial Policies Breakout #7: Rural Finance in the Age of HIV/AIDS	
6:00 p.m. - 7:30 p.m.	*Evening Reception* Introduction: •Michael Carter (BASIS CRSP, UW-Madison) Remarks: •Tom Hobgood (Director of EGAT-USAID) •Kate McKee (Director of OMD-USAID) •David Stanton (Enterprise Dev. Advisor -DFID)	**Pavillion**

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Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Lead Theme Paper

Theme: Macro Economic Policy and Reality

Deepening Rural Financial Markets: Macroeconomic, Policy and Political Dimensions

By Claudio Gonzalez-Vega
(Director, Rural Finance Program-The Ohio State University)

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

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Introduction[1]

This paper examines key features of a macroeconomic environment, policy framework, and government and donor interventions conducive to rural financial deepening. The paper also explores typical difficulties, encountered in political arenas, in the adoption of the required macroeconomic and policy framework. In particular, the paper addresses specific consequences for rural financial market development of the programs for macroeconomic stabilization, structural adjustment, financial liberalization, and improvements in the framework of prudential regulation and supervision implemented by many developing countries in the past two decades.

Given the deplorable historical experience of efforts to promote rural credit programs within an environment of macroeconomic instability, financial repression, and distorting interventions, the paper recognizes that favorable macroeconomic and sector policies are a **necessary** condition for expanding the frontier of rural financial services. Recent experience in attempts to increase the outreach of rural financial markets indicates, however, that such policy reforms are not a **sufficient** condition for achieving socially desired levels of rural financial deepening. To examine the nature of the challenges, the paper builds on recognized lessons from the failures of rural credit programs during the period of protectionism-financial repression (1950s-early 1980s) and from the shortcomings of the period of financial liberalization (1980s-2000s), and it identifies new types of tasks for both governments and donors as well as conditions for improved outcomes for all participants in rural financial markets.

Addressing these further challenges will be required, in order to take advantage of the more conducive environment created by the **policy reforms** of the past few decades. Beyond these key policy dimensions, the challenges will involve an acceleration of the rate of **innovation** in financial technologies, improvements in the robustness of the **organizations** that will implement the new technologies, and establishment of the **institutional** framework and infrastructure necessary for the smooth operation of these organizations.[2]

In addition, the paper considers entirely new types of challenges, resulting from greater instability in international financial markets and from contagion through exogenous systemic shocks, which have added complexity to processes of financial development, at large, and of rural financial deepening, in particular.

Moreover, the paper identifies the threats and opportunities that emerge from renewed political concerns about rural financial services. To address these issues, the paper is organized around two critical changes in perspective. First, it incorporates a new vision about the role of finance in rural development. Efficient financial services matter, not as policy tools to pursue non-financial objectives, but on their own right, as

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[1] The author is Professor of Agricultural, Environmental and Development Economics, Professor of Economics, and Director of the Rural Finance Program at The Ohio State University. This document was prepared in response to the invitation to write a lead paper for the conference ***"Paving the Way Forward: An International Conference on Best Practices in Rural Finance"***, to take place in Washington, D.C., on 2-4 June 2003. The conference has been organized by the World Council of Credit Unions (WOCCU), within the framework of the Collaborative Research Support Program on Broadening Access and Strengthening Input Market Systems (BASIS CRSP), funded by the United States Agency for International Development (USAID). Brian Branch, Juan Buchenau, Heywood Fleisig, and J.D. Von Pischke offered valuable comments on a first draft of this document. Several of the ideas discussed here have also been presented in seminars at The Ohio State University, the Inter-American Development Bank, the Financial Services Project (SEFIR/DAI) in Bolivia, the SALTO/DAI Project in Ecuador, and the Meetings of the International Agricultural Economics Association, where comments by Jorge Daly, Douglas Graham, Paul Holden, Sergio Navajas, Richard Meyer, Fernando Prado, Rodolfo Quiros, Jorge Rodriguez, Vivianne Romero, Jacob Yaron, and Manfred Zeller, among others, are acknowledged. The author is solely responsible for the views presented in the document.

[2] This paper adopts the distinction between, on the one hand, ***institutions***, mostly the rules of the game and all other social, political or economic constraints that influence transactions and create the structures of incentives for human interaction and, on the other hand, ***organizations***, groups of individuals –political, economic, social and other types of bodies– bound by some common purpose to achieve certain objectives (North, 1990). Institutions are the rules, such as a structure of property rights. Organizations are the players, such as financial intermediaries.

intermediate inputs in processes of resource allocation and risk management.[3] In performing these intrinsic functions, efficient financial services indeed influence a multitude of socially-valuable non-financial outcomes. Paradoxically, however, if finance is coerced to achieve these outcomes or if is distorted in attempts to do so, it will usually deliver less valuable results.

Second, the paper incorporates a new vision about the role of the state in the promotion and regulation of financial markets. Price –interest rate– controls and administrative credit allocations are no longer favored. Direct production of financial services by the state has been seriously questioned. Instead, given an appropriate regulatory framework, competition is encouraged. A new critical role for the state is, indeed, acknowledged. There is a growing recognition that the establishment of a physical and institutional infrastructure that facilitates the smooth operation of financial markets is indispensable for rural financial deepening.

Many components of this physical and institutional infrastructure contain elements of **public goods** and, without state intervention, they would be underprovided. The paper identifies key components of this infrastructure, whose absence has delayed rural financial deepening, and it examines various ways in which policy frameworks may jeopardize or contribute to the development of the required ingredients.
The acknowledgement that exclusive reliance on market forces may not result in the theoretically optimum rate of expansion of this infrastructure must be accompanied, however, by recognition of the formidable political and technical difficulties of state intervention in several of these areas. Incorrectly designed interventions may be, moreover, quite counterproductive.

Beyond a conducive policy framework, the paper emphasizes the importance of innovations in financial technologies, in allowing a cost-effective expansion of the frontier of rural financial services. In addressing this question, the paper explores the challenges that governments and donors face in promoting alternative types of changes in financial production functions. On the one hand, these state efforts may be needed, in response to the potentially strong externalities that emerge in most processes of knowledge generation and human capital formation. On the other hand, these state efforts may be extremely problematic, in view of the difficulties of correctly anticipating the most cost-effective types of new knowledge.

In solving this dilemma, the **interactions** between innovations and the robustness of the organizations involved are critical. Weak organizations will not be appropriate channels for the adoption and implementation of new financial technologies. Robust organizations, in contrast, will have a greater ability to both engage in innovation and implement new knowledge and practices generated elsewhere. Through choices about the regulatory framework, the channeling of public funds, and the kinds of assistance provided, governments and donors have a substantial influence on the types of organizations that emerge and are able to successfully compete. The macroeconomic, policy, and political framework strongly influences these organizational outcomes and, therefore, the pace of rural financial deepening.

In addition to this Introduction, the paper contains five sections. Section II identifies different motivations behind a growing interest in rural financial deepening and the threats that may result from an incorrect understanding of the role of finance. Section III acknowledges the emergence of new views, policy environments, and experiences in rural finance and derives lessons for the future. Section IV discusses changes in perspective about both the role of finance in rural development and the role of the state in promoting financial deepening. Section V identifies three gaps in the provision of rural financial services (inefficiency, insufficiency, and lack of feasibility gaps) and suggests different types of approaches to fill each one of these gaps. Section VI discusses in detail specific state interventions needed to promote the demand and the supply of financial services.

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[3] The paper adopts a ***"financial systems"*** perspective, in the sense that it argues that financial services matter *per se* and that rural financial deepening should be undertaken as a component of the broader process of development of the financial system (Von Pischke, 1998).

A Growing Interest in Rural Financial Market Deepening

There has been a growing interest, around the developing world and economies in transition, in the promotion of rural financial deepening.[4] International development banks and bilateral foreign assistance agencies, including the United States Agency for International Development (USAID), the governments of developing countries, and professionals and academics interested in agriculture, rural poverty, and financial development have focused increasing attention on the thin formal flows and, in some cases, even scant total –formal and informal– flows of agricultural credit as well as on the narrow delivery of diverse types of financial services to the rural populations of these countries. Given these concerns, there has been a growing interest in the design and implementation of cost-effective and sustainable mechanisms to overcome what appear to be almost intractable obstacles frequently encountered in the development of rural financial markets in these countries.

Moreover, attention has gradually shifted, from the earlier exclusive emphasis on credit, towards a growing recognition of the importance of different types of **financial services**, including deposit facilities and similar means to accumulate liquid reserves and hold stores of value, payments instruments and opportunities to send and receive remittances and to exchange currencies and, in general, mechanisms to manage liquidity and cope with risk (Patten and Rosengard, 1991; Adams, 1995; Robinson, 1998). There have also been parallel concerns with the absence of insurance markets and other tools to manage and cope with risk as well as a growing acknowledgement of the intricate connections between financial and insurance markets (Townsend, 1995; Zeller *et al.*, 1997; Thompson, Miranda, and Gonzalez-Vega, 1998; Skees, 2003).

This growing interest has been accompanied by a few rural financial market projects and some isolated interventions as well as by some actions implemented mostly to improve the policy and institutional environment for the emergence of rural financial transactions. The task has not been easy, however, and so far the results have been mixed. These partially disappointing results should not be surprising, nevertheless, given the complexity and magnitude of the challenges faced in the development of rural financial markets.

Indeed, both an emerging new understanding of the difficulties faced by potential participants in rural financial transactions and a comprehensive evaluation of the historical experience with rural financial market interventions suggest that the successful promotion of rural financial markets will require **systemic** rather than isolated efforts, with related actions being undertaken on several fronts. In practice, however, specific donor and government programs have frequently lacked coherence, thereby missing opportunities for mutually reinforcing actions.
Indeed, quite frequently, these isolated rural financial market interventions have simply been responses to specific political demands or mere appendages to non-financial projects. At worst, particularly when these interventions have ignored the true nature of financial transactions or the actual difficulties encountered in their emergence, they have undermined what other actions to promote rural financial deepening have been attempting to build.

To gain a better understanding of good or bad reasons to promote rural financial development and of successful or unsuccessful approaches in achieving this goal, the following sections examine alternative motivations behind this renewed interest in rural financial deepening. While, most of the time, the broad objectives pursued are worthwhile, the approaches adopted from the partial perspective of particular interest groups are frequently inadequate.

The decline of agricultural credit

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[4] Shaw (1973) introduced the term ***financial deepening*** to describe a process of expansion of financial transactions through markets at a pace faster than the growth of non-financial activities. The opposite of financial deepening is ***financial repression***. Rural financial deepening refers here to an expansion in financial transactions of all kinds in the rural areas, to reach broader clienteles, provide wider kinds of services, and offer additional contract terms and conditions.

In effect, the motivations for these isolated and diverse policy interventions have had different roots. First, there have been concerns about an insufficient supply of **agricultural credit**. In this case, policymaker concerns have in part reflected several developments of the past three decades. In addressing the politically difficult challenges that have emerged from these developments, it is critical to adopt a correct interpretation of the lessons that they embody. A growing consensus about this interpretation has emerged in recent years (Yaron, Benjamin, and Piprek, 1997; Yaron, Benjamin, and Charitonenko, 1998). These developments have included:

(a) marked declines in the international and domestic supplies of formal agricultural credit, in part related to reductions in the agricultural credit portfolios of multilateral development banks and bilateral donors and in part related to reductions in domestic fiscal transfers for this purpose (Rice, 1993),
(b) the substantial losses and eventual decapitalization of most state-owned agricultural development banks and the failure of most targeted farm lending programs used as channels for government and donor funds (Gonzalez-Vega and Graham, 1995), and
(c) the slow supply responses of private commercial banks, in expanding their operations toward the rural areas, following financial liberalization programs and/or the demise, closure, or privatization of state-owned agricultural development banks (Baydas, Graham, and Valenzuela, 1997).

These reductions in formal agricultural credit supplies have taken place at a quicker pace than the characteristic reductions of the share of the value added by agriculture in the generation of the gross domestic product (GDP). The reductions have been substantial, even after one recognizes that the earlier credit subsidies, combined with the **fungibility** of funds, had created incentives to substitute loans for self-financing and to deviate loan funds from agricultural to non-agricultural purposes.
Given the multiplicity of sources and uses of funds among low-income rural households, it is not possible to easily establish the actual marginal uses of loan funds (Von Pischke and Adams, 1983; Buchenau, 1999). Because distorted incentives disappeared with the elimination of interest rate subsidies, figures on sector uses of loan funds must be interpreted with caution. Evidence of the resulting measurement problems is, among others, the poor correlation observed between figures on agricultural credit and on agricultural output (*e.g.*, Gonzalez-Vega and Torrico, 1995). Although not as large as some figures may thus suggest, nevertheless, most countries have experienced a net reduction in bank funding for agriculture.

Furthermore, although increasing rural credit flows have been available from input suppliers and crop market intermediaries, who have had access to commercial bank loans, these flows have not been sufficient to replace bank funds, and there is a consensus that agricultural credit flows have been shallow (Zeller, 2003).

The evidence is also strong about the extent of **self-financing** among the rural population, particularly once funds from friends and relatives are included in this category (Gonzalez-Vega, Guerrero, Vasquez, and Thraen, 1992; Gonzalez-Vega, Ladman and Torrico, 1997; Olmos, 1997; Owens, 2002). While the large extent of self-financing may be evidence of little access to formal sources of credit, it also reveals a significant savings capacity in the rural areas of these countries. Earlier efforts towards the promotion of rural financial services were based on the wrong assumption that this capacity does not exist. Its existence, in turn, generates a clear demand for safe and convenient deposit facilities in those areas.

Moreover, much of the infrastructure and most of the organizations for the provision of formal financial services in the rural areas have also disintegrated in the past three decades. As a result of heavy losses, most **state-owned agricultural development banks** and specialized credit programs withered away, disappeared, or have only been sustained by costly fiscal transfers and recapitalization. Because it is so difficult to create institutions, this loss of rural organizations should be a cause of greater concern than the actual decline in the flows of funds.

Where these banks had historically been the major source of agricultural credit, their decline had important consequences. In some countries, the contraction of their loan portfolios left behind a **lost clientele** of regularly performing small and medium-size borrowers, who disappeared from formal financial markets (Gonzalez-Vega and Graham, 1995). Although these small and medium-size clients of the state-owned development banks never represented a significant proportion of the total rural population, they still reflected a strong legitimate demand for

rural financial services, as was frequently evidenced by their exemplary credit histories and repayment records. Because major difficulties are encountered in creating long-lasting credit relationships and because the costs of accumulating the information capital required to expand the frontier of rural finance are high, the loss of access by these clients implied important social costs.

In contrast, most of the losses from default at the state-owned development banks grew out of the delinquency of their largest borrowers (Ladman and Tinnermeier, 1981; Bourne and Graham, 1984; Vogel, 1984; Gonzalez-Vega and Mesalles, 1993). The rent-seeking behavior of these politically-influential producers thus generated a **negative externality**, because their actions led to the ruin of the only organizational infrastructure available to the smallest clients.

Furthermore, losses from the small-borrower portfolios of the state-owned banks can be mostly attributed to lack of bureaucratic incentives to screen and monitor applicants and collect the loans, to borrower perceptions about the resulting lack of sustainability of the programs, and to other inappropriate **signals**, such as loan pardoning and repayment moratoria, which undermined incentives to repay (Aguilera-Alfred and Gonzalez-Vega, 1993). Because this behavior subverted a culture to repay loans, it resulted in a regrettable destruction of **social capital**.

Recently, new and more cost-effective organizations have allowed a gradual return of some of these lost clienteles to formal financial markets (Gonzalez-Vega, Jimenez and Mesalles-Jorba, 1989; Quiros and Jimenez, 1996). The stigma associated with their earlier status as clients of state-owned organizations has frequently obstructed, however, their access to the services of some of the new organizations. Moreover, the new microfinance organizations that are successfully reaching these small borrowers have needed substantial investments to signal their serious intent to enforce loan contracts (Gonzalez-Vega, Schreiner, Meyer, Rodriguez, and Navajas, 1997; Pleitez-Chavez, 2000).

The state-owned agricultural development banks were also destroyed by their inability to charge interest rates that would cover their operating costs and losses from default and protect their portfolios from the eroding impact of inflation. Over time, in many countries the real value of their portfolios became insignificant. One lesson from this experience is that the political priority granted to an organization at a particular moment does not guarantee its permanency. In fact, too much **political** interest in the goals of the state-owned development banks actually hurt their chances to survive.

The terminal contraction of most formal agricultural credit portfolios coincided with the structural adjustment programs and financial liberalization efforts of recent decades. Some, including those with vested interests in the old regime, have blamed the policy reforms for the declining supplies of agricultural credit and have called for a return to the earlier protectionist policies. These claims are unfounded, however. The state-owned banks were already in serious problems –unsustainable– before the arrival of financial liberalization. The reforms simply made their lack of sustainability evident. A return to the earlier policies would only repeat the mistakes of the past. At the same time, nevertheless, following financial liberalization and the demise of the state-owned agricultural development banks, there has been a slow private supply response. Private commercial banks and other financial intermediaries have not rushed to the rural areas to fill the vacuum left by the disappearance of the state-owned credit programs.

The dual observations of the shortcomings of the state-owned development banks and of the limited supply response of the private banks have led to a growing consensus that financial policy reform is a necessary but not a sufficient condition for sustainable rural financial deepening (Gonzalez-Vega, 1993; Westley, 1994).

Access to financial services and rural poverty

A second motivation of the growing interest in rural financial deepening has been an interest in poverty alleviation. The relationships between poverty and finance are quite complex, however, and incorrect perceptions and expectations can have rather counterproductive effects.

In this connection, it is most important to recognize that, despite major earlier attempts to expand the supply of agricultural credit and despite the massive use of public funds for this purpose, the majority of the rural population of the developing countries has actually **never** had access to formal financial services. On average, 10 to 15 percent of all rural households in developing countries had ever had access to formal credit by the mid-1970s and this proportion has not changed much over time (Donald, 1976; Quirós, 1991; Muñoz, 1994; Sánchez-Schwartz, 1996; Sánchez, Cuevas and Chaves, 1998; Zeller and Sharma, 1998; Navajas and Gonzalez-Vega, 2002; Wenner, Alvarado and Galarza, 2002; Zeller, 2003). The proportion that has had access to a broad range of sustainable financial services has been less. The proportion of the rural poor who have gained this access would be even less.

Thus, the unquestionably basic question is: **why** have the rural populations of these countries never had adequate access and continue not to have access to formal financial services, despite their legitimate demands for various types of loans, deposit facilities and other financial products? The answer must lie in the substantial **difficulties** that explain this generalized outcome. This paper focuses on the macroeconomic, policy and political factors needed to overcome these difficulties. Moreover, once the reasons for this situation are better understood, the critical challenge will be to effectively and sustainably bring about increases in the supply of financial services for this population.

Further, the recognition that (a) the largest incidence and depth of poverty is found in the rural areas of these countries and that (b) the structural adjustment programs of recent decades have been necessary but may not have been sufficient to incorporate the rural poor into processes of rapid, broadly-based and sustainable economic growth have been important motivations for growing policymaker focus on rural financial deepening and on its role in poverty alleviation (Grootaert and Kanbur, 1990). While these concerns provide a strong motivation for the promotion of rural financial deepening, this motivation also poses important **threats**, as many calls for action have been based on incorrect perceptions and expectations about the role of finance in the task of poverty alleviation (Gonzalez-Vega, 1998a).

Indeed, the supply of formal financial services and **poverty** are related in complex ways (Gonzalez-Vega, 1998a; Zeller *et al.*, 1997). Sometimes, formal financial services can release credit constraints and facilitate a fuller exploitation of existing productive opportunities. When this is the case, some households can lift themselves out of poverty. Other times, financial services can assist in household risk management strategies, thereby stabilizing incomes and encouraging productive investment (Zeller and Meyer, 2002; Zeller, 2003). Poverty and/or vulnerability to risk would be alleviated in these cases. Some other times, financial services can assist in processes of physical and human capital accumulation and allow households to overcome poverty traps (Maldonado, Gonzalez-Vega and Romero, 2002). Indeed, these are expected outcomes when financial services actually play their intrinsic functions. These outcomes will be efficient and sustainable when the associated financial services are efficient and sustainable.

When productive opportunities do not exist, however, **repayment capacity** will usually be missing and the enforcement of debt contracts will impoverish borrowers. Depending on the circumstances, credit can thus increase or decrease poverty. Moreover, *per se*, typically loans cannot create productive opportunities, particularly when other constraints are binding. Credit cannot build the roads needed to bring the crop to market and that are missing; credit cannot discover the farming technology that does not exist; credit cannot generate key inputs that are not available; credit cannot create or destroy comparative advantages or change consumer preferences (Gonzalez-Vega, 1994 and 1998a).

When, in order to avoid the unpleasant effects of foreclosure, loan contracts are not enforced, social capital is eroded. **Social capital** refers to the complex set of social arrangements that support market and non-market interactions among the members of a given community, their common ways of deciphering reality, which reduce transaction costs, and their shared beliefs and perceptions of fairness, which facilitate the design, interpretation, and enforcement of contracts. These arrangements usually include mechanisms for punishing default that go beyond available legal sanctions. Common beliefs about the importance of fulfilling debt contract obligations and the social sanctions that accompany default are frequently described as the ***culture of***

repayment. The depth of this culture matters, not only for the emergence of rural credit transactions, but also to the extent to which it shapes social attitudes towards contracting at large.

Costly credit programs that ignore the true nature of the relationships between finance and poverty may actually have little or no impact on poverty alleviation. In general, financial services –particularly credit– may increase or reduce poverty, depending on the circumstances. When the interventions are based on incorrect perceptions about the nature of these relationships or reflect wrong expectations about the role of finance in the process of poverty alleviation, they can be and have frequently been counterproductive.

The frontier of financial services does not expand in uniform ways. An expansion of the frontier in ways that will benefit the rural poor will need, therefore, further clarification of the potential role that improved access to financial services may play in allowing the rural populations to lift themselves out of poverty (*i.e.*, it is necessary to ascertain when and how finance matters in poverty alleviation). Given this clearer understanding, specific actions could be undertaken to reduce the **rural lag** in financial sector development.

As discussed in Section III, some of the calls for action have indeed reflected a better understanding of the challenges involved, as new conceptual frameworks in the fields of finance and rural organizations have provided a keener awareness of the contributions and difficulties of rural finance and of the determinants of poverty. In addition, some calls for action have reflected optimistic expectations about new promising approaches, based on opportunities insinuated by the relative success of some experiments in microfinance. The majority of the successful microfinance programs have been urban-based, however, and the challenges of transferring the new lending technologies to the rural areas are not trivial. These challenges will be addressed in Section VI.[5]

Aggregate financial deepening

Third, from still another perspective, rural financial deepening is mostly viewed as a key component in the process of **financial development** at large. The motivation in this case has been the promotion of further aggregate financial deepening, a key ingredient in processes of market development and integration. The basic assumption has been that greater financial deepening increases aggregate income and accelerates economic growth. This is the "financial systems" perspective adopted in this paper. Because public attention must be attracted and scarce resources must be spent in any effort to expand the frontier of financial services, however, society's preferences about where to expand the frontier matter. The argument here is that an expansion of the rural dimensions of the frontier should be part and parcel of efforts to deepen finance at large (Von Pischke, 2003).

The supply of efficient, sustainable, and broadly-based financial services is particularly important in rural areas, given high risks and transaction costs in most rural markets for goods, services, assets, and factors of production, which result in large degrees of market fragmentation. That is, these costs and risks are responsible for low levels of **market integration** and for a wide dispersion of the marginal rates of return on resource uses (McKinnon, 1973). Wide gaps separate the marginal rates of return available to deficit and to surplus units. These gaps signal numerous unexploited opportunities for improving the productivity of available resources. Financial intermediation reduces these gaps in marginal rates of return and, as a result, aggregate income increases.

Monetization (currency exchanges and payments services), intermediation (deposit facilities and loans), risk management, and related financial services are powerful tools for the integration of these markets. The efficient provision of financial services is pivotal when investment opportunities and wealth endowments diverge, as is frequent among the heterogeneous firm-households found in the rural areas of developing countries. This heterogeneity means that different households will benefit from different types of financial services. The key role of financial intermediation is to facilitate **transfers** of purchasing power across surplus (depositor) and deficit

[5] Moreover, this is only one of six lead papers for the conference. The other papers will address some of these issues in greater detail.

(borrower) units, in ways that improve resource allocation, thereby increasing the productivity of resources throughout the economy (Gonzalez-Vega, 1986). In this task, deposit facilities are as important as credit services. Given the traditional neglect of deposit services, credit unions and other intermediaries that mobilize savings have played a key role in this process.

Aggregate economic growth and efficiency are also influenced by financial transactions in their role in agglomerating capital, selecting projects most likely to yield the highest returns, monitoring borrowers (investors), enforcing contracts, transferring, sharing, and pooling risks, and promoting diversification (Stiglitz, 1993). Financial services contribute to efficient intertemporal firm-household decisions concerning savings (postponing consumption), the disposition of wealth (accumulation of different types of assets), and investment (assets accumulated to take advantage of specific productive opportunities). Expansion of the frontier of financial services into the rural areas can also facilitate portfolio diversification for the management of risk. If the performance of financial systems can be judged in terms of their efficiency, stability (sustainability) and outreach, this rural expansion of the frontier is the most important remaining challenge in terms of outreach.

In the end, rural financial services matter as intermediate inputs in these processes of market integration. The outputs will be more efficient allocations of resources, more stable consumption, less poverty overall, and higher rates of economic growth. Government and donor expenditures will be motivated by these expected outcomes. This paper argues that these results will be best achieved when finance is asked to do what it is supposed to do and when rural financial deepening is approached as a component of overall financial development.

Multiple objectives, multiple obstacles

Recent interest in rural financial deepening has thus grown out of a **multiplicity** of concerns. In some cases, the motivation behind the calls for action has been an interest in the revitalization of agriculture. These calls have been based on the belief that increases in the supply of agricultural credit will contribute to an acceleration of the rates of growth of incomes and of employment in agriculture. This will indeed be the case under some circumstances, but it will not always be true. The challenge for policymakers is to understand **when** finance matters for agricultural development and when finance, by itself, will not achieve this result or it may actually be counterproductive.
In other cases, the motivation behind the calls for action has been a keen interest in an alleviation of rural poverty. These calls have sprung from the observation of the very limited breadth and depth of outreach of formal financial organizations in the rural areas of developing countries. Indeed, larger supplies of credit and of other financial services may, under some circumstances, contribute to the alleviation of rural poverty, but this will not always be the case. Again, the challenge will be to understand **when** finance matters for poverty alleviation and when it does not.

From still a third perspective, the expansion of the frontier of financial services into the rural areas is simply required to complete the country's process of financial development. This task is urgent, particularly in view of the **urban bias** of earlier financial interventions. Deeper rural financial markets will reduce transactions costs and facilitate greater degrees of factor and product market integration, thereby inducing increases in factor productivity and facilitating the management of risk across the economy.

While this multiplicity of concerns has encouraged strong interest in rural financial deepening, it has also been reflected in a multiplicity of **constituencies**, each one demanding some particular form of intervention. The accumulation of lobbying pressures can make successful policymaking a complex and difficult task. Multiple and varied interest can easily lead to inconsistent intervention objectives and to counterproductive outcomes.

Furthermore, the multiplicity of concerns has also reflected different dimensions of the challenges of rural financial deepening. Some of the **difficulties** encountered are mostly associated with the material conditions and characteristics of agriculture (Binswanger and Rosenzweig, 1986; Binswanger and Deininger, 1995). The heterogeneity of human capital endowments and entrepreneurial abilities and of soils and climate across and within regions, the seasonality of sowing and harvest cycles, the high variability of weather, spatial dispersion, a

high incidence of location-specific factors and influences beyond the borrower's control on yields, and the covariance of exogenous shocks hinder financial transactions based on agriculture. If the authorities wanted to be responsive to specific concerns about the role of finance in the revitalization of agriculture, they must understand the nature of these difficulties and they must design mechanisms that directly address these specific obstacles.

Similarly, some of the difficulties encountered in expanding the frontier of rural financial services are mostly associated with features of poverty. The imperfect information possessed by lenders about the potential clients, the lack of separation of household and business, the small size of the transactions, and the limited wealth of rural households, who do not own assets that are acceptable as traditional collateral on loans, hinder financial transactions with the rural poor (Fleisig and de la Peña, 2003).

Again, if the authorities wanted to be responsive to specific concerns about the role of finance in addressing rural poverty, they must acknowledge the specific nature of these particular difficulties and encourage the design of mechanisms that directly address these obstacles. The purpose would be to facilitate the emergence in these market segments of cost-effective financial transactions and of the functions that they intrinsically perform, not to abuse finance in the pursuit of non-financial objectives, when financial services are not the appropriate tool.

In general, the limited development of rural financial markets reflects shortcomings and limitations of the physical infrastructure (*e.g.*, roads, communications), stock of human capital (*e.g.*, education), and institutional infrastructure (*e.g.*, property rights, contract enforcement) found in the rural areas of developing countries. The absence of the required physical and institutional **infrastructure** increases transaction costs and accentuates the information, incentive, and contract enforcement problems that make financial transactions difficult. If the authorities wanted to adopt a financial systems perspective, they must consider the links between, on the one hand, the provision of some basic public goods and of the required institutional infrastructure and, on the other hand, the expansion of rural financial markets.

Given the costs and difficulties of rural financial transactions and the numerous sources of market and government failure encountered in attempts to expand the frontier, legitimate but unsatisfied demands for financial services will exist, at several levels and in different subsectors of the rural environment. Therefore, to be able to design and implement effective interventions, which attempt to expand the frontier of rural financial services in specific dimensions, the authorities must acknowledge and address specific **binding constraints**. The intensity of these constraints may differ with each different motivation to expand the frontier (agricultural development, poverty alleviation or financial deepening).

In summary, numerous and substantial difficulties impede further rural financial market deepening. These difficulties lead to unsatisfied excess demands for financial services, from a number of different perspectives (*e.g.*, agricultural undertakings, poor households, long-term investment). Several constituencies have voiced their interest in reducing these excess demands, along particular margins. The challenges and opportunities vary in each case. Partial approaches, in isolated efforts to correct for specific excess demands for rural financial services may, however, not always be successful and sustainable. Several reasons for this are discussed below. If this is the case, a comprehensive, **systemic** approach may be required for a sustainable expansion of the frontier of rural finance. This approach will require two fundamental changes of attitude.

New Conceptual and Policy Frameworks

The desired acceleration of the process of rural financial deepening represents a complex challenge. Success will require the adoption of a contemporary perspective on the role of financial services in rural development and of the obstacles encountered in the materialization of rural financial transactions as well as a straightforward acknowledgement of the lessons from past experience. It has been difficult, however, to bring into rural financial markets the robust principles and proven best practices that have been gradually incorporated in other segments of emerging financial markets and in some urban microfinance activities.

There has been, indeed, a **rural lag**, not only in the delivery of a broad array of financial services, but also in the diffusion of ideas and in the implementation of actions conducive to more efficient, sustainable, and broadly-based rural financial markets. In part, this lag reflects the greater difficulties of the task. In many countries, moreover, well-entrenched vested interests and re-election considerations have slowed down the arrival of contemporary views into the practice of rural finance. New perspectives are needed, however, in view of the failures and shortcomings of those earlier attempts to expand the frontier.

In the implementation of the principles incorporated in a contemporary perspective, each country's initial conditions must be taken into account. These **initial conditions** reflect:

(a) the extent of the intrinsic difficulties arising from geography, culture, and the stage of economic development of the country,
(b) the frequency and magnitude of exogenous shocks that influence risk profiles and opportunities for diversification in the country,
(c) the bad habits, unproductive attitudes, distortions, and barriers to financial transactions induced by inappropriate policies and interventions, and
(d) the relative availability of means to overcome these difficulties, resulting from each country's resource endowments, historical experience, and physical and institutional infrastructure.

In each country, the actual nature and extent of the rural lag in the process of financial deepening reflects a particular combination of these circumstances. The specific combination of initial conditions should influence, in turn, the choice of appropriate policy packages to be adopted in order to promote the desired expansion of the frontier of financial services into the rural areas of each country.

Elements of a better diagnosis

In meeting the challenges of promoting rural financial deepening, there are both obstacles to confront and reasons for hope. Some of these sources of optimism come from recent theoretical developments, which have made possible a better **diagnosis** of the difficulties to be overcome. These new conceptual frameworks include:

(a) recent contributions to our understanding of the actual nature of financial market problems, based on theories about information, institutions, and incentives. These theories have allowed a finer identification of the sources of financial **market failure** and a clearer understanding of the nature of other obstacles to financial market development, not necessarily related to market failure (Hoff, Braverman, and Stiglitz, 1993; Besley, 1994; Conning, 1999);
(b) a widely-accepted understanding of the sources of financial policy mistakes and other instances of **government failure** (Gonzalez-Vega, 1994). Lessons about actual experience with misguided rural financial market interventions have bolstered the desire not to repeat the mistakes of earlier strategies (Adams, Graham, and Von Pischke, 1984; Adams and Von Pischke, 1992), and
(c) improved methods for **empirical** research, which have resulted in both a better measurement of the extent of the obstacles and a better understanding of the empirical relationships among relevant variables (Udry, 1990: Deaton, 1991; Gonzalez-Vega, Rodriguez-Meza, Pleitez-Chavez and Navajas, 2002).

In general, information, incentive, and contract enforcement problems make financial transactions more complex – costly– than most other forms of economic interaction. In rural environments, particularly in connection with agriculture, financial transactions are especially costly for all market participants. To unleash the potential contributions of financial markets to rural development, these costs and risks must be reduced. The historical experience shows that these costs and risks cannot be reduced by **decree**. Even when government action is needed, new types of intervention are required.

Financial transactions are difficult when **information** is imperfect and mechanisms for **contract enforcement** are missing or are too expensive. If the probability of default is high or if it cannot be forecasted well and if the potential lenders are risk-averse, loans will not be granted and a market will not emerge. If, in addition, the opportunities for **moral hazard** are substantial, lenders will be reluctant to engage in financial transactions unless sufficient incentives to repay can be elicited. That is, lenders will introduce terms and conditions in credit contracts that embody **incentives** –equivalent to deductibles in insurance contracts– for the fulfillment of borrower obligations. These terms and conditions restrict access to loans to particular classes of clients (Navajas, 1999). Moreover, if the information required for screening or monitoring borrowers is too costly, lenders may restrict the loan amount they are willing to grant, engaging in loan-size **rationing**, or they may not lend to particular applicants at all (Gonzalez-Vega, 1976 and 1977).
If, as is frequent in the rural areas of developing countries, the required **institutional infrastructure** is missing, then the costs of contract enforcement are too high, even prohibitive, and some potential borrowers do not gain access to formal loans (Fleisig, 1995; Fleisig and de la Peña, 1996). In lieu of encompassing legal frameworks, social mechanisms are then used for contract enforcement.

In these environments, given their information and enforcement advantages, financial services are provided by numerous **informal** sources, which meet some demands from rural firm-households (Adams and Fitchett, 1992; Bouman and Hospes, 1994; Besley and Coate, 1995). Informal loans are usually timely, reliable, and levy low transaction costs on borrowers. Typically, however, informal lenders do not provide all the wide array of services for which (latent) demand exists, including safe deposit facilities, convenient mechanisms to transfer funds, and certain types of credit (especially large, long-term loans). The costs of informal financial services are also high, as revealed by the strong demand that materializes when cheaper semiformal and formal services are offered by organizations still able to cover their costs with the interest rates that they charge. These informal transactions are only feasible in local environments and, as a result, rural financial markets remain fragmented.

These shortcomings of informal financial arrangements reflect the very features that make them competitive in **local** environments: they are grounded in a community and are thus limited by the wealth constraints and the covariant risks of the local economy. As a result, informal finance is shallow; its services are valuable but are not deep enough in scope (geographically, across products, and over long terms) and are vulnerable to the covariant risks of locally-based transactions. Where only informal finance exists, many opportunities to improve resource allocations are left unexploited. Thus, informal finance is not always a good vehicle for investment and is not sufficient for rapid rural growth. Nevertheless, if informal financial markets are repressed, rural welfare declines. Rather than destroy informal finance, therefore, new formal financial services must complement the valuable contributions of informal sources. In the end, there is no substitute for the development of highly integrated financial systems (Rhyne and Otero, 1994).

Complex and interrelated obstacles and breakdowns

Imperfections and asymmetries of information, a lack of compatible incentives between borrowers and lenders, and the absence of mechanisms for contract enforcement contribute to the difficulties encountered in supplying rural loans. Recent theoretical contributions have emphasized several dimensions of **market failure** that can be attributed to these imperfections of financial markets (Stiglitz, 1993). Because of extremely simplifying assumptions, however, most of these contributions have not generated **robust** policy recommendations that make it feasible to address these imperfections in a cost-effective manner (Besley, 1994). The historical experience suggests, moreover, that ostensibly desirable government interventions can easily go wrong, with their costs overcoming the gains from the attempted correction of market failure (Gonzalez-Vega, 1993 and 1994).

Moreover, most of these instances of market failure do not appear to be amenable to straightforward and easy correction through government intervention. Governments face the same risk, information, incentive, and contract enforcement problems as private lenders do plus a few additional difficulties of their own. Typically, they do not have the political **credibility** to commit to the full enforcement of loan contracts, and they are frequently vulnerable to **rent-seeking** assaults. Moreover, government organizations face formidable **agency** problems in creating incentives for public-service loan officers to screen and monitor borrowers and collect loans diligently.

In summary, constraints to financial market development emerge from a set of complex, interrelated, and reinforcing **obstacles and breakdowns** (Gonzalez-Vega, 2002). These breakdowns include market failure of older types (*e.g.*, market power, externalities, and the nature of information as a public good) and market failure of newer types (*e.g.*, adverse selection, moral hazard). These breakdowns also include failures of collective action (*e.g.*, the inability of depositors to constrain banks) as well as instances of policy failure (*e.g.*, rent-seeking, bureaucratic incentives, directly-unproductive profit-seeking activities). Moreover, high transaction costs result from a deficient physical infrastructure and from insufficiently defined property rights, absence of mechanisms to define and enforce contracts, and other missing institutions.

Not all the difficulties for the emergence of rural financial transactions result, however, from imperfect markets and incomplete institutions. By their own nature, financial services are costly to produce. Their intertemporal and contingent character means that the terms of financial transactions cannot be simply summarized by a price and a quantity. Scarce, expensive resources are needed to define, monitor, and enforce contracts with complex terms and conditions. High transactions costs result from long distance and a low density of population. Sometimes these costs may be prohibitively high. Efficient **financial technologies** are then needed to combine the required inputs in a cost-effective manner and to overcome these obstacles to financial transactions.

Moreover, even where information and contract enforcement advantages exist, limited local purchasing power (wealth constraints) reduce the scale and scope of financial transactions. Combined with the **systemic risk** from covariant local incomes and cash flows, these wealth constraints mean that informal financial transactions will not be sufficient to remove credit constraints. Promoted by appropriate state interventions, rural financial deepening must result from and be part of the broader process of the country's financial development.

More hospitable policy environments

Another source of hope has been the implementation of policy reforms in the past couple of decades. First, **structural adjustment** programs have been implemented in many developing countries, with various degrees of success. In many countries, these policy reforms have removed several of the most harmful interventions associated with the previous protectionist environment. Earlier, numerous distorting policies had severely penalized agriculture and the rural population (Krueger, Schiff, and Valdes, 1991).
The **urban bias** of those protectionist policies –in particular, of import substitution industrialization– had further exacerbated the inherent difficulties of rural financial market development (Adams, 1998). Policy reforms that improve the performance of the agricultural sector can go a long way towards facilitating rural financial market deepening. As with financial reform, in the case of agriculture, however, the policy reforms have been a necessary but not a sufficient condition for improved productivity in agriculture and for the reactivation of economic activity in the rural areas. The acceleration of rural financial deepening cannot occur without additional interventions to improve the productivity of resources in agriculture. These must also be interventions of the new style, without the distorting features of the earlier protectionist approaches.

Second, in several countries, **financial reforms** have reduced the burden of the earlier repressive regulation (Shaw, 1973; McKinnon, 1973). Distorting interventions had for a long time afflicted rural financial intermediaries and had constrained their efforts to reach marginal clienteles in numerous ways, thereby complicating their tasks beyond what would be expected from the intrinsic difficulties of rural financial transactions themselves (Gonzalez-Vega, 1993; Frenkel, 1994). Had these constraints not been lifted, the innovations in financial products and procedures – typically associated with the development of urban microfinance– and the pricing –interest rate– policies required for the expansion of the frontier of rural financial services would not have been possible.

Indeed, in the past two decades, financial liberalization and other financial policy reforms in many developing countries and economies in transition have opened spaces for innovation in financial technologies that had previously been frustrated by financial repression (Westley, 1999). Interest rate ceilings –frequently combined with high rates of inflation or the overvaluation of the domestic currency, restrictions on entry into financial intermediation and constraints on competition, portfolio quotas and other quantitative and qualitative controls on credit portfolios as well as controls on the terms and conditions of loan contracts and on banking procedures– had discouraged experimentation and innovation in financial technologies. These restrictions did not allow financial intermediaries to operate on market terms and in ways that would have allowed them to reap the rewards from the risky introduction of new products and financial technologies. The expansion of the frontier was thus held back by the earlier policies in various ways.

Financial reforms, however, have arrived into the rural areas more slowly than to other sectors of the economy. In many quarters, there is still a deep-felt view that farm-households are too poor to save and to demand deposit facilities or to be encouraged by attractive combinations of returns –deposit interest rates, safety and convenience– to acquire financial assets, and that they cannot pay market interest rates on loans or determine by themselves the best possible uses for loan funds. As a result, in some countries, protectionist interventions have not been fully dismantled, while in other countries strong political pressures frequently call for the reintroduction of the earlier repressive policies or lobby for loan moratoria. These conservative views block the development and implementation of a new perspective about the role of the state in the promotion of rural financial deepening (Gonzalez-Vega, 1999a).
Development of the framework of **prudential** regulation and supervision required for the safe and sound operation of rural financial intermediaries has lagged behind the expansion of the sector (Rock and Otero, 1997; Berenbach and Churchill, 1997; Churchill, 1997; Jansson and Wenner, 1997; van Greuning, Gallardo, and Randhawa, 1999). A prudential framework that promotes the operation of robust financial intermediaries is necessary, however, given the importance for the authorities, on the one hand, of protecting the operation of the payments system from the opportunistic behavior of bank and other financial intermediary owners and managers and from the negative externalities that imprudent behavior can cause and, on the other hand, of avoiding the high fiscal losses resulting from the bail out and protection of depositors, when financial intermediaries become insolvent (Chaves and Gonzalez-Vega, 1994).

The microfinance revolution: promise and weaknesses

An additional source of hope have been the significant gains in outreach and sustainability attained by a growing number of **microfinance organizations** (MFOs) in making financial services available to poor firm-households (Yaron, 1994; Christen *et al.*, 1995). Not curbed by repressive regulation, various types of non-bank institutions, including non-government organizations (NGOs), networks of credit unions, and village banks, have successfully experimented with new lending technologies and have been able to overcome many of the intrinsic obstacles to financial transactions. A few financial intermediaries, such as the *unit desa* system of the Bank Rakyat Indonesia and several clusters of credit unions in some parts of the world have also innovated and introduced deposit services in this market segment, but progress in this area has not been as widespread.

Equipped with new production functions, these non-bank organizations have been reaching increasing numbers of clients. The success of these MFOs and credit unions has been justly celebrated, from La Paz to San Salvador, from Jakarta to Nairobi, and a growing number of places, because the frontier of finance is being expanded in ways that only a decade ago or so were widely believed to be impossible (Gonzalez-Vega, 1996; Gonzalez-Vega, Schreiner, Meyer, Rodriguez-Meza and Navajas, 1997).

So far, the examples of **sustainable** success are conspicuous but comparatively few. Important lessons can be learned, nevertheless, from these microfinance and credit union programs. These experiences confirm that a more hospitable policy environment and –particularly– appropriate innovations in financial technologies and improvements in the institutional design of financial organizations can allow important strides in expanding the

supply of formal financial services to broader sectors of the population in developing countries (Chaves and Gonzalez-Vega, 1996).

The secret of the success of these MFOs and credit unions has been that they have directly addressed the basic nature of the problem: they have learned how to overcome the information, incentives, and contract enforcement difficulties that constrain financial deepening and, in doing so, have they have reduced transactions costs for all market participants (Navajas, Conning and Gonzalez-Vega, 1999).

These non-bank organizations have joined non-financial firms (*e.g.*, crop intermediaries) that also reap benefits from information and contract enforcement advantages in their efforts to reach large clienteles with credit and other financial services (Ladman, de la Viña, and Liz, 1992; Alvarado and Ugaz, 1998; Trivelli, Alvarado and Galarza, 1999; Wenner, Alvarado and Galarza, 2002). Important lessons can be learned from these experiences as well.

Innovations in financial **technologies** are at the roots of this success. Many of the MFOs responsible for these innovations suffer, however, from severe deficiencies in their institutional design (structures of property rights and governance), which threaten their sustainability (Gonzalez-Vega, 1998c). Moreover, while technological change appears to be critical for rural financial deepening, failures in the market for new knowledge slow down innovation and the adoption of new practices. The costs of experimentation are high, while it is difficult to protect financial innovations from imitation by competitors. This reduces the profitability needed to cover research and development costs and to spur experimentation in the first place. As a result, the pace of development and adoption of the new financial technologies may be slower than is socially desirable.

Furthermore, inputs needed in the implementation of the new lending technologies, particularly human resources, are also in scarce supply, and major investments in sector-specific **human capital** formation are required. Private investment in human capital formation is discouraged, however, when another MFO, which has not paid for the costs of training, can attract trained employees from the innovative organization. Thus, potential failures in the market for financial innovations and in the market for human capital formation may require government interventions to address these problems directly. This is not an easy task and the policy tools required will be very different, nevertheless, from the earlier subsidized and targeted lines of credit.

Moreover, these positive expectations must be tempered after the observation that typically MFOs do not lend for agriculture (Gonzalez-Vega, 2002a). While the fungibility of funds within rural households clearly allows loans from these MFOs to ultimately facilitate agricultural production, the reluctance of most MFOs to directly lend for agricultural purposes reflects the special difficulties of agricultural finance. Only a few MFOs have been successful in managing portfolios of agricultural loans (Navajas and Gonzalez-Vega, 1999; Rodriguez-Meza and Gonzalez-Vega, 2003). As discussed below, this has required the emergence of robust financial organizations willing to operate in this market segment and the development of financial products appropriate and responsive to the client demands encountered in this segment.

Although contemporary perspectives devote particular attention to the special problems of agricultural credit, these challenges must be addressed within the broader context of rural and financial development. An expansion of the supply of agricultural credit will have a better chance of success if it is embedded in efforts to improve the performance of rural financial markets in general and in efforts to achieve greater market integration and more rapid economic growth in the rural areas (Gonzalez-Vega, 1998b).

New Perspectives on Two Fronts

The adoption of a contemporary vision on rural financial deepening has required a change of perspective on two fronts. On the first front, there is a new perspective on the **role of financial services** in processes of economic growth and rural development. Earlier views considered financial services, in particular credit, as a **policy tool**, for the pursuit of all kinds of –mostly– non-financial objectives. Targeted and supervised agricultural credit programs were created to promote increases in the output of particular crops, food security, the adoption of new technologies, or the redistribution of rural income. While, in this role, financial services had limited effects on the proposed non-financial goals, little financial intermediation occurred and the sustainability of rural financial organizations was undermined in these attempts (Adams, Graham, and Von Pischke, 1984).

In contrast, the new perspective considers financial services as **intermediate inputs**, valuable in processes of market enlargement and integration, as building blocks in efforts to increase the productivity of available factors of production and as tools in efforts to improve intertemporal resource allocations and the management of risk. From this perspective, financial services are valuable ***per se***, in their own right, because they perform functions essential for more efficient production and stable consumption at the farm-household level and for lower transaction costs in market interactions. A more efficient production of financial services generates both private benefits –greater welfare through higher productivity and less vulnerability to shocks– and social benefits – public goods and externalities in the accumulation of information capital, an increased role of contracts, and better risk pooling. Because negative externalities can also emerge when financial markets perform poorly, an appropriate prudential regulation and supervision framework is required to minimize this threat.

From this perspective, the financial sector is viewed as just another **productive** sector, with its own firms, production functions, outputs, prices and markets (Shaw, 1973). This new perspective requires a reformulation of the challenge for governments and donors. The question is no longer how to **control** or redirect the supply of financial services, in order to pursue specific non-financial objectives. Rather, the relevant question is how to promote an **outward shift** of the supply, in order to improve the delivery of financial services as intermediate inputs. That is, the central question is how to further expand the frontier of financial services, generally and in particular dimensions (*e.g.*, the rural areas).

As in any other productive sector, a more rapidly growing supply of rural financial services will result from efforts to reduce the costs of production of these services, to widen the variety (range) of the services provided, to increase the quality of these services and therefore augment their value to the clients, to extend the duration of service provision, and to enlarge the outreach of these services, in order to encompass larger segments of the population (Schreiner, 1998). Because the frontier does not shift outwards at a uniform pace, the specific purpose is to create conditions that promote an expansion of the frontier in its rural dimensions.
On the second front, there is a new perspective on the **role of the state** in the promotion of rural financial deepening. First, in contrast with past approaches, the new vision rejects state intervention in the determination of interest rates and of other prices of financial services.

Second, the new vision also rejects portfolio quotas and other quantitative instruments to redirect the supply and to administratively influence the allocation of credit. Historical experience has taught that the costs from these interventions have been greater than their potential benefits.

Government failure has dominated attempts to correct for market failure in countries with weak institutional infrastructures. This experience has suggested that it is better to work with the market, not against the market (Von Pischke, 1991). In contemporary terms, this simple lesson merely seeks to inject **compatible incentives** into the regulation and operation of rural financial markets.[6]

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[6] ***Compatible incentives*** are created when the structure of incentives makes it in the decision-makers interest to proceed according to desired objectives (in this case, the goals of the authorities) rather than coercing decision-makers into behaving against their own interests, in order to achieve the desired outcomes. This compatibility of incentives usually reduces monitoring and enforcement costs and other problems associated with principal-agent situations.

Third, the new vision also discourages **direct production** by the state of rural financial services (Bourne and Graham, 1984). State-owned credit organizations do not possess information advantages, over their private competitors, about the potential borrowers, and most likely they are at a disadvantage with respect to contract enforcement. There are several reasons for this weakness in financial contract design and enforcement by the state:

(a) The **credibility** of any threats of losses from arrears and default (*e.g.*, foreclosure on collateral) is not strong when the lender is a government agency. A land reform institute that has only recently redistributed land can hardly threaten peasants with taking the land away from delinquent borrowers.
(b) **Bureaucratic incentives** for diligent screening, monitoring and contract enforcement by loan officers are weaker in state-owned agencies, particularly in those countries where civil service legislation does not allow differentiated remunerations, based on performance, and where public sector labor unions make it impossible to hire and fire employees based on their qualifications and productivity.
(c) Expectations of **moratoria** and mandated loan restructuring weaken incentives to repay and a culture of loan repayment where state-owned banks operate. This behavior hurts not only the loan recovery performance of these banks but also the quality of the portfolio of other financial intermediaries that operate in the same environment (indeed, this is a negative externality).
(d) Portfolio allocations are more **vulnerable** to political pressures and to the use of lending criteria not based on considerations of creditworthiness. These pressures not only lead to inefficient credit allocations but also introduce signals that weaken a discipline of loan repayment. The clients of state-owned banks often wonder about the true nature of the transaction; is it a disguised political compensation or is it really a loan contract?
(e) State-owned banks that receive large fiscal transfers or cheap donor funds have frequently had fewer incentives for local deposit mobilization. When they operate with artificially cheap funds, they undermine the efforts of other intermediaries willing to mobilize savings.

These considerations suggest that there are few reasons to believe that state-owned rural organizations have a comparative advantage in the production of financial services. Where they operate, most likely they crowd out other instances of more sustainable expansion of the supply of rural financial services. In some countries, nevertheless, existing state-owned agencies have been transformed into successful financial organizations. The most prominent example is the development of the Unit Desa component of the Bank Rakyat Indonesia (BRI). The parallel operation of other typical state-owned bank activities has suggested that, even in the case of the BRI, threats to sustainability are still important.

More recent experiences have been the privatization of the Bank of Mongolia and the transformation of the Agricultural Development Bank of Guatemala (Alfaro, 2002). These experiences are interesting enough for consideration but they are also too recent to shed sufficient light on the debate. The decision to transform an existing bank that will not go away is, in any case, a second-best option. There is a need to evaluate the trade-off that contrasts advantages from using an existing infrastructure against the threats of crowding out more promising initiatives (Gonzalez-Vega and Graham, 1995).

Special circumstances, which cannot be easily replicated in most developing countries, have surrounded these successful transformations. Moreover, in those countries where the political costs of closing state-owned organizations have already been incurred, there is little to be gained from recreating these agencies. Given their earlier experience, it is therefore surprising to find numerous calls for or the actual reincarnation of these banks in countries where they had already disappeared (*e.g.*, Peru). This may reflect the need to more actively promote alternative interventions as well as to explicitly recognize the strength of the vested interests that seek rents anew with the revival of these organizations.

State action is indispensable, nevertheless, for the promotion of rural financial deepening. Indeed, a contemporary perspective recognizes a critical role for the state in the development of the necessary scaffolding for the promotion and support of rural financial markets.

Given the nature and magnitude of obstacles and constraints to the emergence of rural financial transactions, where this role of the state is not properly performed, rural financial markets remain incomplete, fragmented, inefficient and shallow (Stiglitz, 1993). The purpose of these state actions should be to promote the smooth and efficient operation of **markets**, not to substitute administrative allocations for market forces.

Spontaneous rural financial deepening does not proceed at the socially desired speed. Many market transactions are missing because the environment is not conducive to their emergence or because the require infrastructure is not available (Gonzalez-Vega, 1999a). Development of a more complete **physical and institutional infrastructure** is needed for the emergence and operation of formal rural financial markets. As most of this infrastructure consists of public goods, the central role of the state is to provide these goods. This type of state action is very different from the interventions that characterized earlier strategies of subsidized agricultural credit.

State action in the development of this infrastructure is more important, the more distant the parties in the transaction (*e.g.*, due to geographical or cultural separation), the longer the separation of the obligations of the parties over time (*e.g.*, long-term loans), and the greater the uncertainty about the outcomes of the actions of the contracting parties or the greater the influence of exogenous factors on those outcomes. In the absence of the institutional infrastructure that only the state can offer, transactions are restricted to personalized, direct, and immediate exchanges (North, 1992).

The contemporary perspective on rural financial deepening has gradually emerged in the past few decades. During the 1950-85 period, a **protectionist-repressive** policy environment prevailed. The goal was to modify market outcomes in the pursuit of non-financial objectives. Some of these objectives were fiscal: revenue generation and the allocation of subsidies. Some of these objectives had a planning dimension: to influence resource allocations away from market outcomes. In practice, most of the motivations had their roots in **rent seeking**, while competition was severely reduced. The strategy attempted to work against the market and against the financial nature of the transactions.

Policies of **financial liberalization** have been gradually introduced since the mid-1980s. Building on a more favorable macroeconomic environment, given the success of stabilization measures, these policies have attempted to improve efficiency in the operation of financial markets and to take advantage of the gains from transactions that take place through markets and on market terms. To the extent to which these policies have allowed the emergence of more sustainable practices in the pricing of financial services and the development of comparative advantages by a broader set of organizational forms (bank and non-bank intermediaries, credit unions and non-government organizations), these policies have created a more favorable environment for rural financial deepening.

Financial liberalization has been accompanied, in most countries, by deep reforms in the framework for **prudential** regulation and supervision. This new framework has reduced opportunistic behavior by particular financial intermediaries, but it has not been sufficient to protect many of these organizations from systemic risk associated with macroeconomic shocks (Gonzalez-Vega, 2001b). In this sense, the regulatory framework is incomplete. To the extent to which these adverse shocks reflect poor macroeconomic management, improvements in stabilization policies will be critical.

To the extent to which liberalization is a necessary but not a sufficient condition for a rapid expansion of the supply of rural financial services, moreover, this has been an incomplete strategy. The new perspective has increasingly insisted on the adoption of **promotion** policies through the development of the physical and institutional infrastructure needed to support market operations. Specific government actions for this purpose are discussed below.

Closing three gaps

The successful acceleration of the process of rural financial deepening will require the closing of three different gaps (Gonzalez-Vega, 2001a). The presence and magnitude of these gaps explains specific ways in which the current supply of rural financial services is insufficient. The distinction matters, because closing each one of these gaps will require different types of actions and interventions.

The first one is the **inefficiency gap**. This gap separates, on the one hand, current achievements –the current state of rural financial deepening– and, on the other hand, potential supply. **Potential supply** is the amount (volume, number, type) of financial services that could be provided, given current factor endowments, institutional infrastructure, and financial technologies. To close this gap, it will be necessary to change policies and to introduce compatible incentives that would allow increases in efficiency, to promote a movement from the current rural financial deepening situation towards the frontier of what is potentially feasible.

The second one is the **insufficiency gap**. This gap separates, on the one hand, potential supply and, on the other hand, **legitimate demand** for rural financial services. The obstacles and constraints discussed earlier, related to imperfect and asymmetric information, incompatible incentives, and missing mechanisms for contract enforcement, explain this gap, given a potential supply that is almost inevitably insufficient to satisfy all legitimate demand. In the case of credit, for example, legitimate demand results from the existence of **actual** ability and willingness to repay a loan, according to the terms and conditions of the contract, but which is not always correctly assessed or cannot be costlessly recognized by existing lenders. Thus, the required supply does not emerge to clear the market. To close this gap will require additional innovations in financial technologies, the accumulation of various types of specific capital –particularly specialized human and information capital– as well as further development of the physical and institutional infrastructure needed for a more efficient and smooth operation of rural financial markets.

The third one is the **feasibility gap**. This gap separates, on the one hand, legitimate demand and, on the other hand, unrealistic political expectations or promises. This gap results from a poor distinction between what is feasible and what is not feasible as well as between what is desirable and what may not be desirable in the promotion of rural financial deepening. The gap results from political pledges of outcomes that are not achievable. To close this gap it is necessary to incorporate, into the design and implementation of programs and projects, contemporary views about the proper role of financial services and about the difficulties and costs encountered in their provision. Beyond the proper design of rural financial market interventions, there is a need to promote a robust climate of public opinion and political acceptance of the new perspectives and to create the institutional capacity require for their implementation.

The nature of each one of these gaps and the actions and interventions needed to close them are discussed next.

Inefficiency gap

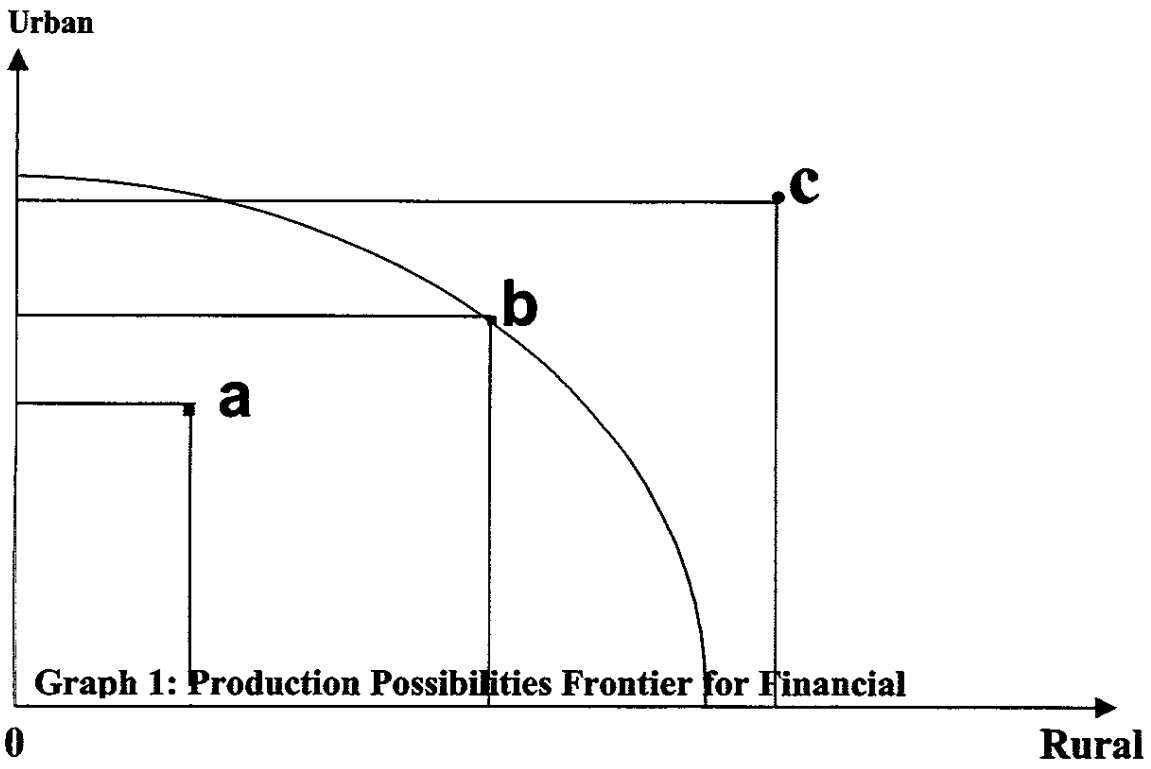
The inefficiency gap separates current achievements in rural financial deepening from the potential supply. Current achievements differ from potential supply because all available resources for the production of various types of financial services are not being used efficiently (Gonzalez-Vega, 2001).

Any country has a potential supply of various types of financial services. This potential supply reflects the country's endowment of various factors of production (*e.g.*, physical and human capital), its institutional infrastructure (*e.g.*, a framework for property rights and contract enforcement), and its knowledge about financial technologies and potential clients (*e.g.*, information capital). Available resources (*e.g.*, loan officers) can be allocated to the production of one or another type of financial service (*e.g.*, urban or rural credit). When the limits that define the frontier are finally reached, greater production of one type of financial service (using available funds, loan officers, and managerial systems) would require less production of another financial service.

At any point in time, therefore, potential supply can be represented by a **frontier of production possibilities** of financial services (PPF).[7] The PPF separates those combinations in the production of two types of financial services –loan amounts, numbers and types of clients and transactions, the terms and conditions of financial contracts, the variety, quality and sustainability of services, and the delivery of those services to different market segments– that are **feasible** –given the available endowments of specialized human and information capital, managerial abilities, physical inputs, knowledge, networks, and funds as well as the existing financial technologies and institutional arrangements– from those that are **not feasible**, given current limitations in factor endowments and knowledge. Only additional resources, new institutional arrangements, and innovations in financial technologies would shift the frontier outwards.

For simplicity, the frontier shown in Graph 1 represents potential combinations in the production of two types of financial services –urban and rural. Amounts of urban financial services are shown on the vertical axis and amounts of rural financial services are shown on the horizontal axis. Combinations "a" and "b" of these two types of services are feasible, while combination "c" is not feasible, under current circumstances. Moreover, combination "b", which is right on the frontier, indicates the achievement of **technical efficiency**. Given this combination, it is no longer possible to produce more rural financial services without reducing the amount of urban financial services produced. Below the frontier, it would still be possible to produce more of both types of services.

Graph 1: Production Possibilities Frontier for Financial Services



[7] Von Pischke (1991) introduced the concept of a ***frontier*** in the production of financial services. This concept is adapted here into a graphical representation inspired by a transformation curve. Given the whole range of financial services that can be produced, however, there is a ***production possibilities set*** that contains all possible combinations of those services. This range of services is reduced to two types of services here (urban and rural) in order to allow a two-dimensional graph.

The existence of an inefficiency gap is represented by a current combination of urban and rural financial services produced at a point such as "a", which is below –inside– the frontier in Graph 1, or by a point such as "A", inside the frontier, in Graph 2. At point "A", an amount *AU* of urban financial services and an amount *AR* of rural financial services are being currently produced. The distance between the current situation at "A" and a combination at the frontier, at a point such as "B", measured here as the horizontal distance between *AR* and *AP*, represents the inefficiency gap in the provision of rural financial services, keeping the amount of urban financial services –*AU*– constant.[8] With the available resources and technologies, rural financial markets could offer better outreach and sustainability outcomes than is currently the case. Because there is no technical efficiency and more financial services could be produced, there are leakages and wasteful uses of current resources.

In order to close this inefficiency gap, it would be necessary to increase technical efficiency. There are several sources of this inefficiency. First, the lack of efficiency and the resulting waste may reflect distorted resource uses in rural financial markets as a consequence of incorrect government **policies**, such as those adopted during the protectionist-repression period. Second, inefficiency and waste may reflect the channeling of public resources and funds through weak and unsustainable rural financial **organizations**, which cannot productively use them. Third, inefficiency and waste may frequently reflect the absence of appropriate structures of **incentives** within rural financial organizations. These incentives are needed to induce decision- makers to seek efficiency.

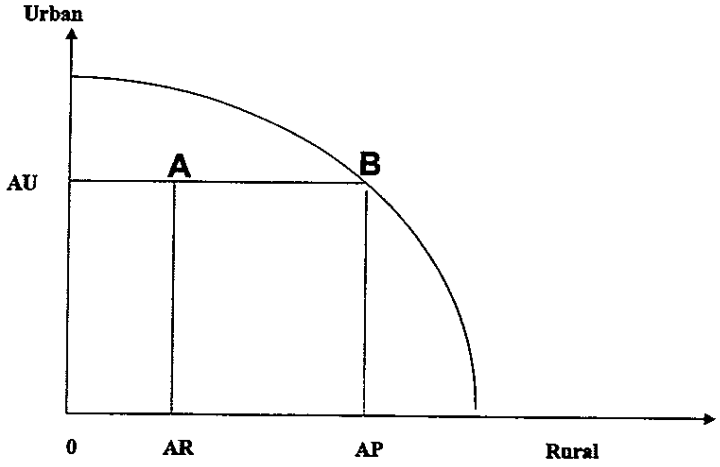
Policies matter for efficiency. To close the gap, repressive and distorting financial policies must be abandoned. Further, the framework of **prudential** regulation and supervision influences the types of financial organizations that are authorized to operate. Different types of organizations have different inclinations and abilities for the achievement of technical efficiency. Moreover, in order to encourage the development of robust and efficient organizations, international agencies and donors must channel their funds through organizations that seek efficiency and sustainability. This is not a trivial task, given the strong and distorting **political economy** forces that shape the flows of government and external funds for rural financial organizations.

These political economy motivations and influences do not always coincide with rural financial deepening objectives (Gonzalez-Vega, 2002b). Wasteful uses of available resources and the inefficiency that characterizes operation inside the frontier is the price –**opportunity cost**– that is paid because of the pursuit of non-financial goals and because of the support of unsustainable organizations by governments and donors, at the expense of technical efficiency. Frequently, this behavior is too costly for society, because a larger supply of rural financial services could be achieved with the current endowment of resources and with the levels of support offered by these public sector agencies. When the induced inefficiency reflects political inclinations of particular foreign donors, the actual outcomes may not necessarily reflect priorities according to the developing country's needs and preferences.

Unfortunately, the costs of this political economy behavior are not limited to the wasteful use of government and international donor funds. By allowing weak organizations to compete in the same market segments as other intermediaries, without **hard budget constraints** or without the discipline of operating on market terms, this –unfair– behavior crowds out the operations of other, potentially more sustainable, rural financial intermediaries. This outcome is equivalent to a negative **externality**, because those donors and governments that are willing to waste their own resources in unsustainable projects, in the pursuit of their own political objectives, do not have to pay for all of the costs of their choices. As a result, there will be an excess of weak, not sustainable organizations, and a shortage of robust, sustainable rural financial organizations.

[8] Given its preferences and other criteria, a country can chose any combination of financial services along the frontier, such as the combination represented by the point "B". For the purposes of the present analysis, the amount of urban financial services produced –*AU*– will be kept constant, in order to highlight changes in the production of **rural** financial services.

Graph 2: Inefficiency Gap



Graph 2: Inefficiency Gap

This behavior of governments and donors and the resulting negative externalities further discourage any **investments** in the research and development of new financial technologies that would expand the supply of services in these particular market segments. Given the distorted loan contract terms and conditions that they promote, these interventions will make it impossible for those willing and capable of investing in technological change to reap the returns from their efforts. Insufficient attention to sustainability thus retards innovation.

This behavior also discourages demands for the development of the physical and institutional infrastructure needed for rural financial deepening. The beneficiary organizations do not need this infrastructure in order to reduce their costs, because they can temporarily survive with the subsidies from governments and donors.

This behavior further contributes to the destruction of **social capital** –shared social norms that facilitate transactions– as these government and donor programs weaken the culture of repayment and send signals about loans as political handouts rather than as financial contracts. The resulting **demonstration effects** erode attitudes and perceptions about the importance of fulfilling contract obligations, beyond the specific market segments. This makes their signaling efforts more costly for organizations willing to operate in these segments in the future.

Reaching the frontier of the country's potential supply also requires that, in making decisions and in performing their tasks, the suppliers of rural financial services face incentives that are **compatible** with efficiency and sustainability. Ultimately, the performance of rural financial organizations depends on the decisions of their owners, managers, staff, clients and regulators. Given the particular objective function of each one of these stakeholders, their actions will respond to the existing structure of **incentives**, and these actions will in turn determine the performance of the organization. Reaching the frontier requires structures of incentives compatible with technical efficiency.

Usually, the relevant structure of incentives emerges from the structure of property rights and governance mechanisms of the organization, the mission that it is expected to pursue, and the constraints resulting from the regulatory framework within which it operates. The structure of **property rights** determines who has decision-making powers in the organization and who are the residual claimants from those decisions. The **mission** implies predetermined criteria that guide the collective choices of those involved in the organization. **Governance** mechanisms define the procedures for decision-making. The **regulatory framework** creates constraints on those decisions and on their implementation.

Many deficiencies in the property rights, governance, and regulatory framework within which rural financial organizations operate explain the large current inefficiency gaps. The absence of clearly defined owners and other attenuations of property rights usually lead to technical inefficiency. Most organizational structures of rural financial intermediaries (state-owned banks, credit cooperatives, and non-government organizations) are characterized by attenuated property rights and do not generate optimal levels of **internal control**, which would guarantee the search for technical efficiency and sustainability. There are a few exceptions, of course, but these typically reflect the influence of unusual and highly committed individuals, not any strengths of institutional design.

Indeed, NGOs do not have investors who stand to lose their money as a consequence of their inefficiency. The lack of true equity capital usually prevents NGOs from mobilizing deposits. Within certain limits, however, depositors could add to the monitoring of a financial organization's performance. The presumed owners of state-owned banks –the people– hardly possess any instruments to monitor the behavior of bureaucratic managers and unionized employees, who frequently are more interested in the level of their own remunerations and privileges than in the organization's technical efficiency. In the case of credit unions and village banks, members jointly own their equity. The diverging interests of borrowers and depositors can create conflicts, particularly when the one-person, one-vote rule is used as the main governance mechanism. When borrowers are the dominant force, decisions favor their short-term interests and discourage the mobilization of savings, which in the long run works against the interests of all parties, and threaten the sustainability of the organization (Chaves and Gonzalez-Vega, 1994).

Ambiguous and frequently contradictory definitions of the **mission** of rural financial organizations make the search for technical efficiency even more difficult. Structures of incentives that do not include penalties and rewards related to efficiency will fall short of the desired outcome. Those organizations that have been able to develop **performance-based remunerations** have indeed shown greater technical efficiency (Rodriguez-Meza and Gonzalez-Vega, 2003; Rodriguez-Meza, Gonzalez-Vega and Gonzalez-Gonzalez, 2003).

Overcoming these various shortcomings in organizational design is one of the most important and difficult tasks in the process of rural financial deepening (Von Pischke, 2003). This task will require substantial **institution building** efforts (Krahnen and Schmidt, 1994; Schmidt and Zeitinger, 1998). Institution building is needed at the level of particular rural financial organizations, at the level of the agencies, such as credit bureaus, that are part of the institutional infrastructure needed for a more efficient operation of markets, and at the level of the prudential regulation and supervision authorities. Important trade-offs emerge in the choice of support of the upgrading of existing organizations, in order to correct for their shortcomings, or of the creation of entirely new organizations, whose institutional design would circumvent the existing deficiencies (Zeitinger and Schmidt, 2000). It seems that the choice will depend on specific initial conditions in each country and the abilities of the agency that provides institution-building support.

The design of the prudential regulation and supervision framework is also critical in this context, to the extent to which this framework determines the types of organizations that are allowed to operate in various segments of the market (Christen and Rosenberg, 2000). Reducing the inefficiency gap will require a regulatory framework that encourages robust organizations, with a vocation for efficiency and sustainability in addition to their inclination to operate in the desired market segment. Creating regulatory incentives for this outcome without destroying competition and erecting barriers to entry that discourage innovation requires a delicate balance.

Regulatory asymmetries contribute to technical inefficiency. Regulation should attempt to establish a competitive environment for all types of financial organizations. Playing fields that are not level do not allow comparative advantages across organizations to be revealed. At the same time, the regulatory framework should be flexible enough to allow the regulation of different intermediaries –because of the different types of risks that they take– in different manners. Moreover, rules and regulations that ignore the true nature of financial intermediation may also create unnecessary obstacles to an expansion of the frontier in innovative dimensions. The supervision of rural financial organizations should not be used to enforce non-financial requirements or pursue non-financial objectives that do not respond to the purposes of prudential regulation.

Insufficiency gap

The insufficiency gap separates the potential supply of rural financial services from legitimate demand. Legitimate demand reflects the willingness and ability of the rural population to demand different types of financial services at the prices and terms and conditions at which they are offered or could be offered under competitive conditions.

An application to take a loan is not sufficient evidence of demand. In a loan, an amount of current purchasing power that is certain is exchanged for an uncertain promise to repay in the future. Many people would "demand" loans that they do not plan to repay or that they do not expect that will be collected. This would be a spurious demand. This possibility creates the need to define ***legitimate demand*** as the existence of a ***true willingness and ability to repay*** the loan, given the terms and conditions included in the "price" vector of the transaction.

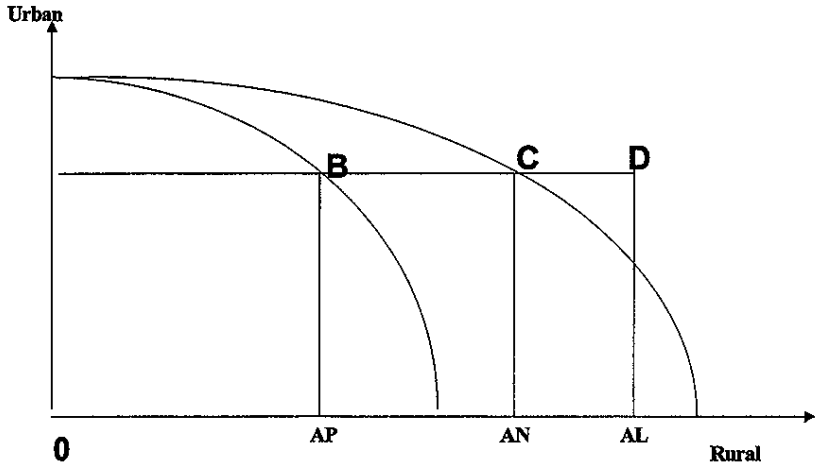
Moreover, legitimate demand should reflect willingness and ability to repay loans produced at costs that incorporate technical efficiency, given current endowments and knowledge. Practices that generate technical inefficiency do result in high "prices" for financial services, which discourage actual demand. Legitimate demand should be defined for efficient, competitive prices and, given current inefficiencies, it will be greater than existing demand. Furthermore, as the ability to produce financial services in a more cost-effective manner improves, the prices of financial services should drop and legitimate demand will increase.

The interrelated obstacles and breakdowns that impede rural financial transactions, examined in section 3.2, make potential supply insufficient in meeting this legitimate demand. This insufficiency gap represents the extent to which there are unsatisfied clients –that is, **excess demands**– at prices for those services that correctly reflect their opportunity costs, even if all available resources and knowledge are used with technical efficiency.

In any case, these excess demands could not be eliminated through increases in interest rates, in view of possibilities for **adverse selection** and **moral hazard** that increase the risk profiles of loan portfolios when interest rates rise. Given these threats of increased risk, credit **rationing** typically takes place, excess demands are not removed, and the market for credit does not clear (Keeton, 1979; Stiglitz and Weiss, 1981). The insufficiency gap can only be reduced through outward shifts of the PPF.

Broad segments of the rural population of developing countries have the ability and willingness to repay loans at market interest rates, which would in turn cover the costs of efficient and sustainable financial intermediaries, and would be willing to pay reasonable fees for funds transfers and remittances or to deposit their savings, if a moderate interest rate is offered on convenient and safe deposit facilities but, as a result of this insufficiency gap, they are not able to gain access to these services.

Graph 3: Insufficiency Gap



Graph 3: Insufficiency Gap

Graph 3 shows the extent of the insufficiency gap, even after a shift of the frontier that is biased towards closing the rural crevice that has characterized financial development. For a level of production of urban financial services that has been taken as given (*AU*) and with the available resources, institutions, and knowledge, the original frontier shows a maximum amount of rural financial services (*AP*) that can be produced (at point "B"). At this point, the insufficiency gap is represented by the distance (*AL* – *AP*) between this supply and legitimate demand, measured as *AL* at a point such as "D".

After an outward shift of the frontier, for the same level of urban financial services, the new frontier shows a maximum amount of rural financial services of *AN* (at point "C"). That is, with this shift, the potential supply of rural financial services has increased by the distance between *AP* and *AN*. This shift, however, would reduce but it would not eliminate the insufficiency gap, which will be now represented by the distance between *AN* and *AL*.

In Graph 3, the legitimate demand for rural financial services is *AL* (at point "D"). This legitimate demand will further increase with growth in the clients' productive opportunities, which will augment their ability and willingness to repay loans and to deposit their savings, and with reductions in the transaction costs and risks that they face. Given the importance of **fixed costs** in the supply of rural financial services, an increase in effective demand may actually also increase supply, as opportunities to exploit economies of scale and economies of scope will then emerge and unit costs will decline.

The insufficiency gap is closed when there are outward shifts of the frontier. Three different processes can cause a biased expansion of the frontier that favors rural financial deepening:

(a) **innovations** in financial technologies that overcome typical obstacles to rural financial transactions and the design of new financial products that respond to the characteristics of rural household-firms,
(b) development of the physical and institutional **infrastructure** that facilitates adoption of the new financial technologies, and
(c) **human capital** formation that facilitates adoption and implementation of the new technologies.

These are the most basic ingredients in a process of rural financial deepening. Their emergence is closely interconnected. Deficiencies in one of these dimensions may retard progress in another dimension. Advancement in each dimension reinforces achievements in other dimensions. Specific dimensions of progress are discussed in Section VI.

Only when these fundamental determinants of shifts of the PPF have been promoted, are rural financial markets in the position to mobilize and absorb additional loanable **funds**. The opportunities resulting from these outward shifts will likely attract the required funds, mostly through additional deposit mobilization and access to other market sources of funds. Government and donor funds should then be mostly used to reward compatible behavior and encourage financial product dimensions not offered through market sources, without distorting market incentives.

Historical experience shows that premature and massive injections of government and donor funds, before the innovations, institutions, and infrastructure are in place, have counterproductive effects and actually discourage outward shifts of the frontier. The flood of funds usually distorts the structures of compatible incentives needed to reform policies and transform organizations. In the absence of conditions that would guarantee an efficient use of the additional funds, waste would be introduced in the system. Furthermore, easy access to government and donor funds discourages local deposit mobilization or the search for commercial sources of funds. When they operate with non-market funds, organizations have less incentives to economize and to protect the real value of their portfolios, while borrowers may feel that it is less urgent that they repay loans and loan officers may feel that it is less urgent to collect them (Aguilera-Alfred and Gonzalez-Vega, 1993).

Feasibility gap

The feasibility gap separates a legitimate demand for rural financial services from political promises and **expectations** about portfolio levels, dimensions of outreach, and loan prices. Frequently, this gap reflects lack of recognition of the feasible rhythm of expansion of the FFP. To promise what is not feasible usually has counterproductive effects.
Not all rural firm-households possess legitimate demands for financial services. Usually, demands for payments services and deposit facilities are quite widespread. Legitimate demands for credit are not as broadly based, given the debt service burdens that accompany loans. Not all rural households are creditworthy and not all households want to acquire liabilities. If this is the case, the political promise of "credit for everyone" is both unrealistic and meaningless.

Being in debt should not be announced as a "human right" either. When borrowers do not have the ability to repay, enforcement of loan contracts will require foreclosure. The loss of assets will impoverish them. When the lack of repayment capacity reflects the absence of productive opportunities, loans cannot increase income flows.

The feasibility gap can only be closed with political maturity and fiscal responsibility. Rural financial market interventions should assess what is feasible. **Cost-benefit** analysis should be used to determine when an expansion of the supply of rural financial services is socially desirable. After all, the opportunity cost of resources spent in promoting rural financial deepening are the education, health, nutrition, and other public services that could have been funded otherwise. Given a political decision to promote an expansion of the frontier in a particular dimension, optimum intervention rules must be followed in the choice and implementation of the strategy (Gonzalez-Vega, 1993 and 1994).

Existing circumstances in political arenas should not be ignored. In the design of the interventions, it is important to identify winners and losers and to evaluate the political feasibility of the recommendations. To increase the acceptance of policies more conducive to rural financial development, time and resources should be spent in educating the public, at large, and critical constituencies, such as the media, religious leaders, academics and other influential voices, in particular. Sound analysis and persuasive arguments must be used to diffuse objections raised by vested interest groups. A visible and credible champion is critical in policy reform efforts.

Policies for rural financial deepening

A contemporary perspective acknowledges the urgency to adopt new policies, develop the necessary physical and institutional infrastructure, improve and disseminate new financial technologies, and design and build new organizations, which would allow a more efficient, sustainable, and broadly-based provision of rural financial services in the developing world and economies in transition (Gonzalez-Vega, 1993).

Policies refer to public actions –government and donor interventions– needed to create an environment conducive to rural financial market development (Cuevas, 1996; Gonzalez-Vega, 1998b). Key policy interventions may require revisions of legal systems (*e.g.*, property rights, borrower and lender rights, contract design, judicial enforcement), new financial policies (*e.g.*, interest rates, exchange rates, reserve requirements), and new regulatory frameworks (*e.g.*, entry and exit of financial organizations, degrees of market competition, prudential regulation and supervision).

These policies, legal systems, and regulatory frameworks are part of the institutional infrastructure needed for the efficient and stable operation of rural financial markets (Burki and Perry, 1999). At best, the development of this infrastructure has been neglected; frequently in the past, interventionist policies actually repressed financial market development.

Reforms of non-financial policies that constrain the profitability of client businesses and public investments and that reduce transaction costs for all market participants also contribute to an expansion of both the demand and the supply of rural financial services. The development of supporting **institutional mechanisms** (*e.g.*, property registries, credit bureaus and rating agencies) is also critical for rural financial market expansion. Because many of these supporting tools may be public goods, state intervention may be needed in order to accelerate their provision.

Getting prices, policies and institutions right is a necessary but not a sufficient condition for rural financial deepening in developing countries and economies in transition. This goal will not be reached unless new, cost-effective lending and deposit-taking **technologies** are developed and implemented, in ways that allow an expansion of the supply of a broad range of financial services, delivered to wide segments of the rural population, at appropriate costs and risks for both the clients and the organizations that offer these services. That is, these costs would allow the clients to undertake projects that generate marginal rates of return at least as high as those being generated elsewhere in the economy and would allow the organizations to deliver those services in a sustainable and profitable manner (Morduch, 1999a and 1999b).

Because of **externalities** in the market for information and, in particular, in the market for innovations, private initiatives may not be sufficient to bring about the desired level of experimentation and adoption. Although state intervention may be needed to promote technological change, the choice of how to accomplish this matters. Resources are scarce and successful loci of innovation are unknown before hand.
Moreover, knowledge of appropriate financial technologies will not be sufficient, either, for the sustainable expansion of rural financial markets (Gonzalez-Vega, Prado Guachalla and Miller Sanabria, 1997). The **organizations** that supply these services must possess the required resources (human capital, leadership, networking, information capital, and access to funds), and they must implement business plans that successfully pursue a mission to serve this market segment in combination with a vocation for sustainability (Gonzalez-Vega, 1998b).

Such organizations are in short supply in the rural areas of developing countries and economies in transition. They are key to the effort, however. Robust and creative organizations will undertake a major part of the innovation required and will be in better position to adopt and adapt knowledge and practices developed elsewhere. In contrast, the right policies and new technologies will be irrelevant, if the organizations that offer rural financial services are inefficient and not sustainable.

Finally, assembling all of these ingredients in a coherent **system** requires that the structure of **incentives** engendered by the ownership structure and governance design of the organization be compatible with its outreach and

sustainability objectives. An inconsistent mission and incompatible incentives will be a recipe for failure. Moreover, the legal and regulatory framework within which these organizations operate influences their ownership and governance structures. These structures must also be well-matched with the characteristics of the financial technologies adopted. The construction of this system and the acquisition of the resources needed will require deliberate institution-building efforts, which may be facilitated by government and donor assistance (Schmidt and Zeitinger, 1998).

Promoting the Expansion of the Demand for Rural Financial Services

Optimum intervention in the promotion of rural financial deepening calls for a precise **diagnosis**, namely the identification of actually-binding constraints to rural financial transactions (*what are the nature and extent of the problem?*). Optimum intervention also requires the choice of **policy tools** that effectively overcome those constraints (*what are the best instruments for the intervention?*). Usually, the best instrument is an intervention that directly addresses the specific nature of the problem. The failure of many past interventions may be attributed to violations of this **matching rule** (Gonzalez-Vega, 1990 and 1994).

First, failure reflected a misunderstanding of the true nature of finance, which resulted in attempts to use financial services when finance was not the appropriate instrument to address the problem or achieve the objectives of the authorities (Von Pischke, Adams, and Donald, 1983; Braverman and Guasch, 1986). Despite the best intentions, these interventions turned out to be unexpectedly harmful for the particular segments of the rural population they had ostensibly set out to help (Gonzalez-Vega, 1977 and 1999b; Graham and Cuevas, 1984; Gonzalez-Vega and Gonzalez-Garita, 1987).

Second, the failure of earlier interventions resulted from an incorrect diagnosis of the difficulties encountered in rural financial deepening. Rural financial market shortcomings were attributed to evil exploitation by informal moneylenders or to the indifference of private bankers. The state was then asked to take responsibility for expanding the supply of rural financial services, but the difficulties to be overcome could not be eliminated by decree. The mistake was to attempt a political solution to what is essentially the technical problem of producing financial services in this market segment at sufficiently low costs and risks.

The challenge of promoting rural financial deepening is therefore complex, as the obstacles that must be overcome permeate all dimensions of the market. This section classifies constraints as binding on either the demand side or the supply side of the market. Both dimensions matter for rural financial deepening.

The **demand** for rural financial services is constrained by factors such as:

(a) high **transaction costs** to be incurred by potential borrowers, which increase the total costs of the funds beyond the payment of interest and fees to the lender;
(b) high transaction costs to be incurred by potential depositors, which decrease the net returns on their savings below interest earnings (Guerrero, 1992);
(c) high **risks** faced by potential borrowers, which reduce their willingness to borrow, in fear of encountering problems to service the loans and suffer the loss of assets pledged as collateral, including their reputation;
(d) high risks faced by potential depositors, who are worried not only about the volatility and divergences between expected and actual rates of return on their savings, but mostly about the risk of partial or total loss of the principal of their deposit;
(e) lack of adequate **information** about the availability and terms and conditions of loan and deposit services, which discourages potential clients to seek satisfaction of their demands;
(f) high costs for potential borrowers of persuading lenders, because of asymmetric information, about their true repayment capacity, which lead them not to reveal their demands for credit (Bester, 1985; Sanchez-Schwartz, 1996);
(g) severe information and property rights limitations that prevent potential depositors from monitoring and sufficiently constraining the opportunistic behavior of deposit-taking institutions and thus discourage deposits (Chaves and Gonzalez-Vega, 1994);

(h) idiosyncratic and environmental circumstances that reduce the repayment capacity of rural firm-households and thereby reduce their demands for loans, and
(i) idiosyncratic and environmental circumstances that reduce the ability of rural firm-households to accumulate assets and thereby reduce their demands for deposit facilities (Gonzalez-Vega, 1998b).

Distance is one of the most important determinants of transaction costs. Geography, ethnicity, culture, and social class create distance between borrowers and lenders. Distance hinders communications. Transaction costs are high in rural areas for borrowers and for depositors due to deficiencies of the transportation and communications infrastructure. The reduction of transaction costs needed to increase the demand for financial services critically depends, therefore, on the provision of some of the most basic **public goods** and physical infrastructure: roads, telephones, mail services, literacy, electricity. The provision of these public goods also increases the repayment capacity of potential borrowers, by facilitating access to markets for inputs and for outputs.

In addition to income uncertainty, risks for borrowers and depositors are associated with lack of personal safety (crime), the eroding impact of inflation on deposits, and the fear of bankruptcy of deposit-taking organizations. Basic functions of the state are also involved in the removal of these obstacles to rural financial deepening: the provision of law and order, the promotion of macroeconomic stability, and the development of adequate prudential regulation and supervision frameworks for deposit-taking organizations (van Greuning, Gallardo, and Randhawa, 1999).

The breadth and depth of rural financial markets depend on the existence of a potential clientele of firm-households with (a) sufficient productive opportunities to be able to take loans and be willing to repay the principal plus sufficient interest to cover the costs of the financial organization and with (b) the stable cash flows that allow them to make regular loan repayments. Given the seasonality that characterizes agricultural pursuits, successful rural financial organizations will have to develop new financial products that do not require the frequency of repayment that has been needed to facilitate the monitoring of borrower behavior in urban microfinance (Buchenau, 2003). Rural financial deepening also depends on the capacity of these firm-households to save and on their willingness to keep some of their wealth in the form of financial assets. Liquidity, safety and a reasonable return will be attributes of financial assets demanded in this market segment.

A multitude of factors influence the repayment and savings capacities of the rural population. Of particular importance are the determinants of their opportunities for **income generation**, which in turn depend on their access to:

(a) productive assets. Of special interest is their access to land and its quality (fertility, irrigation, topography, climate, location) and to human capital (education, health, nutrition, experience) and information;
(b) profitable production and marketing technologies;
(c) the inputs needed to implement those technologies, and
(d) the markets where the producer can obtain an attractive reward for her efforts.

Government policies influence the determinants of income potential. **Agrarian policies** establish property rights on land and influence the performance of land markets, affecting decisions about crop selection and investments in land improvements. **Rural education** programs facilitate human capital formation. Agricultural **research and extension** activities influence the pace of technological change. Public investments in **infrastructure** and in public safety increase access to markets.

Equally important are policies that modify **relative prices**. Foreign exchange policies determine the relative price of tradable and non-tradable goods. Trade policies influence the profitability of producing for exports or for import substitution. The structure of **effective protection** alters the terms of trade and the relative profitability of different sectors of economic activity. The structure of taxes and subsidies influences relative prices and public investment influences the profitability of different activities. Price stabilization and price control schemes alter prices as well.

An **urban bias** that depressed rural loan repayment and savings capacities characterized both public investment and most of these policies before the structural adjustment programs of recent decades (Krueger, Schiff, and Valdes, 1992; Valdes, 1996). These reforms have only partially revised, however, the policy environment for rural productive activities. The markets for several crops are still administratively controlled and effective protection is not uniform across products. Macroeconomic stabilization programs not accompanied by an effective reform of the state have constrained fiscal resources for investment in critical public goods needed to improve the productivity of resources in agriculture (Gonzalez-Vega, 1998b). The expansion of rural financial markets will not be vigorous as long as these constraints on the demand side are in place.

Financial policies significantly affect the demand for financial services. The demand for deposit facilities is mostly influenced by perceptions about the risk of illiquidity or insolvency of deposit-taking organizations. An appropriate framework of **prudential** regulation and supervision can modify these perceptions of risk. Under certain conditions, deposit insurance can play a similar role. While it contributes to depositor confidence, deposit insurance encourages free-riding by savers that would otherwise more closely monitor the deposit-taking organization and it may lead to opportunistic behavior (moral hazard) by the owners and managers of the organization (Chaves and Gonzalez-Vega, 1994). Large fiscal losses may result in the case of bank failure.

Dealing with Risk

Risk is central to the performance of rural financial markets (Von Pischke, 1984). Excessive risk decreases both the demand and the supply of rural financial services. Borrowers need tools to cope with and manage risk, while lenders need tools to identify and constrain the risk of their portfolio.

A key feature of economic behavior in the rural areas of developing countries is the incidence of risk on decisions (Alderman and Paxson, 1992; Morduch, 1995). Relevant risks range from illness (due to undeveloped sanitary infrastructure: potable water, sewer, preventive medicine) to income volatility. Agricultural production, in particular, is inherently risky, as farmers face a multitude of weather, pest, livestock disease, input-supply and market-related risks. These risks discourage borrowers, who worry about their capacity to repay loans, and discourage lenders, who fear unexpected losses from default. Where insurance and other market mechanisms to manage risk are missing, informal institutions emerge (Rosenzweig and Wolpin, 1993; Besley, 1995).

Although gains from informal risk-management institutions are important, these mechanisms have major limitations. Some, such as crop diversification, can be costly in terms of income opportunities forgone from specialization. The absence of formal insurance markets may discourage investment and technological change that increases long-term productivity. More importantly, due to their local nature, informal institutions cannot cope with systemic risk from covariant reductions in income (*e.g.*, drought).

In theory, governments should and could correct for market imperfections that constrain the emergence of insurance markets (Arrow, 1996). As was also argued with respect to financial markets, however, the relevant instances of market failure (adverse selection, moral hazard) do not appear to be amenable to easy correction, while in practice most interventions have been captured by rent seekers (Hazell, Pomareda, and Valdes, 1986).

Indeed, a multitude of government-sponsored **risk-management** programs have been implemented in developing countries, ranging from price stabilization and crop insurance to drought relief. Most of these interventions have proven to be fiscally expensive, and there is little evidence that they have generated any sizeable social benefits (Skees, Hazell, and Miranda, 1999). Crop and natural disaster relief have also had profound regressive redistributional impacts in developing countries. Moreover, for small countries, government assistance can be costly, representing a large share of GDP if the disaster is large, with serious fiscal consequences on macroeconomic stability.

Government-sponsored crop yield insurance, in particular, has been provided in many developing countries as multiple-peril, all-risk programs; that is, insurance compensates all yield losses, regardless of cause, with disastrous consequences (Hazell, Pomareda, and Valdes, 1986). In all cases, the programs have been heavily subsidized and

actuarially unbalanced (Miranda and Glauber, 1997; Skees, Hazell, and Miranda, 1999; Skees, 2003). Moreover, there is no evidence that crop insurance has had positive effects on agricultural credit, output, or income (Bassoco, Cartas, and Norton, 1986).
Instead, subsidies encourage excessive risk-taking (*e.g.*, growing unsuitable crops in high-risk regions) and increase exposure to future (drought) losses by the farmer (Kaplow, 1991; Kunreuther, 1996). Furthermore, crop insurance may at best help farmers who grow insured crops, but it is of no assistance to the rest of the rural population (landless laborers, agricultural traders and processors, farm input suppliers, rural shopkeepers) whose livelihoods are also affected by catastrophic agricultural output and income outcomes.

Microinsurance innovations are needed to match the microfinance revolution (Skees, 2003). There are some promising innovations, most notably with **area-based index contracts**, such as regional rainfall and other weather insurance. These contracts are written against specific perils or events defined and recorded at the regional level. Insurance is sold in standard units and all buyers receive the same indemnity. These features avoid adverse selection and moral hazard problems and reduce operating costs (Skees, Hazell, and Miranda, 1999). New types of state action are also required to facilitate the development of these contracts.

Moreover, insurance is not the only mechanism available for the management of risk. In developed countries, commodity futures and options markets are used to manage price and exchange rate risks (Thompson and Bond, 1987). Educational programs can assist farmers in developing countries to use these market-based institutions, when they exist. In general, however, instruments for hedging, futures markets and commodity exchanges are thin if not inexistent in these countries (Wenner, Alvarado and Galarza, 2002). The absence of these market-based instruments is due to similar information and incentive problems as those that plague financial and insurance markets. Government action can assist in the creation of the institutional infrastructure needed for the operation of these mechanisms.

In summary, development of broader and deeper rural financial markets will require the elimination of obstacles to an expansion of legitimate demands for rural financial services. Key to this process will be the provision by the state of basic public goods needed to reduce transaction costs and risks for potential borrowers and depositors. Also critical will be the adoption of macroeconomic, sector, and investment policies that would not increase risks further and that would improved the productive opportunities available to the clients of rural financial intermediaries. Among these interventions, the development of an appropriate prudential regulation and supervision framework is the most important challenge for the authorities.

Promoting the Expansion of the Supply of Rural Financial Services

Government and donor interventions are also needed to increase the supply of rural financial services. The supply of rural financial services is constrained by:

(a) high transaction (operating) costs for lenders, which increase the costs of lending well above the opportunity cost of the funds and which can only be recovered with high intermediation margins (Cuevas and Graham, 1984);
(b) high transaction (operating) costs incurred in mobilizing deposits, which increase the cost of funds for the financial intermediary well above the returns that must be offered to the depositors to attract their funds (Owens, 2002);
(c) additional costs of mobilizing deposits that emerge from the need to meet the regulatory requirements for deposit mobilization (*e.g.*, reserve requirements, minimum safety requirements, internal control);
(d) high credit risks for lenders, which threaten with losses of income in case of arrears and losses of equity capital in case of default;
(e) high liquidity risks in deposit mobilization, which make it necessary to keep liquid, less-attractively remunerated reserves and which require additional financial costs in case of unexpected deposit withdrawals (Christen, 1997);
(f) imperfections of information about the ability and willingness to repay loans of applicants, which increase both the operating costs and the losses from default of lenders (Gonzalez-Vega, 1976; Navajas, 1999);

(g) inability to raise interest rates as a rationing device, due to adverse selection problems, which leads to non-price credit rationing (Gonzalez-Vega, 1976; Keeton, 1979; Stiglitz and Weiss, 1981);
(h) absence of compatibility of the incentives that guide the behavior of potential borrowers and lenders, creating spaces for moral hazard (opportunistic borrower behavior), and thereby raising the operating costs and risks of lenders (Conning, 1999);
(i) absence of compatibility of the incentives that guide the behavior of deposit-takers and potential depositors, creating spaces for moral hazard (opportunistic behavior of deposit-takers), and thereby raising the risks for depositors (Chaves and Gonzalez-Vega, 1994);
(j) absence, deficiencies, and high costs of formal contract enforcement mechanisms, which increase the credit risks and operating costs of lenders and the risks of depositors (Heywood and de la Peña, 2003);
(k) the attenuated property rights and inefficient governance structures of many rural financial intermediaries, which do not generate sufficient internal control or the adoption of business plans focused on outreach and sustainability (Chaves, 1996);
(l) the destruction of social capital (*e.g.*, a culture of repayment) that accompanies the politicized pardoning and rescheduling of loans, weakening the credibility of contract threats and obligations (Aguilera-Alfred and Gonzalez-Vega, 1993);
(m) market distortions introduced by non-private intermediaries that refuse to operate on market terms, thereby undermining the operations of serious competitors (Gonzalez-Vega, 2002b);
(n) the high covariance of cash flows of potential rural depositors and borrowers, which creates significant seasonal challenges for the management of liquidity;
(o) the high covariance of incomes and of the outcomes of the productive efforts of borrowers, which reduces opportunities for portfolio diversification as a tool to manage risk by lenders (Binswanger and Rosenzweig, 1986);
(p) the small size and low density of the clientele in local markets, which reduces the opportunities to dilute the fixed costs of any financial infrastructure (Chaves and Gonzalez-Vega, 1996), and
(q) the public good nature of the information generated by an expansion of the supply of rural financial services, which keeps the rate of private investment in experiments to develop innovations in lending technology and the expansion of these services below the socially optimum rate of expansion.

Most of these difficulties are typical of all financial markets; the problem is that they are more acutely present in rural areas, thereby frequently raising the associated costs and risks to prohibitive levels. As a result, rural financial markets do not emerge. Clearly, the provision of the same basic public goods (roads, communications, literacy, safety) that would reduce transaction costs and would facilitate the emergence of a demand for financial services will also contribute to an expansion of supply. The extent to which the development of this physical and institutional infrastructure can contribute to rural financial deepening cannot be overemphasized.

Financial policies have a powerful influence on the supply of rural financial services. Two types of actions are needed. On the one hand, it is indispensable to further reform policies, in order to reduce or eliminate the financial repression introduced by earlier interventions or to prevent the **reintroduction** of protectionist-repressive approaches. On the other hand, it is necessary to develop a policy and regulatory framework that reduces the costs and risks for suppliers of rural financial services.

As discussed in Sections III and IV, financial repression emerged from both the effects of macroeconomic policies on the financial sector –in particular, the inflation tax, the reserve requirements tax on deposits, and the overvaluation of the domestic currency– as well as from financial policies designed to alter outcomes from the market forces of supply and demand. An expansion of the supply of rural financial services therefore requires fiscal, monetary and exchange rate policies that:

(a) eliminate the inflation tax on holdings of domestic financial assets,
(b) eliminate the overvaluation of the domestic currency, in order to remove distorted incentives that increase preferences for foreign over domestic financial assets,

(c) reduce the rate of legal reserve requirements on deposits, to minimum levels, and diminish other influences, such as forced placements of government debt, that crowd out funds away from portfolios of credit for the private sector,
(d) eliminate all ceilings and controls on interest rates and other components of the prices of financial transactions, and
(e) eliminate all portfolio quotas and other administrative allocations of credit flows.

Interest rate restrictions do not allow rural financial organizations to achieve their sustainability. They are typical of regulatory environments that discourage competition and promote fragmentation. The presence of development banks and other state-owned organizations further reduces competitive pressures. An expansion of the supply of rural financial services therefore requires a regulatory framework that:

(f) promotes competition and lowers barriers to **entry** into rural financial markets to prudent levels,
(g) eliminates unnecessary **fragmentation** in rural financial markets, resulting from specialized charters that prevent competition and the emergence of economies of scale, economies of scope, and portfolio diversification,
(h) eliminates credit programs housed in non-financial institutions, such as the Ministry of Agriculture or the Land Reform Institute, and
(i) establishes a road map for the closing, sale or privatization of state-owned development banks.

When state-owned development banks have already been closed, their reopening is particularly costly. The political costs of their elimination are already sunk and their earlier assets no longer exist. The inevitable **signal** that their re-establishment is a political concession will create a weak structure of incentives for depositors, borrowers, staff and managers, which will not be compatible with its sustainability. Most likely these organizations will fail in their new reincarnation. Moreover, their presence will **crowd out** other attempts by private financial intermediaries (bank and non-bank organizations, credit unions and the like) to operate in the same market segments. This would, once more, discourage processes of innovation and institution building.

Despite their popularity, state-sponsored **credit guarantee** programs are equally undesirable. There is no reason to expect that these second-tier organizations will have comparative advantages over first-tier operators in information, incentive design and contract enforcement for a particular clientele. There is no reason to expect, therefore, that they will be able to resolve problems from asymmetric information and opportunistic behavior. Rather, they most likely will worsen incentive problems in the market. Borrowers who are aware of the guarantee and who are not paying an actuarially-determined premium will have less incentives to repay. Lenders that do not bear the cost of their decisions about creditworthiness will be less diligent in screening and monitoring borrowers and in enforcing contracts. Moral hazard will increase and lenders will have less incentives to learn how to identify and manage risk. The implicit subsidies will cause fiscal losses that eventually lead to the termination of the programs.

Additional government and donor actions are needed, moreover, in order to:

(a) encourage the development and adoption of new financial technologies that would make it possible, at reasonable costs, to reduce the risks of financial transactions for all market participants;
(b) additional institutional infrastructure that would support the implementation of the new financial technologies, and
(c) new institutional designs that would guarantee the adoption of these technologies by organizations with the vocation and capacity to become sustainable.

Implementation of the new, more efficient lending technologies requires the development of a supportive institutional infrastructure. Government and donor actions can contribute to the development of rural financial markets with interventions such as institutional mechanisms that:

(a) improve the availability of information and, in particular, the availability of **credit histories** about the pool of potential borrowers, such as the development of credit bureaus and other rating mechanisms. The prudential supervisor that oversees regulated financial institutions has privileged access to this information and may introduce reporting requirements to create the necessary database. All lending institutions should be granted access to this information. Donors may encourage the establishment of credit rating agencies that collect information about clients of non-regulated institutions as well as investment rating agencies that report on the financial health of non-regulated deposit-taking intermediaries;
(b) reduce the costs of collecting and interpreting information about borrowers or about deposit-takers, such as the development of standard **accounting rules** for financial and non-financial firms and obligatory reporting requirements for financial institutions;
(c) facilitate the introduction of incentives to repay loans. This may be achieved through improvements in the legal framework for the pledging of **collateral** and other forms of loan guarantees (Fleisig and de la Peña, 2003), and
(d) reduce the costs of contract enforcement, such as improvements in the legislation and in the efficiency of **judicial** procedures.

Central to any actions to promote the expansion of rural financial markets is a better definition and protection of **property rights**. This includes review the legal rights of borrowers and lenders (including depositors). Existing legal frameworks are usually characterized by an asymmetric treatment of borrowers and lenders, with a strong pro-borrower bias (Gonzalez-Vega, Prado Guachalla, and Miller Sanabria, 1997).

Examples of this asymmetric treatment are usury legislation and other restrictions on interest rates, ostensibly to protect borrowers, but not matched with legislation to protect the interest rates paid to depositors, who have suffered the consequences of financial repression and of oligopolistic banking systems and have frequently earned negative – expropriatory– interest rates in real terms.

Other pro-borrower biases are legal interpretations about the scope of banking secrecy, which deter the development of credit rating systems, because the debt status of bank clients cannot be divulged. Similarly, prohibitions for certain types of assets (*e.g.*, household goods or capital goods) to be acceptable as collateral hurt those firm-households that have no other goods to pledge (Fleisig, 1995). Moreover, the development of an efficient mortgage and lien system depends on the existence, documentation, and protection of well-defined property rights (de la Peña, 1997). This is particularly important in rural areas, where land can potentially play the role of powerful collateral. Attenuations and restrictions on property rights deprive the rural population from the opportunity to use their land as a mechanism to gain access to loans (Alvarado, 1996).

Restrictions on the use of mortgages as a tool to gain access to loans usually emerge from agrarian legislation that does not grant land reform beneficiaries the full ownership of their plots; instead, they are precluded from offering their land to guarantee a loan. In other cases, the problem emerges from the lack of proper documentation of the property rights. When this is the case, land-titling programs can contribute substantially to the development of rural financial transactions. Demonstration of property rights (ownership and liens on the land) depends, in turn, on the efficient operation of property **registries** with updated information on the legal status of the plots. Affordable instances to resolve conflicts about property rights are also important. Similarly critical are the definition of property rights and the provision of mechanisms for their documentation for movable assets and other forms of property (Fleisig and de la Peña, 2003). An institutional infrastructure that facilitates and reduces the costs of pledging movable assets as collateral is possibly one of the most important potential state actions to improve the performance of rural financial markets, particularly for potential landless borrowers.
Regulation refers to the set of enforceable rules that restrict or direct the behavior of market participants. **Prudential regulation** should aim to contribute to the stable and efficient performance of financial organizations and markets. **Prudential supervision** refers to the examination and monitoring mechanisms through which the authorities verify compliance with and enforce prudential regulation. The multiplicity of organizations that operate in rural financial markets has complicated the tasks of regulation and supervision. The prudential authorities in developing countries and economies in transition need substantial assistance in creating a capacity to deal with this proliferation of organizations and with the different risks that they pose. There is still considerable debate about the

best approach in this area. Given the increased instability of financial systems in recent times, as a consequence of international contagion and other external shocks, the framework of prudential regulation and supervision should promote the operation of robust organizations, capable of withstanding these shocks.

Promoting Financial Innovation

Rural financial deepening fundamentally depends on innovations in financial technologies that make it possible to reach broader clienteles. Existing lending and deposit mobilization technologies do not allow cost-effective responses to the information, incentive, and contract enforcement barriers that curb financial transactions in rural areas. Innovation, however, requires **investments** in experimentation, development, transfer, adoption, adaptation, and learning of the new technologies. These investments are risky, costly, and usually require long gestation periods before any returns are observed.

Typically, the incentives for private investment to undertake these efforts are insufficient, given the significant **externalities** that emerge. Once the new technologies are developed, competitors may find it attractive to imitate their features and can thereby undermine the profitability of the initial investment, by charging less, because they have not paid for all the costs of research and development. Moreover, competitors who have not incurred the costs of training and learning-by-doing can also acquire the new technologies embodied in the loan officers and other staff of the organization, by offering more attractive wages. Because of the nature of knowledge as a public good, these externalities discourage private innovation.

State intervention in financial innovation, however, is problematic. Both the development and adoption of new financial technologies encounter significant difficulties. In effect, adaptation of a given practice to the features of a specific market segment is not a trivial task (Gonzalez-Vega, 1998d). First, this effort requires a flexible framework for experimentation. Indeed, it has been their vast flexibility in exploring alternative solutions to the problems of financial transactions that has allowed microfinance organizations and credit unions to develop their notable innovations. Continuity of efforts is also needed. Specific donor assistance, frequently delivered through internationally-based organizations that possess comparative advantages in institution building, have supported these innovations (Schmidt and Zeitinger, 1998).

Most likely, a multiplicity of experiments is needed, as the appropriate solutions to specific problems are not known ahead of time. If would be inappropriate, for example, to support only organizations that work with group credit or only those that offer individual loans.

Second, financial development is intensive in local information and requires long **learning** processes. Donors can assist in several ways. One is to offer access to the international pool of knowledge about new financial technologies. A clear understanding of general principles, lessons, and best practices is a critical starting point, but it is not sufficient. Finance is essentially about the evaluation of risks, the management of information, and the creation of lender-borrower relationships that carry incentives for the protection of the relationship (Gonzalez-Vega, 1998d). The exact nature of these risks and the precise structures of incentives that sustain these relationships vary from market segment to market segment. The accumulation of information needed to reduce costs occurs locally and gradually, as the organization learns about its clients, about the market where it operates, and about the sources of threats of default. Canned how-to recipes are not sufficient to learn about the market niche. The success of microfinance organizations has ensued only after long processes of learning-by-doing, usually accompanied by close interaction with an international provider of technical assistance. This usually requires a long-term donor commitment to the institution-building exercise (Zeitinger and Schmidt, 2000).

Innovation is also required, moreover, with respect to the institutional design of rural financial organizations. In the end, policies will not be enacted, procedures will not be revised, technologies will not be adopted, if those who have to make the decisions do not find it in their interest to do so. The institutional design of organizations (ownership, control, governance) constrains individual behavior and creates the structures of incentives that guide the decisions that determine performance. The financial organizations that currently have a presence in

the rural areas of developing countries have institutional designs that frequently do not promote outreach and sustainability.

Unfortunately, the role of donors in influencing the institutional design of these organizations is not clearly and sufficiently understood (Von Pischke, 1998 and 2003). Donor choices about investing in, lending to, and making grants for technical assistance and other purposes to particular types of organizations will influence the course of institutional development (Schreiner, 1997). These issues will pose the greatest dilemmas and challenges to donors and governments in the development of rural financial markets.

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Discussant Reaction Paper

Comments/reactions to

"DEEPENING RURAL FINANCIAL MARKETS: MACROECONOMIC, POLICY AND POLITICAL DIMENSIONS" by Claudio Gonzalez-Vega

By Carolina Trivelli
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The paper by Dr. Gonzalez-Vega opens the discussion about rural finance and rural markets in different ways. The paper seeks to provide elements and to shape a new framework to promote

financial rural markets deepening based on a new conceptual and policy framework. I will present a comment organized in 6 points based on what I consider the more interesting issues discussed by Dr. Gonzalez-Vega.

1. In the first place, the idea of working with the concept of financial services instead of centering the analyses on credit and savings, makes more attractive and more complex the analyses. One important and powerful message of this conference and of Dr. Gonzalez-Vega's paper is that rural people could benefit from a more developed financial system in several ways, not only through credit. The more rural people benefits from the existence of different financial products, the better products and greater probably that more credit will be delivered to rural households.

   The broader perspective of financial system and financial services helps to abandon the analyses centered primarily on the supply side (mainly of credit) to a more complex one based on the entire market. Market analyses include studies on the supply, demand, and on the environment in which markets operate. Traditionally, studies and government intervention have centered on the supply side seeking to control, expand and direct the resources in the market. However, in the last years, studies done all over the world have showed that supply approaches are not enough. Supply studies now deal with efficiency and sustainability of suppliers; demand studies work on issues of outreach and access to financial services through the market; and several studies have shown how complex and significant are the conditions in which markets operate. Research on transaction costs, information flows, among other topics have made substantial contributions to understand market failures and its impact on financial markets, specially in rural areas.

   The whole new approach has provide important signals of what is possible and what not in a very realistic way. Fair diagnostics of the problems and limitations faced by rural financial markets have been produced. Dr. Gonzalez-Vega recognizes the importance and development of better diagnosis as a reason to be optimistic about the promotion of rural finance. Agreeing with the idea that knowing better will lead as to make better decisions, the main challenge is how to really use this better diagnosis. Most of them are not taken into account by policy makers in the developing world, and usually are seen as extremely complex to be disseminated.

2. Secondly, the inclusion of the political dimension to understand the differences between what technicians recommend and what governments do, becomes crucial to understand the complex and sometimes non-rational policies adopted in some developing countries. A good example of this type of differences is the recent creation of Agrobanco, the new version of the agricultural development bank, in Perú. Agrobanco was created based on an electoral promise with little or none technical evaluation (an worst than that with little support of the officials responsible of its implementation). This case, as many others, show how powerful electoral processes and political pressure are in defining and redefining governmental interventions in the rural financial sector. The question that stills pending is how we are suppose to deal with political intervention? Politicians will not stop doing promises and will expect, in most cases, to have results in the very short term. Pressure to make promises and to seek for short term results is augmented by the crisis of political parties. A significant portion of governments in the developing world come from independent movements, who know their movement will probably disappear when the government period has end, eliminating most long term objectives from their actions.

3. In the third place, an interesting element, present in most recent rural development literature, is the consideration of the rural ambit as the space to develop financial services, in contrast with the traditional agrarian bias of most of the past work on financial issues dealing with rural matters. Rural instead of agrarian opens the scope for economic diversification and in that way for a better environment for financial services to develop, but also opens questions about the agrarian bias (or not) of the services offered in the market. Some country experiences show that rural financial institutions, mostly microfinance institutions, are less and less willing to offer products to serve agricultural activities. If this is a general trend, the broader scope of rural markets is a way of developing the non agricultural rural financial sector, leaving us where we started, with a lack of credit for agricultural activities. Agricultural activities still account at least for half of the incomes

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of rural people, so cannot be set aside so easily. The old question of how to serve the agricultural demand for credit with competitive products and with sustainable institutions remains unanswered.

4. In the fourth place, the paper reviews several sources of hope for the development of financial system in developing countries: a) The structural adjustments and the financial reforms that, although their mixed results and different pace of implementation, provide a better macroeconomic environment and relatively more stable economic settings. and b) the lessons learned from past failures and from the microfinance recent developments, specially in urban areas, constitute an important set of new knowledge of what works and what does not.

   But the paper also recognizes some limitations. Dr. Gonzalez-Vega recalls the existence of a rural lag and a set of binding initial conditions that make the route for financial deepening not so straight forward. Again, agreeing with most of the reasons for hope (conditioned to the degree of political interference in each country) and with the existence of the rural lag and unfavorable initial conditions, the main question is how to use the new knowledge on good practices and on limitations faced to promote financial deepening in rural areas. Further than that, and recalling my second point, how could we avoid that political intervention in financial market or in related markets worsen the gap or the initial conditions to develop rural financial markets?.

   One would expect, that based on the better diagnosis governments and practitioners could define a common agenda to direct public investment in order to reduce transaction costs due to geography or cultural issues, or to avoid unfair competition from public sector organizations, for example. However, little or none of this has occurred. I would think that one needs to consider the hopes and weaknesses mentioned by Dr. Gonzalez-Vega as real and relevant, but also needs to recall that they are immerse in a general context where politicians rule their decisions based on electoral results, governance objectives and rent-seeking interests, and where institutions are weak and not independent from political pressure.

5. The fifth point has to do with how to organize what could/should be done Dr. Gonzalez-Vega proposes a suggesting approach in which to accelerate the rural finance deepening three gaps need to be closed. The inefficiency gap, distance between the supply and potential supply of financial services, could be closed with incentives to allow efficiency increases in the supply side. The insufficiency gap, that separates the potential supply from the legitimate demand, could be closed with technology innovation and institutional development. And, the feasibility gap, that separates the legitimate demand from unrealistic political promises. Gap that could be closed if politicians and public opinion assume and understand the new views and understandings of how financial markets could really develop.

   The challenge of closing the first two gaps seems to capture most of the work that is being done by a significant group of practitioners and researchers in many places. Developing and adapting financial technology, improving information sharing systems, strengthening financial organizations, improving risk management systems, etc. However, there stills a significant space for public sector counterparts actions. Reducing transaction costs with better infrastructure through public investments, improving research and development of technologies, strengthening regulation systems, passing better legislation, etc. All tasks oriented to close the gaps need to be done in a coordinated way. Public and private agents should have some sort of agreement and means of communication. But, how is this achieved? who is responsible of promoting communication and coordination? who should design the sequence of things needed to be done?.

   On the contrary, the third gap has received little or non attention from the private agents, and less from the public sector. Probably no actions have been designed, nor implemented in order to close this third gap. The question is to what extent something can be done? and, who should do it?

   What will be the impact of making efforts to close only the first two gaps?

(THIS FOLLOWING COMMENT IS CURIOSITY I HAVE, MAYBE SHOULD BE DROPED, AT LEAST FOR THE PRESENTATION.)

A minor comment, actually mostly questions, on the gap analyses based on the proposed framework of Production Possibilities Frontier. Why we have a concave PPF? It means that one institution decides between how much financial services will be provided for rural and urban areas based on a fix endowment and technology. I would explore the possibility of a PPF composed by linear segments. A rectangle in the extreme. Because resources managed by financial institutions are not that fix and technologies either, so scarcity of production inputs maybe is not necessarily binding. Institutions could be working in these two markets with relatively independent functions, based on different endowments and technologies to serve each sector. Moreover, several institutions are specialized in one of the two sectors and have marginal or none participation in the other.

The other questions has to do with where is the optimal point. Obviously, it is on the PPF, but given that urban profitability weighted by risk would be extremely high in comparison with the one in the rural sector, on would expect corner solutions in which institutions will only serve urban clients. How to define the optimal point on the PPF? What is the utility function for society? Again, if utility reflects well being of urban and rural people probably the function will be as the Leontief one, again suggesting corner solutions.

Being very interesting as framework I would like more discussion on the logic of each gap and its incidence in the global financial market gap. This analytical framework could become and interesting tool for further analyses and policy design.

6. Finally, Dr. Gonzalez-Vega's approach organizes nicely his proposals and delivers some sort of a "plan" that is one of the most difficult things to find. The "plan" of closing the three gaps suggests the idea of different instruments needed to close each gap, and different actors involved. However, what I found to be the main contribution is the general statement which asks for the adoption of new policies, but to adopt them in a different way, based more in what we know and less in what we would like things to be. The need to define a complete strategy to promote financial deepening arises as the central conclusion.

   Dr. Gonzalez-Vega ends the paper with a long section full of ideas and suggestions of what needs to be addressed in order to deepening financial services in rural areas. The list is impressive, going from what needs to be considered to promote demand expansions, how to deal with risk, what needs to be taken into account to promote supply expansions, and how to build a process of continued innovations. All points are well supported by studies and/or theoretical relationships and show how one of the mentioned gaps could be closed. However, what is presented in the paper is the idea and maybe the outline of the "plan". Details need to be included to make it a real plan, or a useful tool to help practitioners and policy makers to organize their policy suggestions, opinions and actions. The how and who is absent in the present outline. Knowing that the who is a very local decision, the how things should be addressed could make the approach become a useful tool. Complementary, one would need to know the cost (economically and politically) of closing each gap.

   The main questions I would like to ask Dr. Gonzalez Vega is how this strategy has to be designed and implemented (where to begin?), who should take responsibility of what, and who should pay for this with what resources?. Donors and governments should ask themselves this questions in order to maximize the benefits of their interventions and support. In order to make any strategy feasible, I would like to place the question of how good practice, informed opinions, strategies, and research and evaluation results should be disseminated, not only like here among convinced people, but to general public, to voters, to practitioners, and politicians in order to make this new approach viable in political terms and in that way dealing with the feasibility gap.

Comments on paper

"DEEPENING RURAL FINANCIAL MARKETS: MACROECONOMIC, POLICY AND POLITICAL DIMENSIONS"
by Claudio Gonzalez-Vega

By Nimal Sanderatne
(Post Graduate Institute of Agriculture – University of Peradeniya)

This paper was made possible by support provided in part by the US Agency for International Development (USAID) Agreement No. LAG-A-00-96-90016-00 through Broadening Access and Strengthening Input Market Systems Collaborative Research Support Program (BASIS-CRSP) and the World Council of Credit Unions, Inc. (WOCCU).

All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

Since I have no disagreement with the concepts and arguments put forward by Claudio Gonzalez-Vega in his very comprehensive paper, I propose to add value to the discussion by supplementing and supporting the arguments in three related areas covered by the paper: the macroeconomic policy impacts on rural finance deepening; the role of the state; and innovative ways of deepening rural financial markets.

Macroeconomic Policies

Macroeconomic policies have an important bearing on rural financial markets. It is widely recognised that macroeconomic stabilization, liberalization, financial deregulation and competitiveness among financial institutions are important for the deepening of rural finance. The most important macroeconomic policy is the management of public finance. When governments incur large budget deficits, especially owing to "unproductive expenditures" such as defense, these lead to high inflationary pressures, monetary policies that "crowd out" finance for investment, infrastructure expansion and rural development. This reduces the supply of finances for rural development, while the demand for credit is curtailed owing to the increased costs of finance.

The more significant impact is however the curtailment of government expenditure on capacity building in agricultural research, extension and infrastructure development. Governments faced with stringent fiscal constraints curtail developmental expenditure in the rural sector. These affect the profitability of agricultural and rural enterprise, the credit worthiness of borrowers and their repayment capacity. Deepening of rural financial markets become ever more difficult in such a context.

These macro economic policies transform into disincentives for farm and off-farm enterprise. Farmers have to face a "cost-price squeeze" as inflation increases costs and inadequate institutional support measures constrain productivity. In addition, liberalized trade policies reduce farm gate prices owing to cheaper imports.

The author has argued that: "Policy reforms that improve the performance of the agricultural sector can go a long way towards facilitating rural financial market deepening....The acceleration of rural financial deepening cannot occur without additional intervention to improve the productivity of resources in agriculture." Financial deepening in rural areas cannot be achieved if development priorities do not focus on rural infrastructure development and capacity building in rural institutions. This requires more resources into research, an effective linkage in research and extension and more effective marketing channels for agricultural produce. Additional resources for these cannot be provided if governments are not prudent in their macroeconomic management. Deprivation of resources for agriculture has occurred both in Latin America and South Asia and has been an underlying factor for underdeveloped rural financial markets.

Another significant, though indirect, impact of fiscal imprudence is its crippling effects on economic growth and diversification. Reduced capital expenditure stifles economic diversification that reduces opportunities for

investment and enterprise in the rural economy. Consequently, this constricts the capacity for deepening financial markets, as diversified economic opportunities are a healthy foundation for deepening of financial markets. Closely related to these macroeconomic constraints is the role of the state that is discussed next.

Role of the State

One of the most important contributions of the paper is a redefinition of the role of the state in deepening financial markets. Past experience has demonstrated that direct intervention in providing credit for agriculture has proved "deplorable". These policies have not succeeded in developing sustainable financial services for the poor; their outreach being very limited (10-15%). Antithetically, to deny a role for the state is to place rural communities in betwixt government failure and market failure.

As pointed out earlier, the role of the state begins with responsible macro economic management that ensures a climate conducive for agricultural and rural development. The " establishment of a physical and institutional infrastructure that facilitates the smooth operation of financial markets is indispensable for rural financial deepening". The role of the state is the provision of that infrastructure: the development of roads, transport, telecommunications, education and skill development, that are essential for the effective functioning of rural enterprise. Further, the state has a role in supporting agricultural development through adequate investment in research, extension and institution building. Investments in these are likely to bring greater long-term benefits to rural communities and thereby support the deepening of financial markets.

Ancillary to the state performing such a function is the developmental role that central banks could play in deepening rural financial markets in developing countries. First and foremost that role would be the pursuance of monetary policies conducive to the smooth functioning of financial markets and their deepening. An additional role for central banks is in institutional building to deepen rural financial markets. Central banks should not however replicate the same mistake as governments of directly intervening in the granting of credit, controlling on-lending rates and providing finance that undermines financial discipline. A central bank could perform a useful catalytic role in promoting rural financial institutions by providing valuable information, expert advice, and even providing personnel in the initial years of operation of rural financial institutions. The distinction between the role of the state and that of a central bank is that while the former would be supporting overall infrastructure, the latter could assist more directly in the development of financial infrastructure.

The issue of prudential regulations for microfinance organisations remains an unsettled controversial issue. The regulation of MFIs is necessary to ensure their transparency and financial accountability. These are requisites for their viability and outreach. This is again a role that central banks must play. But it has to be approached cautiously as regulating microfinance is very different to those of bank supervision and regulation.

Innovative Interventions

The paper has pointed out the complexity of the task of deepening rural financial markets. Therefore innovative methods are needed for financial

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deepening. Microfinance is certainly one of these. MFIs attempt to combine the advantages of informal finance while minimizing the disadvantages of institutional finance.

Another means is the linkage of institutions that have large financial resources, but do not have a capacity to deliver these to small borrowers with grass roots community based semi-formal and informal organisations that have this capacity. Such linkages have been established successfully.

An important means of strengthening the capacity of grass roots organisations and institutions is by the use of social capital. By social capital is meant the energies of people to act for the good of the community without direct financial rewards. The use of such social capital would reduce costs of operating financial services and enhance the efficiency of such services, especially through the reduction of defaults. Community based financial services such as ROSCAS that continue to be significant is one such means of using social capital to upgrade services. Their savings could be used as a means of leverage for additional funds.

Financial deepening should not be viewed as being entirely within the institutional framework. Increased funds from institutions to informal lenders by increasing the supply of finance can improve the conditions of borrowing and reduce interest rates of informal lenders. Such institutional lending to informal lenders would be based on secure collateral.

Donor Assistance

Donor assistance for the development of rural financial markets must not be viewed narrowly in terms of only providing finance for rural lending. It must develop rural financial markets through support for institutional and capacity building in rural financial institutions. Support for rural infrastructure development should be an important component of such assistance. Meeting capital costs of rural financial institutions, providing skills training, research into innovative forms of rural banking and improving agricultural infrastructure are ways by which donors could assist in the deepening of rural financial markets. What donors must not do is to provide means for lending at cheap rates that would undermine the evolution of sustainable financial organizations.

Conclusion

The deepening of rural financial markets require a broader thrust than usually presumed. Proper macroeconomic management, development of physical, institutional, economic and social infrastructure in rural areas, could provide the proper environment in which rural financial organisations could be viable and sustainable. The role of the state and those of donors is to assist in the provision of such an environment.

Nimal Sanderatne

NOTES

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Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Lead Theme Paper

Theme: Legal Policy and Ramifications for Rural Finance

Legal and Regulatory Requirements for Effective Rural Financial Markets

By Heywood W. Fleisig and Nuria de la Peña
(Center for the Economic Analysis of Law)

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Executive Summary

Many rural finance and rural development projects, otherwise well-designed, fail because they call for non-legal behavior - behavior that is not sanctioned by law. Sometimes this behavior is extra-legal -- not envisioned by the law; sometimes this behavior is illegal -- prohibited by law. This paper sets out examples of such legal problems, discusses their consequences for rural finance, and discusses best practice remedies. Its main recommendations are these:

* Promote microcredit viability by changing laws to permit portfolios of unsecured loans to serve as collateral for refinancing loans from the formal sector.

* Refocus land titling projects away from "title", a land-use right that does violence to traditions in transitional and customary economies; instead codify all economically important land-use rights.

* Broaden such land-use rights projects to include a clear and simple legal mechanism for transferring land-use rights and using them as collateral.

* Reform laws relating to borrowing status of the poor: age of majority, homestead, literacy, and civil registration. Facilitate the poor, illiterate, and young heads of households in legally conducting business with the formal sector, including signing contracts, opening businesses, and borrowing.

* Reform laws related to the status of farmers, so that farmers can pursue commercial enterprise and participate in commercial transactions.

* Reform laws related to cooperatives and non-governmental organizations, so that they can perform functions like lending and borrowing on behalf of their members and undertake commercial activities with members as beneficiaries.

* Simplify and reduce the cost of bankruptcy procedures, so that a simple and cheap exit mechanism exists for paying unsecured debt and returning the balance to the borrower.

* Limit regulation of rural financial institutions to those taking deposits; do not subject non-financial lenders and financers (dealers, brokers, and farmers) to financial regulation.

* Expand the use of collateral for loans: Permit the use of movable property (1/3 of the capital stock) and immovable property (2/3 of the capital stock) as collateral for loans by improving legal systems for creating, setting the priority, publicizing and enforcing such security interests.

* Expand the use of immovable property (2/3 of the capital stock) as collateral for loans by linking the immovable property security interest system to the broad system of land-use rights, not just titled land. Use a broader concept of security interest than the traditional "mortgage"; use inexpensive systems that do not penalize small rural land-use rights.

* Reform commercial codes that govern rural business, remove economically unsound provisions, and introduce the minimal set of rules needed to run a modern business.

* Pass simple and effective laws governing intellectual property rights so that rural areas can fully participate in the biotechnology revaluation and get the financing needed to do so

* For all relevant legal institutions - write governing legislation that permits competing, and where possible, private, systems civil and commercial registration systems; provide for a notice filing system for security interests property and for land-use rights in immovable property.

I. Introduction and Background

In every country, rural financial markets rest partly on a foundation of law and partly on a non-legal foundation of extra-legal and, sometimes, illegal, customs and usage. These legal and non-legal foundations directly affect the operation of rural financial institutions. They also affect the status of other rural economic agents - individuals, farmers, and businesses. Sometimes these are clients of financial institutions, sometimes in the key case of non-bank financial intermediaries they are competitors, and sometimes they are both.

Box 1. A Bangladesh Dealer in the Informal Sector

One fertilizer dealer in Bangladesh sold fertilizer on credit to about one thousand farmers for a total amount of credit of $200,000 to $500,000. This entire portfolio was backed by a handshake and the knowledge of farmers that if they didn't pay, they would never again get credit from the dealer or from his few competitors. Nor did this dealer look to the legal system for backup. When pressed on whether he would take a (hypothetical) non-paying client to court, he replied, "What? I have enough trouble. He didn't pay me. Why would I go to court"?

Non-legal institutions can work well (see box). However, non-legal institutions work better when they have the backing of an effective legal system. The successful fertilizer dealer (see Box 1) himself had no access to credit, because his enormous portfolio of loans with nearly a 100% repayment rate could not serve as collateral for a loan under Bangladesh law. Even if this portfolio could, he himself, as an individual proprietor, could not use Bangladesh's secured transactions system, which was limited to corporations (the "company charge"). Nor could he expand territory easily because for clients he did not know personally he could not take their future crop as collateral for a loan. He could, in principle, take a mortgage on their land but in most cases they were renting or did not have proper title. However, even where they had proper title, the high costs mandated under the mortgage law made such small properties worthless as collateral. These same barriers to expansion, however, prevented competing fertilizer dealers from entering his market. Therefore, he had market power over both the implicit interest rate on his loans and the price charged for fertilizer. The result? Narrow, fragmented, and uncompetitive rural financial markets.

Non-legal solutions have power in local situations where personal relationships can replace formal law and enforcement. Their weakness lies in their collapse outside that local orbit. These geographic and associational limits on non-legal solutions undermine the central function of the rural financial market - bringing those with savings together with those with the best investments. Those with the best investments may not always be the saver's neighbors, relatives, or members of the same religious sect, caste, or tribe.

This paper discusses analogous legal problems in several areas that affect rural financial markets - bank, non-bank, and non-financial lenders and their clients. The paper first discusses the legal framework for secured transactions that governs taking collateral, covering laws of mortgage, pledge, and, for common law countries, the charge and hire purchase. It discusses briefly some issues in the regulation of rural financial institutions. Then it turns to contract enforcement, entry and exist of institutions from financial markets, issues in land rights, land titling, cadasters, and access to credit. It ends its examination of laws with a discussion of intellectual property rights and proper provision of labor and debtor protection. It concludes with recommendations and a review of donor practice.

All these issues are presented in an abbreviated survey but even that abbreviated summary misses many important areas for rural development that have implications for rural

finance. Law has a broad and deep bearing on rural development.

Implications for Donors and Policy Makers

What do findings mean for effective policy? Most rural finance and rural development projects would do considerably better - and in some cases succeed instead of fail - if economically-relevant laws were revised in ways relevant to the needs of rural finance. The executive summary contains a list; the body of the text contains the detail.

Are most donors already doing this? No. Simply looking at the donor statements for this project shows that only two donors even mention reforming the laws that govern the environment for their projects - the Inter-American Development Bank and the World Bank. However, while these statements reflect sensible views of the role of legal reform, these principles do not reflect the real practices of these donors. For example, in no major financial crisis country - Mexico, Brazil, Argentina, Russia, Indonesia, Korea, Thailand, and Uruguay - has the BID or the IBRD made a reform of the legal framework governing debt collection a condition of a rescue operation.

USAID, which had not at this writing submitted its donor statement, represents a more interesting case. USAID has supported many legal reforms in developing countries. While a full review has not been undertaken and is beyond the possible scope of this paper, those projects have typically underinvested in analyzing the economic fundamentals of modern laws and seeing how to apply them effectively in a developing country context. Nor has there been a clear vision about connecting legal problems to sectoral programs. For example, extensive support for microfinance by USAID and the World Bank has included no analysis of the legal barriers that make microfinance so much more difficult in developing countries than in industrial countries. The result? Even in countries where these donors support legal reforms, these reforms leave the needs of microfinance untouched. Microfinance struggles on in its hostile legal environment. In another case, USAID and World Bank land titling projects focus on title and leave the other land-use rights and mortgage laws untouched; typically they fail to support reform of the laws governing land-use rights as collateral. The result? Multi-billion dollar land titling projects produce no improvement in access to credit secured by land.

These attitudes seem to change at glacial speed. In a competent 1995 study of the role of collateral in microfinance undertaken by the International Labor Organization, the donors were polled to see if they thought revision of the laws governing collateral were important to microfinance. All donors polled said no, except for the representatives of USAID and the World Bank. This 2003 survey of donors can add the BID to the list that expresses concern.

II. The Legal Framework for Secured Transactions

A. Private Finance in Rural Finance

In 2001, developing country GDP amounted to about $6 trillion. On the basis of past performance, just keeping pace with industrial country per capital incomes requires that these countries invest about $1.2 trillion annually. Where will that money come from? Multilateral development banks and the IMF supplied, net, about $18 billion in 2001; aid agencies less. Donors represent less than the rounding error on developing country investment needs. What about the public development banks in developing countries? MDBs have spent the past ten years putting these banks out of business, after their long history of making uncollectible and often unproductive loans. Financing this investment will require private funds. If financed

privately, will it be in equities or debt? That is hard to judge given the primitive state of developing country equity markets. However, the United States has one of the most advanced systems in the world for organizing equity markets. There, in 2000, new equity issues amounted to less than 5% of new lending.

Financing rural investment will require private funds, therefore, and private funds mean debt. For private lending to play the necessary role, private lenders need a fundamental assurance about one thing: that the borrower will pay. A country's legal framework for debt collection provides that assurance.

B. The Economic Gain from Secured Lending

A legal framework that permits offering property as collateral for a loan offers broad benefits in reducing debt collection risk. In systems where borrowers can offer a broad range of property as collateral, they get larger loans, at lower interest rates, repayable over longer periods of time.

The theory behind this is complex1, but examples abound. The credit unions of the World Bank, the Inter-American Development Bank, the International Monetary Fund and the Federal Reserve all offer much better loans terms when a borrower offers collateral. Compared to a loan backed only by a signature, a borrower offering real estate as collateral could expect to get a loan nine times larger, repayable over a period of time eleven times longer, at an interest rate about 50% lower than if the borrower. For a loan secured by movable property, the borrower would get loan terms somewhere between those for unsecured loans and those secured by real estate. Washington commercial lenders follow the same practice.

When the law permits effective use of collateral, the risk from lending falls. Lenders react by offering more credit at the same or better terms. More credit at lower interest rates permits higher rates of investment and more capital per worker, leading to much higher incomes. Seventy percent of bank loans in the United States are secured; at the same time, credit relative to GNP in the United States is about ten times higher than in most developing countries. Farmers and business operators borrow routinely at interest rates about 600 basis points higher than the government-borrowing rate, a fraction of the spread facing their counterparts in most developing countries.

C. Experience in Developing Countries

With few exceptions, farmers and business operators in developing countries get little advantage from offering property as collateral for loans. Why does this experience in developing countries differ so much from that of industrial countries? This section of the paper discusses how poor laws and legal institutions in developing countries provide no economic incentives for lenders in developing countries to give better loan terms when borrowers offer most property -- both movable and real estate -- as collateral for loans. This chapter sets out those features.

1. Basic Elements of a Secured Transactions Legal Framework

The fundamental economic feature of collateral and the distinguishing trait of a secured lending system (a lending system that uses collateral) lies in granting priority to a lender or credit seller in collecting against some property of the debtor. A security interest is "a right of satisfaction" from the property - the "collateral" -- to which the security interest is attached. If the debtor defaults, the collateral can be sold or exchanged, and the security interest of the secured creditor will be satisfied (paid) ahead of the general claims of unsecured creditors.2 In

modern credit systems, such as those of the United States, Canada, New Zealand, or Romania, unsecured and secured lending coexist in a fruitful and mutually reinforcing manner. However, when a legal system supports only unsecured lending, creditors will lend less to any given borrower, for shorter periods of time, and at higher interest rates.3

Moreover, the logical possibility under the law of such a security interest cannot alone secure the economic benefits of a secured lending system. Rather, the legal system must meet some key requirements:4

* Creation: the process by which the creditor establishes a security interest in property (the collateral) -- must cover all economically important property, transactions, and agents; the law must permit creation at a low cost relative to the value of the transaction.

* Priority: the process by which the lender establishes the priority of the security interest against all other claims in property -- must provide for unambiguous ranking of priority rules; must protect the secured party from hidden claims of third parties, including other secured creditors, unsecured creditors, a trustee in bankruptcy, some purchasers of the collateral, labor claims, and government tax claims.

* Publicity (Registration): the legal process that makes public the ranking of priority of the security interest -- must permit a potential lender to establish a ranking of priority in collateral by filing a notice of the security interest in a publicly available archive (registry), and must also permit a potential lender to easily search the archive to determine quickly and inexpensively whether other claims exist against a borrower's property.

* Enforcement: the process by which, upon the debtor's default, the creditor will seize collateral or evict tenants from real estate serving as collateral, and sell the collateral to satisfy the secured claim -- must take place quickly relative to the economic life of the property, and cost little relative to the value of the transaction secured with such property.

The legal frameworks for secured transactions in most developing countries do not pass these key economic tests.5

D. Creation: Problems

Several problems arise in creating security interests in developing countries. These features increase risk, raise transactions costs, and reduce the value of property as collateral:

Unreformed countries usually have a fragmented system for creating security interests -- several different laws govern secured transactions. In Civil Code countries6, typically the law(s) on pledge will govern creation of the pledge (security interests in movable property), a mortgage law will govern the creation of the mortgage (security interests in titled real estate). Nearly all Civil Code and Common law countries will have a law on mortgage. Civil Code countries often also have a law on pledge for property that remains in the hands of the creditor (the "possessory" pledge used, for example, by a pawnshop or a warehouse), a law on pledge for property that remains in the hands of the borrower (the non-possessory pledge). They may further divide pledges into those that apply to commercial entities, and set out in the Commercial Code (the Commercial Pledge) and those applying to non-commercial entities and set out in the Civil Code (the Civil Pledge). Other laws may apply to particular commodities or goods: examples include ships, airplanes, fishing boats, cattle, or industrial property. Common Law developing countries (all former British colonies) will typically have the company Charge, from the different versions of the British Companies Act, applying to security interests in the property of corporations.

They will normally have a version of a Hire Purchase Act, a device similar to a financial lease or a conditional sale.

Gaps in coverage. Taken together, these laws might superficially indicate that much property might serve as an object of security. However, the opposite is true. Gaps in coverage of transactors and transactions limit using secured transactions in rural credit. (See Box [7,8]). Nor can more laws "fill" these gaps. Just logical prevents naming all numbers between 1 and 2, so logic prevents fragmented laws, each listing only a set of transactions and property, from covering cover all possible transactions and all property that can serve as collateral for loans.

Box: Gaps in Coverage

Under the Nicaraguan commercial pledge, movable property cannot secure a loan unless the property is being purchased on credit. This effectively rules out third party financing or the refinancing of equipment already owned.

Mexican law often limits who can use a certain security device. An equipment dealer in Puebla could not use financial leasing to sell equipment on credit. Mexican law permits leasing only by authorized leasing companies. In 1999 in India, the company charge was the only floating non-possessory security interest. A "company", however, refers only to a corporation, not to individual or non-corporate borrowers. At a single stroke, Indian law deprives all small farmers, businesses, and microenterprises of the ability to use their equipment and inventory of movable property as collateral for loans

Limits to Inventory Financing. Moreover, many laws on secured transactions laws, such as pledge laws, restrict the use of general descriptions of collateral (see Box 3).[9] Sometimes this will not matter, as when a lender does want such a detailed description of the collateral - for example, a rare painting or a prize breeding bull. But sometimes a lender will want a general or generic description of the collateral (for example, "100 head of cattle", "all inventory in a store", "all crops in a field"). When the law demands specific descriptions, it can make collection more difficult. Sometimes specific descriptions present more difficulties for the lenders and supervisors if the borrower defaults. Counting 100 head of cattle is easier than inspecting the tattoos on each cow; counting twenty refrigerators on the floor of the store is easier than checking the serial numbers on every refrigerator. Seizing "any inventory" available is easier than identifying specific pieces of inventory. In rural finance, requirements for specific description can cripple transactions. Even when the law permits using the future crop as collateral for loans, for example, most farmers cannot state, in advance, how much they will harvest or exactly describe future crop quality[10] Whether the law effectively permits a general description requires careful checking. Sometimes the law itself will permit a general description needed for inventory collateral. However, this concept is then not present in the other laws that govern registration and enforcement (see box).[11]

Box 2. Other Restrictions on General Description:

In Argentina and Guatemala, the registry law requires a specific description for filing the security interest. In Indonesia, the law requires that the judge state specifically what the lender will seize in a collateral recovery action. Therefore, the provision of the pledge law concerning "general description" cannot be used. These restrictions on general descriptions limit the use of floating security interests for financing inventory, future crop, and securitizing portfolios. They make it impossible to draft security agreements secured by the inventory of a store AND by its accounts receivables. They limit account receivable financing to fund microlenders. These limits have no obvious justification in public policy.

Weak Continuation of the Security Interest. The legal provisions for creation also determine the strength of the security interest and the ease of its enforcement -- crucial issues for creditors. For example, if the debtor sells a crop given as collateral, will the law provide that the security interest continue in proceeds in whatever form those proceeds take? Would those proceeds include those derived from future accounts receivable contracts on the sale of such crop? Does the creditor also get a claim in subsequent dispositions? Suppose the contracts are further assigned. For example, suppose the debtor sells the crop to another purchaser and then buys a tractor with the funds. Does the creditor's security interest automatically continue in the tractor as proceeds of the crop offered originally as collateral? Or must the debtor return to court for a court lien? Moreover, if the debtor returns to court, will the court lien have the same priority as the first security interest? Suppose a bank files a lien on all of the debtor's property. Will the original creditor still collect against the tractor with the original ranking of priority the creditor had in the crop? Unreformed law typically specifies none of these principles and makes no provision for the continuation of the security interests in proceeds of collateral.[12] These rights are crucial practical considerations for prospective lenders and credit sellers.

Best Practice Reform:

A well-drafted system for creating security interests lies at the heart of an effective law. The best reforms integrate all functionally identical security devices (leasing, trust, pledges, mortgages, hire purchase, and assignment of rights) into one comprehensive legal framework and filing registry system. This broader concept - a functional approach -- organizes security interests along the lines of what actually serves as an instrument of security. That permits including broad coverage of all property, transactions and lenders. The law should not restrict descriptions of collateral. To permit and facilitate inventory financing, the law should permit parties to choose a security interest against "generally described" collateral and not require that the security agreement, or later, the court order for seizure, specifically identify the collateral. The law should permit continuation in proceeds and set out clear rules for tracing proceeds; these should supercede old narrow constructs of "fruits and products".[13]

E. Priority: Problems

Priority plays a key role in a secured transactions system: it establishes the order in which the enforcement procedure will satisfy claims against the property serving as collateral. The creditor with the first priority will have its claim satisfied, on sale of the collateral, before a creditor with second priority. Unsecured systems have no system of priority.

For lenders, establishing their priority against the collateral is crucial: even valuable property cannot serve as collateral if a lender cannot determine the value of other claims secured by that property that have a higher priority than the claim that the lender contemplates. For example, a future wheat crop with a minimum value of $10,000 may be excellent collateral for a $6000 loan if no prior claims exist. However, the same crop will be less adequate collateral for a smaller $5000 loan if a prior claim for $7,000 exists.

Priority problems attack the heart of a legal system for secured transaction because they present insurmountable difficulties in determining the value of the property as collateral. Where conflicts of priority exist, secured financing will not take place at all.[14]

The law specifies how priority is established. Two basic systems have evolved: one establishes priority by possession, used only for movable property; the other establishes priority

by publicity or registration, used for both movable property and real estate.[15] Most unreformed legal frameworks for taking collateral do not establish this priority structure in a clear and logical way. Rather, they set out ineffective systems or present unresolved inconsistencies. For example, the law may not state that the time of registration sets the time of priority, but rather use another less verifiable standard, such as date of creation. The law may be ambiguous about what priority system applies to what goods, permitting different pledge laws to apply to different products with no clear distinctions between these products.[16] The result? Searching the registry filing mandated in the law on pledge or the Company Registry, a creditor would still not learn about other major senior rights against collateral. A registry reform alone cannot solve this problem.

Best Practice Reform

Technical excellence in a registry system cannot compensate for inconsistent logic in priority rules. To assure a uniform ranking of priority and eliminate the risk of hidden creditors, priority rules should appear in one law and apply to any and all other interests in property, regardless of their form, entered into for purposes of security. Such a priority structure would cover all present types of security interests, including financial leases, consignments, and sales with retention of title, among others. It would also cover any future hybrid secured transactions that business and finance operators in the reforming country might develop in the future. This framework would not replace the existing special instruments. However, it would operate above them and impose a common system of priority. This would minimize the risk of hidden creditors that could be granted priority rights under a separate law.

F. Publicity (Registries): Problems

If the law follows the best practice system of setting priority by making a public filing, that first-to-file publicity system requires that the law designate the place in which to file the security interest. How well that system works determines, as a practical matter, whether the lender can discover prior security interests or claims against the property in question, as well as ascertain its own ranking of priority versus that of other creditors.

a) Registry versus notice filing archive

Within a framework of making public a security interest, however, sharp differences exist between an approach that uses a registry of the entire security agreement with a broad government guarantee and one that uses a notice filing archive. In a registration system, a lender registers the entire security agreement or a lengthy abstract of it. Typically, registry staff also undertakes some check of legal correctness of the security agreement. In system of notice filing, the lender files only a "notice" of the existence of the security interest. The notice filing archive takes responsibility only for correctly entering the information provided by the lender in the notice and for maintaining the database and public access to it.

A registration system costs more: the costs of filing the entire agreement are greater and are not standard; checking is complex and time consuming. At the same time, the state guarantee has little value because the state does not guarantee against error. Moreover, because so much information is filed, both filers and administrators have incentives to restrict public access. This defeats the purpose of the filing system: making public such data.

The much less costly,[17] notice-filing system requires only that creditors file a notice of the existence of the security agreement. This notice contains the smallest amount of information

necessary to permit third parties to learn that the creditor has created a security interest in certain property. Such a notice might include the names and domiciles of the parties, and a description of the collateral. Because the law requires simple and standardized information, simple databases can readily store it and make it public over the Web. Potential lenders can check existing security interests and other encumbrances on property by searching the filing system themselves.18

Best Practice Reform

A quick review of MDB and USAID project databases shows that registry reform projects pay little attention to the underlying legal requirements of what type of registry or notice system is in place. They make no mention of such substantive laws that need to be changed to accommodate less extensive registration requirements.

For example, most real estate registry reform projects presume that there is nothing wrong with a country's laws if they require that a copy of the entire mortgage deed be filed in the registry. They then proceed to support a real estate registry that will file these entire security agreements.19 Differences in costs and sustainability are enormous: the Internet based Romania notice filing archive supported by the World Bank cost under $500 thousand. Using rented servers and web-based programs, its monthly operating costs are about $150, a cost easily sustainable by its private NGO operators. A real estate registry that files and verifies entire documents could cost millions. Private operators cannot sustain such costs. Indeed, even for the governments themselves, once donor funding ends, these systems typically collapse again in endless backlog and out-of-date computer equipment. The real estate registry of Santa Cruz, Bolivia presents a clear example of these problems.

Box 3. Backward Systems: State-operated Paper-based Systems

Donor funded projects in Indonesia and Vietnam actually introduced state-operated paper-based systems for their secured transactions filing archives. It is difficult to imagine what possible excuse could justify such backward systems in such large countries when Internet-based systems are available.

b) Private versus public operation

Box 4. Registries: Private or Public Operation

Across the world, filing systems operate in very different ways. In most of the United States, state governments operate the filing systems. They file notices and often authorize private persons, such as attorneys and banks, to file notices on their own. In some Canadian territories, provincial registries subcontract essential activities in building up and operating filing systems to private companies. In Argentina, the government licenses private persons to operate the pledge filing system; the state gives these people exclusive rights to certain territories, but also regulates them. In Romania, the new Law on Security Interest grants the right to administer the filing system to a Consortium of private persons that compete among themselves. In Colombia, chambers of commerce, sanctioned by the government but run by their business-operator members, operate the filing systems for businesses and for the commercial pledge.

In Ecuador, Jamaica, Peru, Bolivia, or Romania (pre-reform), as one approaches a registry street address, finding the entrance is easy: just follow the long line of people outside on the sidewalk. These lines are the unsurprising consequences of government-run monopolistic registries. Even where filing fees could cover operations, public officials face constant temptation to divert these funds to other purposes and leave the registry starved for funds. They face strong political pressure to hire politically connected staff; equipment budgets suffer. A consortium of private operators can run filing archives. Where private operators

compete, or represent broad based interest groups, such archives can run very well (see Box).[20]

Best Practice Reform

Based on economic logic and experience, we would expect better performance from private competitive supply than from state owned monopolist supply; we would expect competitive state supply and private monopolistic supply to providing service somewhere in between. Changing a monopolistic state-run system to a competitive registry service requires changing the substantive registry law and drafting extensive regulations. Training, computer software, and equipment for these registries - familiar donor nostrums -- will not improve this poor service.[21] . A brief review of registry projects underway at major MDBs and donors reveals no substantial change in this economically inefficient approach to these registry institutions.

Box 5. The Low Costs of Notice Filing in Internet-based Archives

CEAL's Romanian filing archive, designed for a World Bank project, is operated by a consortium of commercially oriented NGOs. They compete for filings, avoiding monopolistic constraints even while it provides a single filing archive supervised by the government. Because the planning of the archive was integrated early into the legal drafting, the most modern systems techniques could be used under the law. The entire project – including diagnostic paper, law, filing registry archive, and training – was complete for under $700,000. This is 30%-50% of the cost of similar donor supported program. Operating costs for the entire system are under $200/per month, making the system readily sustainable for the team of NGOs operating it. Privatizing the archive bypassed the extensive problems in the state-run registry system. Having competitive private operators operating under indirect government supervision gave Romanians access to competitive prices and service. This privatization approach avoided the private monopolies and poor and expensive service on many poorly designed privatizations of government services.

c) Filing Security Interests and other Interests in Land

The most advanced laws on secured transactions could provide for filing in the notice filing archive notices of both security interests and notices for any other interests in land, including land-use rights and real estate fee-simple title. That expanded filing archive would encompass an "archive of security interests and rights in property." Such an approach circumvents delays arising from slow, expensive, and politically contentious land titling and real estate property registration systems. Rather, it would provide a quick filing system for security interests and other interests in real estate.[22]This strategy, which permits accepting a broad range of land rights as collateral, will accelerate the development of land rights as collateral with commensurate social gain. Titling projects can continue focusing on granting titles while other land rights can be filed where the government prefers. Possessors of such rights will file a notice of such a land right in the security interest filing archive. That will perfect the land use right, including the title, vis-a-vis all subsequent security interests or interests of other subsequent claimants.

G. Enforcement: Problems

Can the creditor, in the event of default by the debtor, repossess or evict and then sell the property that the debtor gave as collateral? Any rational lender or credit seller will focus on the value of collateral after the costs of sale and seizure, not its nominal market value. Lenders who face slow and expensive enforcement will simply adjust downward the size of the loan relative to the value of collateral realized after the costs of sale and seizure, not its market value before these actions are taken.

Box 6. The Economic Impact of Swift Enforcement

In the United States and Canada, a borrower or credit buyer could reasonably expect to finance 80%-95% of the value of a car, machinery, or real estate. In such a system, the lender or credit seller expects enforcement of the loan at a cost ranging between 1% and 5% of the value of collateral, and in a period of time ranging between five days to two months. Such a lender expects to have the full value of the loan covered by the collateral at the end of the enforcement process.

Few lenders or credit sellers in developing countries, with the exception of sellers of cars, and some goods crops produced in monopolistic or monopsonistic contexts, such as sugar in Central America, fertilizer dealers in Bangladesh, or dairy dealers in Uruguay, believed such a condition was met. Rather, they believed that costs of enforcement would absorb up to half the value of the collateral. They believed that collection would take a long time, during which the collateral would deteriorate and that interest would not accumulate during the enforcement period. As a result, the loan plus accumulated interest would greatly exceed the value of the collateral.

For movable property, such as crops and account receivables, the problem of rapid enforcement can be crucial. Movable property typically depreciates more rapidly than real estate: a period of collection and sale of one to three years makes most movable property useless as collateral. Inventories of bread, fruit or vegetables last a few days; dry pasta and accounts receivable might last 30 to 60 days. Even storable agricultural commodities will depreciate rapidly without proper care. But proper care may be a difficult task under court supervision and unrealistic to expect of the defaulting debtor. For other equipment, one to three years may represent a substantial fraction of its economic life -- a computer loses about one-half of its street value in three years. Only rarely can movable collateral withstand one to three years of collection time and emerge at the end of the process with enough value to make a difference to a lender.

Enforcement has two steps: repossession (for movable property) or eviction (for real estate), and sale.

1. Limits to repossession of movable property

Laws in unreformed countries typically require court permission for repossession of collateral. Some poorly drafted reforms appear to give broad leeway to private parties, permitting voluntary agreement an inexpensive means of repossessing collateral.[23] Such laws might state that only if such a private agreement does not exist will the slower traditional rules for repossession apply, rules that require repossession according to the decision of the court, arbitration court or action of a notary. However, often such voluntary rapid repossession agreements only apply when the debtor and creditor both agree at the time of enforcement. Lenders will consider such a possibility of trivial importance. Lenders don't worry about debtors who voluntarily surrender their collateral. Lenders worry about debtors who refuse to surrender their collateral. Under most unreformed laws, should the debtor dispute collection, repossession would require a full and lengthy judicial process. Why? Because unreformed laws do not grant creditors a right of self-help repossession; do not permit speedy use of state-controlled force; and require numerous steps in taking possession of collateral.

2. Limits to eviction from real estate

Repossessing real estate collateral involves evicting the occupants, who upon default become automatically tenants, typically non-paying. Evicting the occupants of real estate taken as collateral usually requires several lengthy and expensive steps.[24]

Box 7. Time for Repossession

In El Salvador, lawsuits to repossess and sell collateral take anywhere from one to ten years. Lenders take movable property as collateral only from borrowers that own real estate or are otherwise demonstrably wealthy.

Each day for a year, an Uruguayan bank lawyer drove past a piece of her bank's leased equipment, sitting abandoned in an open field, slowly turning to rust. The debtor had fled to Brazil. However, the court required a year to rule that the debtor had disappeared and issue a court order for seizure and sale.

In Peru, lawyers interviewed reported no eviction process faster than one year under the mortgage law. Recently enacted trust laws left the crucial eviction process unreformed in the procedural codes. Now, even under the recently-enacted trust law, lawyers estimated a minimum of 8 months to evict a debtor.

3. Limits to the Sale of Collateral

Once the collateral is repossessed, it must be sold. Most unreformed laws provide for a complex sale procedure. This might include an appraisal of the property, a court administered auction, a provision for revaluation of the property if it fails to sell at the appraised value. Each of these steps costs money, requires additional trips to court for each step, and takes time[25]

4. Legal strategy in enforcement

The key legal elements for improving enforcement in secured rural credit lies in laws that permit non-judicial repossession (when possible without disturbing the peace[26]). They specify rapid "ex-parte" court orders for forcible repossession. They have in place private and public agents who can carry out those orders. They provide procedures for accelerated evictions from real estate. These court-administered methods should retain only those key steps required by most constitutions to use force for breaking and entering. Provisions for sale of collateral, crucially, should permit creditor-administered sales conducted under commercially reasonable standards.[27] These features could be part of a special law of security interests. Such a comprehensive statute will assure close consistency among the four stages: creation, priority, publicity and enforcement.

III. Regulation of Rural Financial Institutions

This section briefly discusses some regulatory issues concerning rural financial institutions. As a technical matter, laws authorize regulations and are superior to regulations. A law could modify a regulation but a regulation could not modify a law. Broadly speaking, this paper takes the view that the major problems affecting rural finance arise from laws, not from regulations.[28] In general, CEAL's own field investigations have indicated that regulations tend to follow laws fairly closely, as they should, and that regulators do not have much leeway to change things without a change in the law. Here we raise some points related to regulation, though in most cases even these issues are determined not by regulators but by the text of the banking law or the financial institutions law in the country.

1. Who should be regulated: "deposit-taking institutions" or "those engaged in financial activities"?

What institutions should be regulated? Two broad strategies have been followed in

deciding which institutions should be regulated. One strategy calls for regulating only deposit-taking institutions, on the grounds that banking panics arise when small and uninformed depositors place funds in unsound institutions. Another strategy calls for regulating all financial institutions on the grounds that any financial institution can contribute to systemic risk. Donors and MDBs have followed both strategies with no apparent consistency.

The equity and distribution case for protecting small depositors is strong. Small depositors are often in no position to judge the soundness of institutions and are often the victims of swindles.

However, regulating non-deposit-taking institutions seems questionable and highly costly in both supervision resources and limiting access to rural credit. It stretches credulity that the credit sales of a fertilizer dealer or a tractor dealer could present a systemic risk to the financial sector of the country. Occasionally a finance company might grow large enough to represent such a risk, but size requirements for regulation could easily handle that eventuality. Otherwise, the operators of the lending and crediting institutions are risking their own capital. If they lend unwisely and lose their money, what is the bad consequence for the financial system? Why is it worse for the financial system than if they went out of business for some other reason? Regulating lenders and credit sellers who do not require regulation limits the growth of such transactions. Why should developing central banks and bank supervisors, already struggling to do their jobs, undertake the preposterous step of bringing fertilizer dealers under their regulation. Non-bank institutions represent 60 percent of US credit; in developing countries such institutions represent no more than 5 percent.

2. Who should regulate deposit-taking non-banks?

For deposit-taking banks, a huge international infrastructure dictates that deposit taking institutions be supervised by a superintendent of banks and that national banking regulations comply, in broad terms, with Bank for International Settlements (Basle) rules.

However, non-bank deposit-taking institutions operate in something of a vacuum. In some countries the Superintendent of Banks nominally regulates them, but rarely do they supervise such institutions effectively. Solidarity group lenders and credit cooperatives have different internal microeconomic logic from banks and need regulation suited to those environments. Supervising and regulating such institutions is as complicated as supervising and regulating banks. However, since such institutions have smaller economic presence in the country, the net result is often not to regulate them. Rather, regulation impedes their development by forcing them to remain in defiance of a lawful system because the lawful system is not well defined.

One possible exit from this problem could lie in using internationally recognized NGOs as the supervisory agency. Clearly this requires some institution building, but why couldn't an organization like WOCCU develop supervisory capability and contract with foreign Central Banks to supervise credit unions? Indeed, credit unions could contract privately with WOCCU for such services. Similar arrangements could be developed for the supervision and regulation of other types of microcredit agencies. This would represent an enormous global economy of resources, bringing first-rate supervision and regulation to countries that could not otherwise afford it.

IV. Contract Enforcement

Well-developed legal systems have several ways to enforce contracts. The earlier section on secured transactions discussed one system -- enforcement of a loan contract secured by collateral. This procedure permits fast repossession and sale because an underlying voluntary agreement exists between parties to use these procedures. Other systems of contract enforcement must operate when no prior agreement exists for using property to guarantee contracts.

A. Enforcing Secured Contracts

Secured contract enforcement follows the steps laid out in the framework for secured lending. Many obligations or contracts may be secured, not just a loan. These could include obligations such as future sale of crop or the timely delivery of shipments, or the performance of a service. Parties cannot use secured enforcement when a poorly drafted law on secured transactions limits the obligations (transactions) that may be secured. A well-drafted secured transactions law has a scope of application that encompasses all transactions, lenders, borrowers, and assets.

B. Enforcing Unsecured Contracts and Non-consensual Claims

Many contracts, however, are not secured with property. What procedures can an injured party follow to enforce such a contract? Or a claim that does not arise from an agreement at all? .

A further distinction matters for contract enforcement and claim resolution. Consensual claims rest on a voluntary agreement. That agreement can provide for arbitration and other alternative dispute resolution systems. This, in turn, permits bypassing problematic judicial systems. Reform should then focus on arbitration and these other systems. However, when no agreement exists, the claim is non-consensual. Suppose you run over my sheep with your truck. Parties to such disputes cannot be forced to use alternative arbitration mechanisms. Reform efforts must focus on the court system.

1. Enforcing Unsecured Contracts

Disputes involving parties to a contract could specify within the contract that disputes be settled outside the court, possibly by arbitration. For example, if a farmer purchases a patented plant and then replicates it, the manufacturer's claim, under intellectual property law, could arise from the licensor-licensee agreement that was part of the sale agreement. Such a license agreement could provide for alternative dispute resolution, such as arbitration.

Arbitration and other Alternative Dispute Resolution Mechanisms. Many donors support the sound strategy of establishing arbitration systems as a partial solution to inefficient courts. However, these efforts often proceed without a full analysis of the laws that limited to the use of arbitration in the first place. For example, sometimes the Code of Civil Procedure permits the loser to appeal an arbitral award before the judicial courts. Potential winning parties, knowing that appeal means an additional long judicial enforcement process, avoid arbitration and go directly to litigation. Not surprisingly, many arbitration centers and training programs, often established at great donor expense, have few cases (e.g., El Salvador). Inadequate basic legal and economic research meant that a basically sound reform had little economic impact on investment and growth in the country. Businesses continue to complain about the lack of a system for dispute resolution.

2. Enforcing Non-consensual Claims

However, suppose that instead of being party to a licensing agreement, the farmer replicated the plant from stolen material. Then no underlying agreement would exist between the farmer and the manufacturer. Rather, the manufacturer's claim will relate to an infringement of an intellectual property right by a third party. Since the farmer and the manufacturer have no agreement, no opportunity exists for applying alternative dispute resolution mechanisms. Non-consensual claims will always require resolution in the courts. Parties could agree to arbitration once the case is filed. However, the party with the weakest case may have the strongest incentive in leaving the matters in the slower court system rather than in agreeing to a more expeditious arbitration process. Parties rarely institute arbitration that state. Rather, the court system applies to most non-consensual disputes.

Judicial Reform

A complete discussion of reform of the court system lies well beyond the scope of this paper. However, several important aspects of court reform emerge from the extensive literature on the subject and from the points raised elsewhere in this paper.

Courts in developing countries have a lot more work than in industrial countries. As an Argentine judge discussed in the introduction of a recently published book, judicial systems are overwhelmed with cases because the underlying legal system makes many standard administrative activities go through the court system.[29] In Latin America, for example, collecting secured loans requires many judicial steps. So does settling an inheritance with an uncontested will. However, the law could assign these uncontroversial activities to the private sector, sparing the scarce resources of the government and reducing governance problems. The judicial system should focus its scarce resources on those activities where the private sector cannot satisfy the public interest.

Judicial systems in developing countries must often follow old procedural laws. None have received economic analysis and most appear to have no economic logic. For example, many Civil Code jurisdictions set out faster track procedures in the code for small claims. However, they indirectly refer back to the more expansive rules of larger trial processes to provide evidence. This undercuts most of the purpose of small claims court by imposing large costs in time and money for evidence gathering.

Best Practice Reform

Traditional judicial reform projects are long on training and computerization and short on changing the laws that produce inefficiency in the first place. For arbitration, the law must permit binding arbitration, competing arbitrators, and insulation from the court system. For judicial reform, a good reform should change all legal provisions in existing laws that directly or indirectly call for unnecessary judicial resolution. Particular focus should be placed on judicial resolution that appear to have no ground in public policy or economic benefit -- such as successory proceedings, and judicial sales of property. Furthermore, a reform should revise the code civil procedure laws that raise the costs of litigation. Often neglected aspects of judicial reform can assure minimalist and well-designed interventions with excellent results: examples include small claims courts, private prosecution, class action law suits, and streamlined procedures for dismissing non-performing judges from their positions.

V. Entry/Exit of Institutions from Financial Markets

A healthy rural financial sector has many institutions providing financial services besides banks. Most developing countries have non-bank credit amounting to no more than five percent of total credit. In the United States, non-bank credit amounts to sixty percent of total credit. Given that US credit relative to GDP is about ten times greater than is that of most developing countries, non-bank credit is an astonishing 120 times greater relative to GDP in the United States than in most developing countries. Understanding how these institutions operate is central to understanding the dynamic of modern rural credit. And understanding how these institutions operate is inextricably linked to the laws that govern them.

Several different legal frameworks affect the entry and exit of such institutions from financial markets. These laws and regulations affect such financial institutions directly, insofar as they affect licensing of financial institutions and shutting them down. However, they exert a larger effect on the chain of rural credit. They affect the entry and exit of non-bank financial intermediaries, such as dealers and producer cooperatives. Finally, they affect the ability of both bank and non-bank financial intermediaries to lend to rural producers and to collect debts from them once they have lent.

A. Regulated Financial Institutions

For regulated financial institutions, the regulator controls entry into the market. The regulator also forces exit, by determining the rules for writing off bad loans, for provisioning, and for recapitalizing. Ordinary business creation rules (see below) typically do not apply to them. Nor do the ordinary rules that govern the exit of insolvent institutions (see below).

B. Exit of banks and deposit-taking non-banks

Typically the rules of bankruptcy do not apply to deposit taking banks because the regulator declares the portfolio non-performing and shuts the bank down for capital inadequacy.

C. Legal Problems in Entry: Licensing, and Registration of Rural Businesses

In some developing countries more than half the total businesses operate informally. "Informal" means that these businesses do not follow the legal requirements set out by the law for registering a business. Why? First, the law often sets out unreasonable, difficult and expensive requirements. They reach well beyond the public policy and business development justifications for commercial registration. Inform firms find those legal requirements expensive and see their effect mainly in increasing their chances of being taxed. At the same time, because of other problems in the legal framework, registration does not change their access to credit. Without expanded access to credit, becoming formal rarely enables small firms to get large contracts to deal with other formal sector firms. Faced with those high expected costs and low expected benefits, most rural micro businesses and even SMEs operate informally. Farmers may face greater hurdles, as some laws classify them as non-commercial entities that cannot operate as businesses at all.

1. The Commercial Registry

A simple economic objective underlies commercial or business registration: a business should establish a certain domicile with the public so that the business can be found "legally" for purposes of contract enforcement or in case it causes damages, such as not paying its taxes, owing penalty fees for improper waste management, or owing a tort claim. It also provides a

place for designating officials with the power to obligate the firm, facilitating business transactions. Almost every legal system provides for some form of business registration.

However, laws in most developing countries go far beyond these basic public policy objectives. For example, in El Salvador, among other requirements, the law asks for annual audited tax returns; corporate documents signed in a notary public deed; paper filings in person in the registry; and certificates related to the business real estate establishment, to name a few. In addition, the commercial registry office in most developing countries is in complete disarray. Long lines, bad service, errors and fraud are common complaints. As with the registration of security interest, which in many countries takes place at the same commercial registry, state and monopolistically run registries rarely serve the public well.

Box 8. Costa Rica: Privatizing a Business Registration System:

CEAL's design of a one-stop-shop for business registration for Costa Rica (Inter-American Development Bank project) calls for operation of an integrated business registration system electronically linked to existing government data bases and offices. A consortium of NGOs, including the chamber of commerce and chamber of industry will run this archive. Designing an organization where service venders compete is crucial in avoiding the problems of ordinary monopolistic privatizations of public services. Before the system is set up, the legal framework will be reviewed and changes proposed. Similar opportunities arise in organizing arbitration, processing bankruptcy, and filing security interests against land rights.

2. Other Licensing Requirements

In addition to registering to do business, farmers and merchants must also comply with numerous other legal requirements and licenses, each often imposed by a separate government agency. For example, in Costa Rica there no coordination exists among these agencies and the farmer or business must consecutively undertake each step repeating the documentation that it must submit. These add costs, in terms of time and money, to entering the formal business community.

Best Practice Reform

As in any registry reform, the first and most important step lies in thoroughly reviewing the commercial and other business laws that set the requirements for entering the formal sector for doing business in the country. Such a review should present a detailed analysis of the law's costs and expected benefits, including the public policy objectives they espouse.

Quick fixes rarely work (see box). Rather, the analysis should evaluate each legal requirement, the procedural steps it encompasses, and the options for minimizing the costs in both time and money to comply with them. For example, when the requirements are administered by six different agencies, the best intervention lies in designing a "one-stop-shop" for business registration that centralize all requirements at once. Such registration system can further permit private and competitive sustainable operation.

Box 9. Quick Fix: Exclude Small Business and Farmers

The best fix usually does not lie in a blanket exclusion of small businesses and farmers from environmental certification or other commercial law requirements, as it is incorrectly the case in El Salvador Commercial Code. Quite the contrary, the benefit to public health of many environmental regulations far outweighs their costs. Often, small businesses and farmers pose as great risk to the environment as large ones. For example, a farmer who dumped toxic material into the water and killed two families in Bolivia caused great damage even though a poor small farmer. Small businesses excluded from the commercial registry get none of the benefits of formalization.

D. Legal Problems in Exit: Bankruptcy Laws

Though sometimes grouped together under the rubric of "debtor-creditor" laws, bankruptcy and secured lending serve different economic purposes and social ends: Bankruptcy terminates debt collection. Bankruptcy replaces other penalty systems for defaulting debtors, including debtors' prison, slavery, dismemberment, transportation, and death. Secured lending, on the other hand, facilitates debt collection. It works by improving security and information. Borrowers can then more readily prove their creditworthiness. Lenders can make loans with less risk and collect them more easily.

1. The Gain from Bankruptcy Law

The original gain from bankruptcy arose from ending practices perceived as socially damaging. An imprisoned debtor not only produced nothing and required feeding. Originally, bankruptcy had no direct effect on the position of the secured lender: the secured lender's first recourse was to the collateral for the loan. Only if that collateral was insufficient did the bankruptcy system apply to the deficiency balance -- a debt balance exceeding that realized from the sale of the collateral. Several unreformed bankruptcy laws in Latin America will still reflect this economically efficient isolation of secured loans from bankruptcy, such as the Honduras Commercial Code.

2. Problems in Bankruptcy Laws

Some bankruptcy laws have given **priority to some unsecured claims over secured claims**. These laws permit using the proceeds from selling the collateral to satisfy unsecured claims before those of the secured lender. For example, bankruptcy laws in Argentina, Mexico and India give priority over the claims of the secured lender to the fees of bankruptcy lawyers, taxes, unpaid wages of workers, tort claims, subcontractors, and costs of the bankruptcy court.

Evaluating the social value of these provisions involves complex issues in productive efficiency and troubling issues of fairness about which reasonable people might reasonably disagree. Fortunately, it is possible to bypass most of these issues. Other methods exist for achieving these same ends that would not damage the framework for secured lending or reduce the benefits that it concurs. Debts to the state could be collected in the same framework as other secured loans if the state merely filed a lien in the debtor's property at the time that the debt to the state was created. Unpaid claims of workers could be protected by a floating lien equal to the unpaid claims. Tort claims could better be provided by requiring insurance by the firm in question. Subcontractors, like workers, could file liens when the debtor's obligation was created. Attorney's fees and the costs of bankruptcy would have priority only from the time of bankruptcy, thereby minimizing incurring social costs for dissolving firms with no net assets left.

Much of the impetus of bankruptcy reform arises from the donor-supported efforts to spread U.S. Chapter 11 business reorganization measures to developing countries. Do developing countries gain from introducing such procedures that aim at **judicially-administered methods of preserving the ongoing value of the firm**? Such procedures can damage the credit system, as they nearly must always require a stay in execution of the secured creditor's rights. Such a stay presents the risk that these rights will be diminished in the course of the reorganization proceedings.

This issue merits further investigation. Nonetheless, the evidence from developed countries indicates little social gain from a stay in execution of secured claims in the

reorganization of firms. Indeed, most studies have difficulty finding any gain from reorganization proceedings at all.[30]

VI. Land Rights, Land Titling, Cadasters, and Access to Credit

A legal system conducive to rural finance defines clear legal rights to the use of land -- particularly for the transfer and use as collateral of those land rights. These elements underlie an efficient market in land rights and using land rights as collateral for loans. Land titling and cadasters are neither necessary nor sufficient conditions for using land rights as collateral and improving access to credit. Success depends, rather, on clearly defined land rights and a system for secured transactions that can use those rights.

A. Land Rights and land titling

The laws of most countries set out many rights to land, including the right to fee simple ownership associated with titled land. However, the fee simple ownership of titled land is not the only possible interest in land, or the even, necessarily, the most important land right. There are rights of way, long term leases or usufructs, easements; land held by cooperatives, corporations and associations with long-term contracts for land-use rights; property conveyed with different state deeds conveying different rights; and, finally, future rights these land rights.

One land-use right is fee simple ownership. A titling system can give a state certification of that ownership right. Many countries use titling. However, most legal systems define different rights in property, including ownership, without necessarily referring to a title. For example, in Vanuatu, Papua New Guinea and Samoa, farmers can demonstrate that they "own" real estate without having a title. So can residents of Bolivia and New York.

The more land rights that the law covers, the more these rights can be traded and used as collateral for loans. Advanced economies have most of these types of ownership arrangements. For example, the United States is popularly seen as the heartland of "fee-simple" titled ownership - the type of property underlying the mortgage as an instrument. However, more than 25% of the land in the United States belongs to the federal government -- closer to 50% in the state of California, the third largest economy in the world. Farmers, miners, and businesses use this land under a wide variety of leases and use rights granted by agreements with the Federal government. Much of the land under Wall Street is owned by religious institutions that rent it to the commercial entities that occupy it. Large blocks of US land under the control of Native Americans are administered under traditional systems.

Land is leased all over the world. Much of the land in the city of London is owned by the British royal family, which, like South Pacific customary tribes, does not alienate its land; the entire city of Hong Kong was built on land leased from the government of China. The "owners" of rights to this land may not alienate because it is their policy; or they may not alienate because the terms under which they inherited or otherwise obtained the land prevent them from alienating it. Nonetheless, well-developed legal systems permit an active market in land rights and such land rights routinely serve as collateral.

Creating economic useful land rights require the same four key features in the law: the law must define and create land-use rights; it must set logical and clear priorities among the different land-use rights; it must provide a practical, effective and sustainable system for publicizing these land rights; finally it must set out a workable system for enforcing these rights.

B. Creation: Defining clear Interests in Land

Most legal systems permit a many different interests in land. Each interest requires careful definition. For example, a conveyance of a fee simple interest in a sales contract requires a law that clearly defines how to create the fee simple land-use and a description of what that fee simple land-use right encompasses. Donors often insist on systems that require transferring land without impediment - fee simple title. Such a Procrustean stance can create enormous political problems in systems where such ownership is politically objectionable. Prohibitions against alienation occur commonly in traditional cultures in Africa, Latin America and the South Pacific as well as in most transitional economies that stress long-term use rights and state-owned property or cooperative ownership. This rigid stance in support of fee-simple title also misses the opportunity to better define and concretize other land rights, paying particular attention to the terms of transferability, certainty, and use as collateral. Such refinement could improve the economic value of these land rights in ways more harmonious with the other social values of the residents.[31]

1. Lowering costs

In most developing countries, expensive legal requirements such as notary deeds block farmers from legally acquiring and transferring land rights or using them as collateral for loans. These high costs arise from laws that set up monopolistic and state supervised systems of notaries, lawyers and other public employees that, by law, intervene in the legal creation of land rights with innumerable procedures that have no clear public policy benefit.

Successory proceedings in developing countries, applicable to all transfers and whenever the registered owner dies, involve extremely costly judicial steps to transfer land. In Bolivia, much land already titled and registered with donor support under the agrarian reform comes back to the informal market at least every generation because farmers cannot bear the expense of following all the legal steps set out by the Bolivian Civil Code required for transferring the land by inheritance. Most land projects missed a key point of reform by completely avoiding reforming these laws. Donor-funded projects come in at astronomical prices (see box).

Box 10. Can Developing Countries Afford Property Rights?

The World Bank funded reform of the movable property laws and registries for all of Romania came in at under $700,000. The World Bank funded reform of immovable property registry for only the district of Bucharest, one of 41 districts, cost $26 million and reportedly remains incomplete. Pro-rated, that means a cost of more than $1 billion to formalize Romanian real estate, about 4% of Romanian GDP. Imagine someone proposing a $320 billion project for the United States. Movable property amounts to about 1/3 of the national capital stock; immovable property amounts to about 2/3 of the stock. Why the difference in costs? Poor project design that leaves obsolete laws unchanged. Can countries afford property rights at these rates?

2. State Cadaster System

A cadastral system is necessary neither for the operation of a mortgage market nor for establishing land-use rights, including fee simple ownership. Typically, a deed will make reference to the physical location of the land or the building and include a natural boundary description. It may be helpful to include the cadastral mapping identification number in the deed. Under most laws, however, the legally binding property description and location will be the natural description set out in the deed. That is, if someone claims your land, you defend against that claim with the natural description in the deed, not with the cadastral entry. This

requirement prevails for all the mortgages securitized in the United States today. If the cadastral boundary description in the cadaster conflicts with that in the deed, most laws, including all US states, provide that the natural boundary description in the deed will prevail.

A cadaster performs several useful purposes: zoning, tax collection, and land use planning. However, donors and policymakers must balance these features against their costs and the reality that most developing countries do not tax land.

C. Priority: Establishing a Clear Ranking Priority of Interests in Land

Without clear rules for ranking the priority of interests in real estate, no land market can function properly. Land may have great value as a productive asset, but that value cannot be realized if a purchaser cannot tell who has other rights to the property. It is common to hear of owners who must purchase the real estate twice because the owner has also sold the property to another person and the law does not provide for which purchase interest will prevail. Such legal muddiness creates great risk in land rights. While the importance of this may seem basic, most land reform projects assume that the priority rules in custom, the civil code or the land laws are clear. They assume that they all apply the known rule, "first in time, first in right", which assigns priority to the first to register in the real estate registry. However, most developing countries lack priority rules, provide for unclear priority rules, or have conflicting laws that defeat the land right priority.[32]

D. Publicizing Interests in Land, the Registry of Real Estate

A traditional land titling system puts a record of title in a state-operated registry. This "registered title" may have a strong government guarantee, as it does in New Zealand, Australia, and some Canadian provinces. Or it may have a weak government guarantee, as in most states of the United States. In those states, lenders typically require additional assurance of the quality of the title; they require that borrowers purchase title insurance. The fees for this registration are typically high. Moreover, although the land is permanently in the same place, it must be re-registered each time the owner changes. This, of course, includes each time an owner dies and bequeaths the land to another person.

The policy issue for developing countries arises in deciding how much additional security such a registration gives. In most countries, the law gives specific guidance about ownership and land rights. The registration procedure typically cannot be any stronger than the underlying law. Therefore, the fundamental point of intervention lies in laws that set out clear land rights. Many countries, therefore, have three institutions involved in establishing land rights: the law and the courts, the title-granting agency, and the registry. In most developing countries, none of these institutions work very well. Should developing countries invest, therefore, in registration systems?

A second and separate issue, however, arises in where lenders will file the security interest against the titled property. Most mortgage laws specify that the security interest be filed in the same registry as the title. This is a practice, not a logical necessity. However, many problems arise in depending on filing registries for the security interest function. First, in many countries, the titling registries don't work, work badly, or have no clear timetable for establishment. Second, obviously if only a mortgage can be filed against titled land, what security device applies to other land rights? Where do lenders file notices of those security interests? Finally, titling registries are typically local and not national. When financial centers

are distant from such areas, the costs of search rise and only local lenders will be able to check. That adversely affects rural finance: it makes it expensive for borrowers in major financial centers to use rural land located collateral and limits competition in financial services in distant areas.

The registry problems discussed above (III.F) for security interests will also apply to the registration of other interests in real estate. We set out here some public policy considerations specific to the issue of land rights.

Notice Filing

The economics of collateral do not require a registry for creating security interests against real estate; they require that people have a clear, unambiguous and publicly accessible system for establishing a ranking of priority in real estate. For this, notice of this right must appear in a place where parties can easily search and determine their priority. So, for example, in Washington DC, rights for fee simple real estate ownership are filed in the DC real estate registry; but rights to cooperative units are filed in the private books of the cooperative while public notice of security interests in those rights appears in the security interests filing archive; rights to use and occupy Federal land, which might be physically adjacent to the cooperative and fee simple property governed by other rights, are filed in different Federal registries. As discussed above in the secured transactions section, a better strategy would avoid the restrictions of title/registry systems and create a single national filing archive for notices of such interests in real estate[33]

E. Enforcing Interests in Real Estate

Enforcing interests in real estate face the same problems in the eviction and sale of real estate discussed above for security interests. Non-consensual real estate disputes, such as trespassing damages, will face the same judicial court problems as other non-consensual claims. These were described in section IV.

F. How Land Rights can serve as Collateral

The elements of a financing system for land rights were set out earlier, where the main issues in creation, priority, publicity and enforcement of security interests were discussed for both movable property and real estate. This section concerns the strategic issue of whether reform should depend on a mortgage and trust law versus a broader security interest law in which a broader array of land rights could serve collateral. The difference could not be more stark. Most residents in developing countries cannot use co-tenancies, leased, or cooperatively owned land as collateral, even when titled.

Box 11. Land Titling is not Enough

In Peru, improvements in land titling were not accompanied by a reform of the mortgage law. A recent study found that though titled land offered substantial benefits, it did not improve access to credit by using land as collateral. Land, as collateral, requires a functioning system of secured transactions.

In addition to the secured transactions problems mentioned above, the security interest laws in developing countries do not include all possible land rights as collateral. In Peru, for example, an usufruct of land, a long term lease, cannot be the object of security.

By contrast, owners of land rights in industrial countries can readily use them as collateral for a loan even though the interest in land they have is not a "titled" fee simple. Owners of shares in cooperative housing units such as the Watergate apartment complex transfer them and get external financing for purchases of valuable and elegant housing. At the same time, much donor effort is expended in stamping out exactly the same co-ownership and co-tenancy land rights in transitional and traditional economies on the grounds of their "unworkability".

Nonetheless, banks and lenders readily finance building and construction on this land and investments inside these buildings. The key lies in flexible and complete secured transaction laws that readily permit a broad array of interests in land to serve as collateral for loans. Most unreformed jurisdictions, however, only provide for restricted mortgage and trust laws that narrow the possible collateral to only presently titled fee simple land.

Box 12. Land as Collateral in A System Based on the Mortgage or Trust Law

Many donors support reforming some version of a trust or mortgage law, often based on American practice. Under unreformed civil code and common law practices, the instrument of the mortgage or the trust, requires title to the land. These security instruments are filed in the same registry that registers title to the land, and their priority is determined by the time of filing in that registry. Therefore, property that is not titled cannot possibly serve as collateral under these laws, as the lender would have no physical place under law to file and obtain priority.

This is not a major problem in countries such as the United States. The United States has a well-developed framework or secured transactions and well-developed non-titled land rights. The latter legal framework permits financing by taking as collateral land rights other than titled land, such as leases and cooperative shares. However, in developing countries where much land is not titled, choosing a title/mortgage or trust system will provide no additional access to credit. Despite this, donors press ahead with mortgage and trust laws in countries like Egypt and Ukraine where more than 90% of the land is not titled and could not, under a mortgage or trust law, serve as collateral.

VII. Intellectual Property Rights

Over the past ten years, intellectual property rights have become increasingly important both in total value and for rural development, as the use of biotechnology protected by these rights can increase production and reduce poverty. This paper cannot fully address his vast field. This section, however, lists some of the key legal issues that bear importantly on rural development[34].

A. Why Should Developing Countries Support the Framework for Intellectual Property in their Rural Development Strategies?

Modern genetic modification of plants could, potentially, dramatically change rural production possibilities for developing countries. Improvements include not only traditional higher yields, but better drought resistance, and insect and disease resistance that will reduce the need for pesticides fungicides, while enhanced resistance of crop plants to common herbicides will reduce cultivation needs. Functioning intellectual property (IP) laws can bring some benefits directly to rural areas in developing countries by permitting protection of their own research in crops and native plants and fauna. Possibly as a result of weak laws, only 10% of biotech research in developing countries is private, compared to 50% in industrial countries.[35] Even public research institutions might usefully protect their IP rights, both as an income source and as bargaining chip with private companies.[36]

Some have questioned whether the "balance of trade" in IP rights justifies a large effort in developing countries. Some ask whether developing countries might not be better off not honoring the IP claims of industrial countries and foregoing their own.

Whatever the merits of this strategy, it may not be feasible. Sanctions for non-compliance grow and the withholding of the advantages of modern products of intellectual property, such as genetically managed crops, become increasingly costly. Indeed, as part of the biotechnology revolution, developers can now better protect their property rights (for example, by producing plants with sterile seeds or seeds that can only germinate with a chemical whose formula only the developer knows):

The Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement sets the schedule under which developing countries must bring their IP systems into conformity with TRIPS. Under that schedule, middle-income developing countries come into compliance by 2000, while low-income developing countries have until 2006. After these dates, non-compliant countries are subject to general trade sanctions.

However, non-conforming developing countries already face private sanctions. These can mean exclusion from segmentation agreements. For example, donors made hundreds of agricultural journals available free on CD-ROM to India and Pakistan, but denied them to China because they believed China could not enforce the use agreement.[37] Sanctions can also mean bans on exports of seed and plants and reductions in foreign direct investment in developing countries whose governments cannot enforce IP rights.

B. Problems in Intellectual Property Law

Several key problems still lie at the core of intellectual property law. First, the international standards for an acceptable law remain vague. The TRIPS agreement provided only broad guidelines for a variety if IP rights including patents, copyrights, trademarks, and geographic names. That leaves to developing country governments many issues whose economic aspects have not been well investigated. For example, should the length of the protection match developed country practices? Should practices vary with different crops? What are the appropriate complementary biosafety laws?

C. Other Laws and Institutions that Affect Intellectual Property Rights

The intellectual property rights law of a country is not the only one that sets rights and obligations relating to patent and trademark rights in a country. Many other laws have some bearing on the scope of these rights and on their enforcement. For example, compulsory licenses in some countries limit the competing sales of foreign firms.

1. Patent and Trademark Office

Implementing an IP law requires a working patent and trademark office. In most countries, the patent and trademark office is part of the commercial registry. Most registry laws in developing countries provide an obsolete registry framework. Most commercial registries offer a cumbersome system for registration and retrieval of patent and trademarks. The legal issues involve:

- **Regulations for the patent and trademark office.** These regulations often establish a state monopoly registry service. What are the options for introducing privately and competitively run registries?

- Can the developing country **share databases** for patent registration with an advanced country.38
- Do the general administrative law and regulations applicable to patent and trademark office produce proper **incentives for good governance**?

2. Enforcement of IP Law

Poor enforcement of intellectual property law hampers developing a functional intellectual property rights framework. Poor enforcement arises from problems in alternative dispute resolution mechanisms, court systems and the use of police. Because IP legislation in developing countries does not reform the enforcement laws, enforcement is often left to the general contract, procedural, and judicial laws of the country. China, for example, has a model IP rights law but its enforcement is regarded as weak[39] Within the general contract, procedural and judicial framework; the enforcement of IP rights does not effectively resolve either contractual or non-consensual disputes. Private vendors understand when a country cannot enforce an IP law, no matter how nice the provisions of the IP law.

Enforcement problems in developing countries were discussed earlier in the context of security interests, land rights, and contract enforcement. The same issues arise in dispute resolution in intellectual property rights.

A key issue requiring further study, however, is whether the IP law itself should specify an alternative dispute resolution system that can bypass the courts.[40]

D. Other Legal Issues Affecting the Business Aspects of Biotechnology Firms in Developing Countries

Does local law sanction modern legal forms for access to proprietary technologies? For example, joint venture, secrecy agreements, licensing, purchase, and material transfer agreements? Most developing countries have had little experience with these agreements and little existing analysis aims at identifying the best models for them.[41]

Moreover, some issues in the general business legal environment directly affect biotechnology. Anti-trust laws and their enforcement require careful attention in developing countries -- commercial codes often limit competition at the same time that they provide no workable means for controlling foreign firms. For example, the commercial codes of El Salvador and Nicaragua limit competition by limiting freedom of contract in distributorship agreements and opening foreign-owned business. The public policy issues in these restrictions require analysis. Subsequently, these restrictions should be redrafted or removed. Firms in industrial countries can often undertake anticompetitive activities in developing country markets that are prohibited by industrial country laws in their home markets. Developing countries need a manageable legal framework for attacking these problems.

Of great possible importance for developing country intellectual property policy is a working requirement test that would permit adverse possession of unused intellectual property rights. Similar provisions in customs laws, such as those forbidding parallel imports can have a very restrictive effect on competition in technically advanced products.

VIII. Labor and Debtor Protection

Rural financial markets also depend on the laws and regulations that surround labor. These laws limit rural agents in their borrowing; potential non-bank lenders in their lending;

rural financial institutions in their attempts to present well structured and legal loan portfolios; and rural NGOs in influencing their government to change the rules. Even well-intentioned lenders and credit sellers cannot surmount these problems without themselves violating the law.

--Laws can require that citizens be inscribed in the civil registry in order to issue national identity cards; such laws also specify expensive procedures for being inscribed in the civil registry; in some countries, most rural residents have no valid proof of citizenship.

--Other laws then require a national identify card to establish lawful businesses or register to vote.

--Laws specifying the age of majority prevent young heads of households, often women, from signing lawful business or loan contracts

--Poorly drafted homestead exemptions mean that low-income borrowers cannot use any of their property as collateral.

--Usury laws force small borrowers into an illegal lending network with limited competition

A. Identity Cards and Civil Registration

The Civil Law specifies the proof of citizenship. The civil registry often is responsible for issuing identity cards that demonstrate citizenship. However, processes for reinstating a name in the Civil Registry after a person is born are expensive and complex. Many rural residents have their children beyond the reach of hospitals and, sometimes, churches where standard inscription procedures apply. In some civil wars, combatants have taken great pains in destroying civil registries so that local citizens lose their national identities -- Kosovo, Guatemala, and El Salvador are recent examples. As the civil identify card is essential for a variety of other purposes, this rarely noted problem can be a key blockage in other activities. Except for a USAID project in Kosovo, donor projects typically leave the Civil Registry untouched. Even there, it appears only that the physical registry was reconstituted without changing the laws that make civil registration so expensive.[42]

B. Civil Registration and Voter Registration

Expensive and difficult civil registration procedures can restrict voter registration, as voting typically requires proof of citizenship. Such problems, common in rural areas, mean that areas and associations of cannot vote and have less influence in promoting solutions to their problems through legislative assemblies.

C. Civil Registration and Commercial Registration

The commercial registry will typically require presentation of a civil identify card for registering a business. A business not inscribed in the commercial registry is, ipso facto, informal. Promoting formalization of business in rural towns where citizens often have no civil identity card or only a forged one, is a fruitless effort. Unlike the link between voter registration and civil registration, however, the public policy need for a civil registration behind every commercial registration needs more careful analysis.

D. Identification for Financial Transactions

Obviously, a formal sector lender must know the identity of a borrower; responsible supervision and regulation will require evidence that the lender knows the identity of the borrower. However, laws and regulations that require civil identification for such loans

represent unreasonable requirements that simply have the effect of depriving many rural residents of financial services. Laws and regulations should let financial institutions use any reasonable method of identification. Such methods could include state-issued identification other than the civil identification card or non-state identification such as phone listings, utility bills, employee identification cards, and cooperative and credit union memberships. Such an approach has been in place for US financial institutions for many years now and has worked very well.

E. Age of Majority

All countries have a law specifying an age of majority, an age at which a person can engage in lawfully binding acts. In Bolivia, for example, the age of majority is 21 years.[43] While minors may be emancipated prior to that age they still cannot legally borrow until they are 21. Moreover, for minors, transactions such as selling, borrowing or offering property as collateral for loans must carry the co-signature of the minor's legal representative. Emancipation of the minor creates even more difficulties: an emancipated minor may enter into these transactions only if a judge authorizes them; even then, the emancipated minor must prove that the transaction has great necessity and usefulness.[44]

In many developing countries, however, especially those with low incomes and high birth rates, many rural heads of households are younger than 21 years of age. Some households have female heads and include dependent children. Still more households contain one parent under the age of 21. These households are predominantly poor.

These heads of households cannot sign legally enforceable debt contracts and, therefore, are absolutely barred from the legal credit market. The provider of such a loan or credit sale would have no legal recourse in the event of non-payment. The prospects for repayment would depend entirely on the willingness of the borrower to pay. Such a loan would be even more risky than an ordinary unsecured loan, which would be legally enforceable against other property or income of the debtor. Proper bank supervision would recognize the danger of these loans in setting capital requirements; provisioning would relatively quickly affect profits. With such laws, only the informal sector can service such borrowers. While this problem may have little practical effect on loans by formal sector banks to poor minors, it makes "non-legal" or "illegal" the portfolios of micro finance lenders or rural dealers who could otherwise use their portfolios of loans as collateral for refinancing their operations under a reformed secured transactions regime.

F. Homestead Protection and Exempt Property

All civilized countries restrict creditors in seizing the property of a debtor. All laws so far examined by CEAL, including those of both industrial and developing countries, contain "homestead" and "exempt property" protection provisions providing that the lender cannot seize certain property. Just as societies have learned that creditor's true interests do not lie in enslaving, imprisoning, dismembering, or killing defaulting debtors, they have also learned that no public policy purpose is served by sending debtors into the world destitute. All countries have limits to debt collection procedures. No law yet inspected permits taking the bed, shoes, or clothes of the debtor.

The provisions set out in Ukraine and Bolivian laws for example, list a wide range of goods and are clearly motivated by concern and compassion for the impoverished debtor.

However, these provisions must be drawn very carefully: the debtor cannot use whatever is on that list as collateral. That typically means that people cannot buy these items on credit. So, for example, when the Bolivian mining law stated that the miner's tools could never be seized, it doomed Bolivian miners to fifty years during which equipment could not be purchased on credit. Similar provisions preventing seizing the tools of a worker can cripple programs to provide formal sector credit to the poor and micro-enterprises. What dealer would sell these goods on credit, what lender would extend credit to purchase them, if the law plainly says they could not repossess these items in the event of nonpayment?

When well-drafted, these same homestead and exempt property provisions can achieve their intended effect without such a great reduction in access to credit and its attendant economic cost.

G. Usury

Many developing member countries limit interest rates. For example, Bolivian law limits the interest rate charged on loans to 3 percent per month.[45] The usury limitation applies to transactions among consumers, between a merchant and a consumer in installment sales, and to the loans of any lender[46] including banks.[47]

Box 13. Usury Laws?

A street vendor in La Paz reported being charged 300 Bolivianos in cash for a case of crackers or 310 Bolivianos if she paid three days in the future –an implicit interest rate of more than 5,000 percent a year on the cost of carrying this part of her inventory. For such a borrower, obtaining a loan at 4 percent interest per month from a nonprofit lender would result in substantial annual interest savings. Would a usury law benefit such a borrower? Not at all.

Private lenders in developing countries frequently charge more than the usury interest rate on unsecured loans. In Bolivia, for example, where the rate of inflation is less than 10 percent, interest rates can amount to as much as 48 percent a year on small, unsecured loans made by nonprofit lenders that have access to funds at a zero interest rate. Rates can run as high as 70 percent a year on loans by unsubsidized public interest lenders attempting to cover their costs of operation.

While these interest rates sound high, private borrowers operating small farms and businesses can face even higher implicit interest rates in the course of doing business (see box). A usury law that caps interest rates forces poor borrowers into other markets. Neither usury laws nor other laws are enforced in those markets, thereby increasing the interest charges to the borrower and making the borrower worse off.

Why doesn't competition drive such interest rates down? First, because usury laws limit competition by reducing the number of legal and scrupulous lenders; second, because these laws force lenders into practices that hide the true interest rate with hidden charges and obscure loan contracts; third, because illegal lenders, pawnshops, and jewelry stores operate their pawn businesses well outside public scrutiny and are known to only a few customers.

Best Practice Reform

Eliminate usury restrictions to promote entry and competition in the provision of small personal loans. Devise other ways to protect poor borrowers. Regulations may require that lenders provide written statements of the true annual interest rates. Give simple numerical examples of what such interest rates mean. Protect illiterate borrowers by requiring exhibition of a videotaped discussion, in the borrower's native language, of the implications of such rates

IX. Conclusions: Policy Guidelines and Recommendations

All rural finance efforts have important legal and regulatory components. Rural finance and rural development efforts would be much more effective if these issues were addressed at the same time or before the non-legal components were begun.

Even where a project cannot support an entire legal or regulatory component, it should at least exhibit and record a clear understanding of the links between the project goals and the legal and regulatory environment. That would help get those changes onto the agenda of other specialized donor legal reform programs.

A. Fix the Legal Framework for Microfinance

Microfinance lenders would be much more viable if their borrowers were signing legal contracts, if they could take collateral legally, and if they could use their portfolios of loans as collateral for refinancing their operations. Yet no microfinance donor has issued a position paper on what reforms are desirable. To the contrary, microfinance donors often advocate state run refinancing operations[48] that undercut long-term viability and indicate that the donors themselves may not understand the key role played by law in making these institutions viable. The bizarre consequence? Donor-funded legal reform projects - same donor, same country - leave untouched the legal barriers facing microfinance.

B. Refocus Land Titling Projects Toward Reforming Land Use Rights and Using These Rights as Collateral for Loans

Present donor and MDB efforts focus on fee simple titling and cadasters. They ignore the broad range of land rights actually in use. Codifying these land rights could make rural land markets more liquid in ways that were politically and socially more acceptable. Existing titling projects typically ignore the mechanism by which land rights, including fee simple title, become usable as collateral. Consequently, these projects do not expand access to credit. These projects should be refocused on the broad set of land rights and fixing the legal system so that more land rights can serve as collateral.

C. Reform The Fundamental Laws Governing Economically-Relevant Rights

Donor and MDB projects typically lament the consequences of bad laws without attempting reform of the underlying laws. Donors support the expansion of cooperative organizations without fixing laws that prevent cooperatives from undertaking commercial transactions, including buying, selling, and lending to their members. Donors promote voter registration in countries where as much as 50% of the population is not in the civil registry and therefore not entitled to vote by law. Donors lament the failure of formal sector banks to lend to micro finance lenders where the underlying laws make those portfolios of credits useless as collateral. Donors promote using rural dealers as conduits for new technologies, ignoring the inability of rural dealers to use their inventories or accounts receivable as collateral or take the pledge on real estate or future crop from those to whom they sell new technologies. Donors promote rural cooperatives, ignoring laws that prohibit cooperatives from engaging in commercial or for-profit activities. These donor objectives are all worthy, but donors cannot achieve them without a careful analyses and reform of the laws that govern these arrangements.

D. Is There a Minimum Legal Framework for Effective Rural Finance?

No. The legal framework for finance in the United States permits bank (40% of total)

and non-bank (60% of total) lenders to supply credit amounting to about 220% of GDP. The typical Latin American country has a ratio between 20% and 40%; economies in transition can be as low as 10% of GDP. A broad range of legal frameworks permits a broad range of results.

These reforms could probably be ranked in order of importance and ease. Reform of the framework for secured transactions secured by movable property would probably rank at the top in terms of ease and effectiveness. Broadening the scope of land and fixing the system for using land as collateral would probably be second. Shortly thereafter, bypassing defective judicial systems with arbitration and petty claims courts would probably come third. After that ordering is not so simple.

The pity is that these reforms, done properly, are inexpensive relative to other donor programs and could all be undertaken without seriously compromising other objectives.

E. Proper Sequencing of Legal, Regulatory, and Institutional Reform

The first step in legal reform is a careful diagnostic paper that looks at the legal roots (citing laws, chapter and paragraph) of obstacles to rural finance projects and discusses options for solution. Such work requires a study of the law and fieldwork that verifies the law's presumed consequences. That paper should explain clearly the economic links between the legal problems and the rural finance problem. The options for reform should explain clearly how they would work and, in particular, set out a clear feasible path in which existing institutions or modified institutions will make the option work. As unremarkable as this point may seem, it is even more remarkable how many donors move ahead on legal reform without such a diagnosis. Or with a diagnosis that is mainly hand-waving: "Gee, no credit for housing? We need a mortgage law!" In more than ten years of work, we have seen fewer than ten diagnoses that explain clearly why an economic problem has legal roots and how the proposed legal solution will achieve its stated economic effect.

The second step lies in drafting the law. There may be general agreement about the diagnosis in the paper, but a great deal of resistance once solutions appear in black and white. Resistance is especially likely when good drafting tracks down all the other laws that must be amended or repealed. Many more public policy issues will emerge at that point.

The last step is institutional reform. Laws sanction the operation of institutions. Little real impact can come from a reform of a commercial registry without fixing the commercial code; or the real estate registry without a reform of the legal system for filing security interests against land-use right. However, the design of institutional reform should started in the diagnostic paper and continued through the legal drafting. The lawyers, economists and technicians should work together at all points. Achieving an Internet based commercial registry has less to do with programming than with a law that sets out how that will work and that addresses the public policy issues involved in dropping signature and verification requirements. Only then can the registry operate with low cost modern technologies.

F. Reforming on a Limited Budget

Many rural finance projects have limited budgets, certainly insufficient for a full-scale legal reform. In such cases, the most crucial first step, which will never waste money, lies in preparing a careful investigation of all the points at which the law impedes a successful project. That would at least permit the individual project - e.g. Microfinance, or dealer outreach, or producer cooperatives -- to have an agenda for reform that could be presented to other donors or

managers of other projects to get these items on the legal reform agenda. For example, World Bank, BID, and IMF task managers often propose banking reforms that call for regulation of firms engaged in any financial activity instead of deposit taking institutions. At a stroke, this places rural fertilizer dealers under the regulatory system of the Central Bank. This is absurd. But when such task managers draft these laws, they are usually not worrying about rural fertilizer dealers. Yet, what rural finance project or document warns against this provision in a banking or financial sector reform? Donor-funded secured transactions projects routinely fail to address the problem of registration of accounts receivables transfers. The result? Even after a donor-funded legal reform, microlenders still cannot use their portfolios as collateral.

Aside from this, limited budgets might be guided by the rough rules about priority areas and the sequence of analysis, law, and institutions set out earlier. Interestingly, few donors have supported work analyzing these questions. Some interesting exceptions: a thoughtful USAID-funded piece on the experience in reforming Latin American Codes; an Asian Development Bank piece on integrating the legal frameworks for bankruptcy and secured lending; World Bank on best practice rural finance reforms; and GTZ on the requirements for opening a small business in Costa Rica.

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[1] See bibliography for a selection of important articles.

[2] Moreover, the security interest of a secured creditor will be satisfied in the order of its priority among the other secured creditors that have a security interest against that same collateral. Without a security interest, a creditor is "unsecured". An unsecured creditor has only a general claim against a debtor's property - a claim that gives that creditor no better right to payment than any other unsecured creditor.

[3] In both, in Civil Code and Common Law countries, secured transactions are a subset of the general legal area of "property rights", also known as "real rights" or "*derechos reales*," in Civil Code jurisdictions. Often, legal frameworks in developing countries extensibly let creditors enter into a secured loan by creating a security interest against a debtor's property. For Civil Code countries, the Civil Code and, perhaps, one of more laws on pledge and mortgage might provide the conceptual legal basis for security interests, known as a "real guarantees" or garantías reales, in Spanish. For common law countries, the company charge and some version of "hire purchase" , and chattel mortgage, might, similarly, provide such a legal basis.

[4] Draws on Professor John A. Spanogle, Proposed Polish Charges Act (1992).

[5] Moreover, with only one unit of capital backing twelve units of loans, loan losses that may seem reasonable to the non-specialist can have grave consequences for a bank. At this level of leverage, if only one loan in twelve goes bad, a bank has lost all of its capital and is technically bankrupt." William Amstrong, THE IMPORTANCE OF IMPROVING THE MECHANISMS FOR SECURITY INTERESTS IN CENTRAL AMERICA, Inter-American Development Bank, Presentación en el Taller Regional: "Desarrollando la Economía Rural de Puebla a Panam " Banco Interamericano de Desarrollo, Guatemala, 5 - 7 de March 2001. For this reason, the research on secured transactions concludes that securing loans with collateral, in order to quickly recover the funds lent, has great bearing in the country's financial sector stability.

[6] As a first approximation, legal systems in developing countries can be divided into Common Law and Civil Code systems. Most former British colonies follow a Common Law system, most former European colonies follow a Civil Code system, and countries that were never colonies adopted one code or another for their own historical reasons. Within the Civil Code tradition, for secured transactions, there are three important basic models: French, German, and Dutch.

[7] De la Peña / Fleisig, "Nicaragua: Draft Law on Security Interests in Personal Property and Commentaries," CEAL (1998); and Nicaragua: Options for Filing Security Interests in Personal Property and Nicaragua: How Problems in the Framework for Secured Transactions Limit Access to Credit, CEAL (1998) and Pacific Basin Research Abstracts, Federal Reserve Bank of San Francisco (1998).

[8] See "Secured Transactions Law Reform in Asia: Unleashing the Potential of Collateral," prepared by Nuria de la Peña and Heywood Fleisig, Center for the Economic Analysis of Law, and Philip A. Wellons, Program on International Financial Systems, Harvard Law School, for the Asian Development Bank and published in Law and Policy Reform at the Asian Development Bank 2000 -- Volume II, Asian Development Bank, Office of the General Counsel, Manila, Philippines; and also available at http://www.adb.org/Documents/Others/Law_ADB/lpr_2000_2.asp?p=lawdevt.

[9] This restrictive view arises from the original concept of a pledge as a limited type of security interest. Moreover, the pledge provisions evolved from, and followed, real estate rules that required a strict identification of real estate offered as collateral.

[10] Nuria de la Peña and Heywood Fleisig, "Marco Legal e Institucional de Garantías Reales Mobiliarias en Países de la Región"; Presentación en el Taller Regional: "Desarrollando la Economía Rural de Puebla a Panamá " Banco Interamericano de Desarrollo, Guatemala, 5 - 7 de Marzo, 2001, Revista de BANCOS Y EMPRESAS en Ed. Depalma, Argentina (Revista No. 3), 2001.

[11] For example, in Argentina and Guatemala, the registry law requires a specific description for filing the security interest. In Indonesia, the law requires that the judge state specifically what is to be seized in a collateral recovery action.10 Therefore, the provision of the law concerning "general description" cannot be used. These restrictions on general descriptions limit the use of floating security interests financing inventory and securitizing portfolios. They make it impossible to draft security agreements secured by the inventory of a store AND its accounts receivables. These limits have no obvious justification in public policy.

[12] Some legal problems arise from discrepancies within the framework for secured transactions; others arise from conflicts between the framework for secured transactions and other important objectives of the developing country's legal system This problem, common in unreformed systems, such as those in Bolivia, Guatemala, Honduras, Nicaragua, Peru, and Ukraine, limits the economic benefits that arise from using collateral. Creditors know they bear the costs of revisiting courts to reinstate their security interests, that the time involved will increase the risk of total loss, and that the threat of loss of priority defeats much of the economic advantage from collateral. These problems explain why the system of security interests in unreformed systems is weaker than in reformed systems. Some unreformed laws do provide under the general Civil Code principles that a pledge will continue in "fruits and products". However, "fruits and products includes only one exchange of the original collateral; e.g. the cash from selling the pledged crop. It does not, as do modern concepts of proceeds, extend to subsequent dispositions. In the example above, had the farmer purchased a tractor with the cash obtained from the sale of the pledged crop, the creditor secured by the original crop would not have an automatic claim against that tractor. Moreover, upon court granting such a judgment lien against the tractor, the priority of that lien would date from the time it was filed, not from the time of the original security interest in the crop. In short, even if the court re-establishes a security interest in the farmer's property, that security interest has a lower priority. See idem footnote 6 de la Peña, Fleisig, Wellons, "Secured Transactions Law Reform in Asia: Unleashing the Potential of Collateral," at table V.1 and para. 125.

[13] As with all good drafting, the new law must rule as inapplicable or derogate all procedural and other rules that conflict with this principle. In those derogations, it must address the other public policy issues that arise when amending those laws. It must also add enforcement rules consistent with this principle.

[14] In default, loans without priority will become portfolios of uncollectible loans. Indeed, a secured loan by definition cannot have a conflict of priority. Without resolution of priority, even a loan that the law defines as a secured loan is, in economic terms, unsecured.

[15] One of the first systems of priority, still used in most countries, uses the possessory pledge and establishes priority by possession. In this system -- used by pawnshops and warehouses -- the debtor gives possession of the collateral to the creditor. Since the possession of the collateral by the first creditor cannot easily be hidden from subsequent creditors, the law grants priority to collect to the creditor that has possession of the collateral. However, under the system of priority by possession, a debtor cannot use the collateral until the loan is paid. Such a system can work for pawnshops or warehouses holding goods in storage. However, it has major economic disadvantages for debtors who seek to use their collateral for economic ends -- e.g. the future crop, production and harvesting equipment, or raw materials that they hold for the very purpose of transforming them in production processes, and land.

The non-possessory priority system was developed to address these problems with the possessory pledge. This system permits the borrower to retain possession of the goods or real estate offered as collateral. Crucial to the operation of this system, the non-possessory system sets out the rules for assigning priority among different claimants to the collateral . It also establishes some process by which the claimants make the priority of their claims public. The most successful and advanced systems (discussed below) assign priority by the time of filing in a public registry. Central in such a system of priority, however, is a law that develops the logic of the system well enough so that conflicts and inconsistencies do not prevent the creditor from being able to gain commercial value from the collateral.

[16] The law may specify that priority is set by date, but not by date and time, permitting two security interests filed on the same day to have uncertain priority against each other. The law on pledge may give priority to the first to file a pledge on the future crop, while the law on warehouses gives priority to the holder of the warehouse receipt, leaving legally undetermined the priority of lenders in a crucial transaction where a farmer harvests a pledged crop and moves it to a warehouse. The law on pledge may give priority to the first to file in a registry for a security interest against a portfolio, but the law on assignment of rights may give priority to the first to notify a debtor of a transfer of accounts, leaving the priority status of refinancing of microlenders and dealer portfolios legally ambiguous. The laws on pledge may give priority to the financier of a new generator or grain drier, but the law on mortgage may give priority against that generator the holder of the existing first trust. Finally, badly drafted bankruptcy laws overturn the priority of secured lenders compared to unsecured creditors such as the state (taxes), the bankruptcy court (fees), and workers (unpaid wages). Such a feature largely destroys the usefulness of a secured lending system, because it makes collateral useless at precisely the time of liquidity stress that firms need collateral to support their search for financing. For example, most former socialist republics, with the exception of Romania, and all Latin American and Caribbean countries provide conflicting priority rights for the claims of the trustee in bankruptcy, labor dues, and taxes due, vis a vis a secured party. These discrepancies increase risk; and this in turn reduces lending and increases interest rates. In Ukraine, for example, see Law on Leases, Art. 13, which requires registering a lease agreement only for title goods, e.g., cars, and does not govern priority of the lease against registered pledges at the State Registry. See also Law on Pledge, art. 1, which does not include in its scope of application any transfer of account receivables and other credit rights, leases, sale agreements with retention or reversion of title, warehouse receipts, consignment of goods, and simulated transactions for purposes of security. Peruvian, Argentine, Bolivian, Honduras, Thailand, or China's laws include similar problems.

[17] A filing notice might contain 14 fields and occupy a space of 15 kilobytes. The same notice scanned as a picture image would require 30 kb to 60 kb depending on the technique used. The underlying security agreement, however, would be many times larger. As underlying security agreements must vary with the nature of the transaction and the type of collateral, they do not follow a standard format. As a result, they must be scanned in. At a minimal resolution of 150 dpi, such a document would require about 100 kbs per page. Even a streamlined loan agreement would have two to four pages, representing a file of 200 kb to 400 kb. But loans contracts can run on for hundreds of pages. The speed of electronic access is directly proportional to the size of the file: accessing the streamlined version of the text would require 15 to 30 times more time to download. A 100-page loan agreement would require about an hour - more than 600 times more time than the notice of this agreement. Add these times up for looking at a portfolio of 1000 loans in a securitization and the incompatibility of modern financial techniques with the registering the entire contract becomes apparent. The United States of America and most Canadian provinces have adopted this filing system, so has Romania. Creditors obtain information directly from the database where security interests are electronically filed.

[18] Where lenders find notices filed, they can ask borrowers for evidence of the relevant security agreements or for authorization from the borrower to gather information directly from the debtor's other creditors.

[19] See, for example, projects at http://www.property-registration.org/Project-list.htm.

[20] These private operators could include associations, such as the association of banks, chamber of commerce, and association of lawyers. This approach has been followed in Romania and Colombia with great success. Canada has experimented with monopoly private franchise with less success. The United States has kept a state-operated core with many private points of entry. All these systems work better than traditional state-operated systems.

[21] An effective publicity system requires that the law must uniquely designate the place in which notice is filed. When that place is a state monopoly, the danger always exists that the administering agency will use this monopoly power in collecting fees to fund its other activities. Placing a heavy tax on lending transactions to fund unrelated activities of the ministry that should be funded from general tax revenues is not socially efficient. To avoid this, even when the roll of the government is narrowed to supervising, the law must specify a cap on the fees charged, so that total revenues never exceed the amount based on the cost of operating the registry archive and supervising it.

[22] Under the priority issues above, the priority rule "from the time of filing a notice" must also apply to all "interest" or "claims" in real estate. Then, for example, any sale, lease for more than one year, usufruct, grant, transfer or other interest in real estate could file a "notice" to obtain priority vis-a-vis all claimants. Such a system can be quickly expanded to include non-traditional land-use rights whether devised by traditional communities, economies in transition, or industrial country governments. In this approach, property titling projects, although desirable on other grounds, would not be a necessary feature for creating security interests in real estate. Lenders themselves could determine how much and what kind of security of tenure they require for a mortgage.

[23] See, for example, the Ukrainian Law on Pledge art. 20.

[24] These may include obtaining a court judgment and a writ of execution. Typically, the law will set time limits on each stage of this process; however, most unreformed codes of civil procedure permit many appeals. Often, other laws apply to eviction: for example, some countries will not evict families with young children. Sometimes tightly scheduled eviction proceedings are suspended and restarted: sometimes the judge does this because of an overcrowded court calendar, sometimes on any appeal by the debtor/tenant. Some laws permit a wide range of grounds for postponing eviction including business trips, hospital treatment, and vacations. In Peru, an attorney for lenders recently interviewed, reported at least one year to evict tenants from real estate, and further delays if tenants appealed. Peruvians have recently begun using the trust under a recently passed trust law. However, the attorney explained how the trust law does not solve this problem. The slow eviction time can not be avoided under a trust instrument, since eviction requires the use of force to break and enter the premises, it necessarily requires judicial action under the constitution of Peru as well as in most other countries. Trust laws do not govern the procedural rules for such judicial eviction process. Rather, the subject is governed by the code of civil procedure and rules of the courts, and is affected by the enormous problem of malfunctioning in the judiciary.

[25]Some laws require this procedure even if the creditor could arrange a private sale at a price acceptable to the debtor. Unreformed laws typically do not permit a creditor-controlled sale or a strict foreclosure (transferring ownership of the collateral to the secured party). Sometimes poorly drafted laws permit a creditor to administer the sale but do not permit the creditor to transfer title without a judicially supervised sale; so a creditor would always need to use a judicially supervised sale for titled property such as real estate or automobiles.

[26] Called "harmless repossession" in reformed systems.

[27] Suitable measures, when properly drafted and explained, include legal instructions for summary court judgments (ex parte court orders); harmless repossession, wherein the lender can repossess collateral without court intervention; expanded private authority for repossession; expansion of public services to include some private incentives and competition. Suitable measures include penalties against public officials who do not carry out duties in conformity with law; these might be personal or they might involve automatic compensation from state funds for delays (e.g. a credit against taxes equal to the interest foregone on the uncollected debt). It provides a legal framework for creditor-administered sale, sanctions for creditors that abuse that process, and a workable way to enforce those sanctions. That legal framework should cover the rules of commercial reasonableness, rules for notification of debtors, specification of rights of redemption, and conditions under which the secured party may undertake strict foreclosure (seizing and keeping the collateral).

[28] "... Third, for loans with mortgages on real estate or chattel, the break-even interest rate is almost unaffected by the higher risk weight of chattel mortgages. This suggests that the scarcity of chattel loans in Argentina is not likely the result of regulation but rather of inefficient registries and a legal framework that impede low-cost foreclosure on pledges (Fleisig and de la Peña, 1996; de la Peña and Muguillo, 1995). Fourth, the break-even interest rate for the small, short-term loans demanded by small producers is close to the interest rates on credit cards, overdrafts, shopkeeper credit, and other small, short, unsecured loans in Argentina (BCRA, 1996c). Regulation is not what keeps banks from lending to small producers." Microfinance, Regulation, and Uncollateralised Loans to Small Producers in Argentina, Mark Schreiner and Héctor Horacio Colombet, February 2001. This is an earlier version of a paper that appears in pp. 137-152 of Douglas R. Snow, Terry Buss, and Gary Woller (eds) Microcredit and Development Policy, Nova Science Publishers: Huntington, NY, ISBN 1-59033-001-3.

[29] "Costo Económico de los Defectos en el Marco Legal Argentino para los Créditos con Garantía de Bienes Muebles," by Nuria de la Peña, Heywood W. Fleisig, Alejandro M. Garro, and Roberto Muguillo: PODER JUDICIAL, DESARROLLO ECONOMICO Y COMPETITIVIDAD EN LA ARGENTINA, Foro de Estudios para la Administración de Justicia (FORES) and Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Volumen II, Ed. Depalma, Argentina, March 2001.

[30] The economic gain from secured lending is large; it is distributed over a wide group of rich and poor citizens. This large and widely distributed gain justifies extreme caution in abridging the system. Addressing the serious issues raised by adherents of limiting the rights of secured creditors requires a broad reform of a wide range of laws, concerning tax collection, workers rights, and coverage of risk to the citizens at large. However, that broad range of reforms would, without question, promote public welfare better than would limiting the rights of secured creditors without passing the suggested reforms elsewhere. On the difficult question of judicially administered reorganizations, further study is necessary. However, based on the existing studies, no involuntary delay in the exercise of the rights of secured creditor can be justified.

[31] In the analysis by the Instituto Libertad y Democracia in Egypt, Mr. Hernando de Soto shows that:

25% of Egyptians live on agricultural land whereupon both law and the constitution forbids construction;

Another substantial fraction lives in the upper (illegal) floors of nominally two-storied public housing.

Altogether, 92% of all land and buildings is held extralegally

About $245 billion in Egyptian real estate cannot be mortgaged because it is not legally titled, an amount 40x greater than all bilateral aid to Egypt and 50x all World Bank loans.

Filing a mortgage requires 207 bureaucratic steps and takes 17 staff-years to complete.

Source: http://www.ild.org.pe/posters/egypt/egypt_poster_1.htm

[32] Developing country courts are awash in land-use right cases that dispute unclear legal principles in the courts. Peruvian Civil Code, for example, opens the door for challenging a first to register priority rule under the grounds of bad faith. In Romania, property taxes rank first regardless of registration, and can show up, "unexpectedly" at any time. In several countries of South Pacific, such as Vanuatu, Papua New Guinea and Samoa, the law endorses the application of customary rules, and it is very unclear what the applicable customs will say about conflicting priority claims. Many mortgage laws are silent on the question of a second security interest, creating uncertainty around the possible development of a market in security interests of 2nd or lower priority. See also, "Trabas Legales al Acceso al Crédito en Peru" book by the UNIVERSIDAD PERUANA DE CIENCIAS APLICADAS, Lima, Peru, (2000) http://infodev.upc.edu.pe/fondo-editorial/libros/00ttrabas/.

[33] Such a filing archive would not contain the underlying documentation concerning transfer and ownership but, rather, would only carry notices of such rights and transactions. As a technical matter, this would be a simple database and each entry would have a few digital entries. Such an archive for a relatively largely country could be operated out of a modern desktop computer and be available on the Internet for a nominal charge.

Separating the notice filing archive from the underlying registries division permits the coexistence of different individual registries of land-use rights, even administered by different government agencies. It also permits these registries to develop at different speeds, which may be appropriate given possible differences in importance and difference in the difficulty of the tasks that they face. Of course this notice can include data linked to any other registry - for example the notice in the filing archive can include a reference to the cadastral identification number. However, it is not necessary that it contain such a number for it to be a valid notice of a valid interest in real estate.

[34] An excellent survey of the importance of biotechnology to rural development in developing countries appears in "Diversifying Social Research at the International Food Policy Research Institute" by Ruth Meinzen-Dick, Michelle Adato, Marc Cohen, Curtis Farrar, Lawrence Haddad and Agnes Quisumbing Paper presented at CGIAR Conference on The Role of Social Research in CGIAR: Supporting the Strategy -Achieving Development Impact Cali, Colombia, 11-13 Sept, 2002, IFPRI: Washington, DC., International Food Policy Research Institute, 2000) at http://www.ciat.cgiar.org/src/pdf/ifpri_rmeinzen.pdf.

[35] Derek Byerlee and Ken Fischer, Accessing Modern Science, (AKIS Discussion Paper, November 2000)

[36] Derek Byerlee and Ken Fischer, Accessing Modern Science, p. 17 (AKIS Discussion Paper, November 2000)

[37] Derek Byerlee and Ken Fischer, Accessing Modern Science, p. 20 (AKIS Discussion Paper, November 2000). The Essential Electronic Agricultural Library made full text of 130 agricultural science journals available o CD-ROM free of royalties. China and India were excluded from this agreement because it was believed they could not enforce contracts preventing further copying.

[38] Supachai Panitchpakdi, "How Intellectual Property Rights Could Work Better for Developing Countries and Poor People."

[39] Derek Byerlee and Ken Fischer, Accessing Modern Science, p. 12, (AKIS Discussion Paper, November 2000).

[40] Many of the issues in IP rights cross over to the issues discussed elsewhere in the paper. Offer expensive new crop production technologies to farmers cannot have much effect when farmers cannot use their future crop as collateral for a loan to repay the seed dealer. Similarly, developing new genetically-modified technologies faces many obstacles in developing countries if biotech companies cannot use their intellectual property rights or accounts receivables as collateral for loans to finance their operations.

[41] Civil Code, Art. 4.

[42] In Guatemala and Ecuador, donors supported voter awareness projects to promote participation and democracy. However, the laws of each country require that voters present a government ID (a "cédula" in most Latin American countries), showing evidence of inscription in the Civil Registry. This followed from the reasonable requirement that a person prove citizenship before being able to vote. What was less reasonable was the complex nature of the civil registration process that led to only 10-30% of the rural indigenous population being inscribed in the Civil Registry. Donors did not support the fundamental reform required in the Civil Registry. Their expenditures on voter registration were largely wasted.

[43] "Los bienes de los menores emancipados no pueden enajenarse ni constituirse en hipoteca, sino por decreto del juez, cuando hubiera gran necesidad y utilidad conocida y por causas y la forma establecidas por ley" (G. J. No. 557, p.13).

[44] See Código Penal, Art. 360 (usura) and 361 (usura agravada).

[45] See the Código Penal Boliviano, Editorial Los Amigos del Libro, La Paz, 1987 (effective since April 2, 1973), art. 360, which provides: The one who takes advantage of someone's necessity, rasher inexperience, provides assets in any way, in exchange for interest higher than the legally established or obtains any other disproportionate economic benefit, will be penalized with imprisonment of 3 months to 2 years and fine of 30 to 100 days. The same sanction will apply to one who knowingly acquires, transfers or enforces an usurious credit. Intermediaries, middlemen and abettors will face the same sanction. Art. 361 (Aggravated usury) of the same Code provides "The sanction will be increased to a half of the above article and fine of up to 100 days as follows:

1) If the perpetrator was a professional lender or agent regularly engaged in usury;

2) When artifices or trickery is used to obtain the victim's consent;

3) If the transaction is disguised in any way under other type of contract with a penal accessory contractual clause providing for interest;

4) If interest is compounded (anatocism)." .

[46] Although some lawyers interviewed considered that the civil code places banks outside the usury limitation, comments to the Penal code provisions specifically consider usury limitations applicable to banks. The note to Art. 361 of the Penal Code provides: ".Por ello si un banco da préstamos con intereses superiores a los legales, incurre en usura." (Código Penal, Concordado y Anotado, by Benjamin Muguel Harb, Ed. Los Amigos del Libro, 1987, note to Art. 360, p. 410).

[47] See Mayer, at p.8.

[48] Donors Review at: http://www.basis.wisc.edu/rfc/lit/donor.html.

Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Discussant Reaction Paper

Commentary and Reaction to Theme Paper

Legal and Regulatory Requirements for Effective Rural Financial Markets
by Heywood W. Fleisig and Nuria de la Peña

By Stefan Staschen

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

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1. Introduction

Fleisig's and de la Peña's paper touches on a wide range of legal obstacles to the effective operation of rural financial markets. Its strength clearly lies in their detailed knowledge of legal problems in concluding secured transactions, which is enriched by numerous practical examples from all over the world. The scope of this short response does not allow me to address all of the obstacles mentioned. Based on the authors' approach to ranking legal reforms "in order of importance and ease", and taking into account my own background as an economist whose experience is predominantly in regulatory frameworks for microfinance institutions (MFIs), I briefly look at the following two fields:

- The legal framework for secured transactions (Ch. III) and
- The regulation of rural financial institutions (Ch. IV of the paper)

In my view, the most important **legal** obstacle to efficient rural financial markets is not shortcomings in the current system for secured transactions, but the lack of an appropriate regulatory and supervisory framework for rural financial institutions. This is because I expect more economic gains will be possible through reform in the field of financial regulation than through improving the legal system for secured transactions.

2. The Legal Framework for Secured Transactions

What are the benefits of a well-designed system for secured transactions? The main rationale for using collateral is to shield the lender from potential losses caused by the **inability** of the borrower to repay his/her debt. Yet inability to repay is only one element of credit risk. The other element is **unwillingness** to repay. My main argument is this: a well-designed rural financial system only very rarely takes recourse to collateral securities. The risk of a borrower being unable to repay is minimized through a thorough analysis of the creditworthiness of the lender, while there are better ways of dealing with unwillingness to repay than the use of traditional securities.

Collateral security is a means to an end, but not an end in itself. Its main benefit only becomes obvious in those cases, in which something has already gone wrong and therefore the debt is not served. In general, the seizure and sale of collateral by the lender is both socially undesirable and costly. For the lender, it creates transaction costs (Heywood and de la Peña illustrate the problems of enforcement associated with different types of security), which are - at the best - covered by the value of the collateral. For the borrower, he/she is in a difficult financial situation, which keeps him/her from paying back the debt in the first place. Furthermore, he/she now has to transfer the security pledged. This is particularly serious if the security is the very land which the borrower used to make a living from.

What has gone wrong? Admittedly, there are cases where the lender has done everything to assess the borrower's repayment capacity, and the borrower is still unable to repay his/her debt. After all, lending is a risky business. Yet experience from successful MFIs shows that these cases can be reduced to a minimum (and we will hear more about how to do this during the course of this conference). Another reason for non-repayment might be that the lending decision was not based on a careful analysis of the borrower's needs and his/her capacity to repay the loan. Interestingly, the better the legal framework for secured transactions is, the less incentive the lender has to do a proper risk assessment. He/she can simply rely on the quality of the collateral instead.

Another scenario is that the borrower is perfectly able to pay back the loan, but he/she is simply not willing to do so. This is where we can most learn from successful microfinance lending technology. Many MFIs use collateral substitutes such as peer pressure in joint-liability lending or probation (e.g. access to larger loans or charging cheaper interest rates on consecutive loans). Typical for these collateral substitutes is that they are not enforceable through courts and that they have little market value. Others take some form of collateral (usually moveable property, business inventories, even personal property are more important than land titles), but it is rarely enforced.

To give an example: Centenary Rural Development Bank in Uganda does not look at the market value of securities, but at the "incentive value". It is more important that the pledged items are of high personal value to the customers than that they can be easily seized and sold. This, of course, has also to do with the widespread problems of creating, establishing priority, registering and enforcing a security interest in many developing countries, which is the main topic of the theme paper. Yet my argument is that the reform of the system for security interests is neither a necessary nor a sufficient condition for effective rural financial markets.

One final concern is related to the question of whether a reformed system along Fleisig's and de la Peña's lines would in fact reduce the collateral constraint in rural areas. Balkenhol and Schütte list in their relevant study for the ILO two other causes for the collateral constraint, which are 'suboptimal asset distribution' and 'uninformed banks'.[1] The first point very much depends on the segment of the market we are looking at. If we talk of microfinance in rural areas, it is characterised by a lack of conventional collateral and a change of the current asset distribution would be more important than the reform of collateral laws. If we talk of small and medium enterprises in rural areas, the concerns raised in the paper should be the focus of attention. The notion of 'uninformed banks' refers to the danger that, even in a reformed system, bank lending to the microfinance sector would not increase considerably because of the **perceived** high risk of this sector.

3. The Regulation of Rural Financial Institutions

The theme paper includes a short section on this topic asking two main questions: who should be regulated and who should regulate? I do not agree with Fleisig's and de la Peñas complaint that "donor-funded legal reform projects leave untouched the legal barriers facing microfinance". My impression is that it is more the case that most donors see other legal obstacles as much more important than the lack of an efficient legal framework for secured transactions (the ILO publication confirms this view) – and I agree with them.

Numerous studies have been undertaken about the appropriateness of existing regulatory frameworks for microfinance. Conferences have been held, consensus guidelines have been published[2] and, most importantly, lessons have been learned in the field.

Let me try to at least answer the two questions raised by the authors on the basis of my own experience. First, who should be regulated? Regulation has two main objectives, viz. to protect depositors and to safeguard the stability of the financial sector. These objectives are not only based on considerations of equity and fair treatment of small depositors, but can easily be

[1] Balkenhol, Bernd, and Haje Schütte. 2001. *Collateral, Collateral Law and Collateral Substitutes*. 2nd ed, *Social Finance Programme Working Paper No. 26*. Geneva: International Labour Office. Available from http://tinyurl.com/bhyu.
[2] Consultative Group to Assist the Poorest. 2002. *Consensus Microfinance Policy Guidance: Regulation and Supervision*. Washington, DC: CGAP. Available from http://tinyurl.com/anbm.

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justified by the analysis of incentive and information problems within financial markets. Neither objective calls for a regulation of all "those engaged in financial activities". I fully agree with the authors when they say: "If they [non deposit-taking institutions] lend unwisely and lose their money, what is the bad consequence for the financial system?" I imagine that almost everyone agrees. I have not yet come across a case where a banking regulator has taken steps to bring non deposit-taking institutions under its system of **prudential** regulations (i.e. government regulation which takes on responsibility for the soundness of these institutions) – and I do not know of any donor agency promoting such an approach.

The second question is who is going to do the job. This is much more difficult to answer as it depends crucially on the country context. In my view, the preferable solution is to charge the existing superintendent of banks with this task. Yet a number of serious questions about the superintendent's capacity, its political independence, and its specific knowledge about microfinance should be answered first. The problem is that even if the answers turn out to be negative, the alternatives might still be worse. The theme paper proposes to make internationally recognized NGOs such as WOCCU the supervisory agency. As with any proposal to delegate the task of supervision to another agency, one would have to look at ways to control the proper conduct of this agency (which would again be the job of the superintendent or of another government agency), its capacity and skills and ways to make it accountable for what it is doing. With the greatest respect to WOCCU, this proposal would not make the system any more efficient than one in which the superintendency would do the job itself. Other options might be self-regulation, which lacks enforcement power and suffers from regulatory capture (i.e. the regulated institutions 'capturing' the regulator for their own good), or delegation to an apex organization, which is subject to potential conflicts of interests between its different roles (as a lender, supervisor, sometimes also promoter of the industry). Ultimately, it will in many cases be easier to build capacity and educate the superintendent, so that it can also take over the role of regulating MFIs.

I have not talked about the regulation of rural financial institutions as opposed to other microfinance institutions. In my view, regulation of MFIs operating in rural areas should not be relaxed as a means of addressing the lack of rural outreach. Regulation is not the right instrument to promote rural finance. On the contrary, higher risks require stricter regulatory requirements. Therefore the best way to address this issue might be to adapt the financial technology of MFIs as to lower the risks involved in serving this market. We will hear more on this in the general session about 'Innovation in Rural Finance'.

To come back to my starting point: why do I think the 'importance and ease' of reforming financial regulation is higher than that of improving the system for secured transactions? From a better system of collateral, the authors of the theme paper expect "larger loans, at lower interest rates, repayable over longer periods of time". I have my doubts that the effect would be very large, as I explained earlier. From a reformed regulatory system for microfinance, I expect a larger range of products offered (especially the introduction of savings products) and a higher number of customers served in a more sustainable manner. The legal system for secured transactions is important, but more so for SMEs than for microfinance and more as a second step than as the first.

NOTES

NOTES

Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Lead Theme Paper

Risk Management

Risk Management Challenges in Rural Financial Markets: Blending Risk Management Innovations with Rural Finance

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

The ideas are copyrighted by Jerry Skees. Please email your comments to jskees@globalagrisk.com Anne Goes and Celeste Sullivan provided valuable assistance in drafting and editing this paper. Appreciation also goes out to Jason Hartell, Kimathi Miriti, and reviewers from the conference for their valuable input into the paper.

ABSTRACT

Rural finance is about managing risk. Lenders can effectively pool and aggregate risk held by a large number of borrowers if the risk they face is largely independent. A major advantage of microfinance entities and other forms of collective action has been the ability to pool risk. However, correlated risk can not be pooled. Small rural finance entities (RFEs) are simply not capable of pooling and managing correlated risk on their own.

Agriculture remains a dominant activity in many rural economies of the poorest nations in the world. A large majority of the poorest households in the world are directly linked to agriculture in some fashion. Risks in agriculture are correlated. When one household suffers bad fortune it is likely that many are suffering. When agricultural commodity prices decline everyone faces a lower price. When there is a natural disaster that destroys either crops or livestock, many suffer. Insurance markets are sorely lacking in most developing and emerging economies, and rarely do local insurance markets emerge to address correlated risk problems. There a numerous challenges in developing financial markets to manage risk in developing countries. Many of these are reviewed in this paper.

Nonetheless, there is hope. This paper builds upon that hope by reviewing innovations in global financial markets that provide unique opportunities for RFEs to manage correlated risk and expand their ability to help rural households. Two innovations offering the most hope are: 1) the use of global futures markets by intermediaries who can offer a form of price insurance; and 2) the use of index insurance contracts to shift natural disaster risk into the global markets. Recommendations are offered for blending these forms of index insurance and rural finance.

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Introduction

Rural financial markets in emerging and developing economies face numerous challenges. This conference focuses on many of those challenges, including one of the more formidable — that of managing and coping with risks. A complete set of financial markets would include both banking and insurance markets. Banking allows for *ex post* borrowing to smooth disruptions in consumption that result from unexpected shocks (risk) that beset a rural household. Insurance allows for *ex ante* indemnity payments for well-specified risk events that also disrupt consumption.

Financial markets are largely about pooling risk. In banking, users have the opportunity to save and borrow. Pooling savings allows banks to loan to individuals who need funds most urgently. When a household needs to borrow funds they must pay interest. With insurance, rather than having a group of investors, a firm collects premiums from many individuals so that unfortunate individuals in the group can be paid when bad luck besets them. In either case, if everyone has bad luck and needs funds at the same time, there will be trouble. Thus, to the extent that rural financial markets are capable of pooling risk, the risks that are pooled must be independent (i.e., the groups participating cannot have bad luck at the same time).

Agriculture remains a dominant activity in many rural economies of the poorest nations in the world. A large majority of the poorest households in the world are directly linked to agriculture in some fashion. Risks in agriculture are most certainly not independent in nature. When one household suffers bad fortune it is likely that many are suffering. These common risks are referred to as correlated risk. When agricultural commodity prices decline everyone faces a lower price. When there is a natural disaster that destroys either crops or livestock, many suffer. Insurance markets are sorely lacking in most developing and emerging economies, and rarely do local insurance markets emerge to address correlated risk problems.

Since both price and yield risk for agricultural commodities are spatially correlated, rural finance markets are often limited in their ability to help individuals either smooth consumption or manage the business risk associated with producing crops and livestock. For that matter, any form of collective or group action assisting individuals to manage correlated risk at the local level is doomed.

This paper focuses upon the challenge that rural financial markets face helping rural households manage correlated risk in agriculture. Small rural finance entities (RFEs) are simply not capable of pooling and managing correlated risk on their own. Nonetheless, there is hope. Innovations in global financial markets provide unique opportunities for RFEs to manage correlated risk and expand their ability to help rural households. Futures

exchange markets have long been used in developed countries to manage correlated price risk. For some globally traded agricultural commodities, opportunities also exist for RFEs in developing countries to manage price risk. Additionally, new approaches are available for shifting natural disaster risk. As will be developed, index insurance contracts that pay on an objective and independent measure of natural disasters are being used in a number of countries.

While much of the challenge of risk management for RFEs is rooted in the problems associated with correlated risk, there is nothing simple about taking on (or underwriting) risk for individuals. This is particularly true if the livelihood of those individuals is tied to some form of agricultural production activity. Problems of asymmetric information abound. Those involved in a production activity will always know more about their risk than a RFE can ever know. When the households are small, it is nearly impossible for the RFE to obtain enough information to fully understand the risk. Thus, mistakes will be made; bad loans will be made; bad insurance contracts will be written.

Asymmetric information problems create dual problems of adverse selection and moral hazard. When adverse selection occurs, the lender or the insurer has not properly assessed or classified the risk of their customer. Those who are more risky take out the loan with little intent to pay it back or those who are offered insurance decide that the insurance is underpriced and they are getting a good deal by purchasing it. Moral hazard occurs after a loan is taken or after the insurance contract is obtained. Moral hazard involves a change in behavior so that the customer represents more risk than what was believed to be the case. In the case of borrowers of funds, they may decide to use the loan for consumption rather than an income generating activity. Those who are insured may change their behavior in a way that increases the risks beyond what the insurer believed they would be when the insurance was developed.

To pool correlated price and yield risk, RFEs must develop a diversified portfolio of loans. Loans can be diversified by expanding the geographic area served and by expanding the diversity of customers. Thus, the quest for diversifying loans reduces what lenders know about their customers. Either the lending institution must become large or they lose the advantage of lending to a specialized clientele. In either case, the ability to know the customer and underwrite the risk of the individual diminishes significantly.

Given the prohibitive transaction costs associated with obtaining information and monitoring, collective action among neighbors who know already know one another via social networks becomes important. If one is to consider collective action it is also important to review some of the development literature regarding risk management and risk coping strategies that are used by the rural poor. That review is presented in the next section, reinforcing the premise that it is nearly impossible for the rural poor to manage or cope with correlated risk from natural disasters.

Next, the paper turns to the role of banking and insurance markets to aid in managing and coping with correlated risk. Here again, the limitations and challenges for both banking and insurance markets involve not only the inability to deal with correlated risk,

but also the difficulty of underwriting risk for small- sized rural households. Understanding these challenges also sets the stage for a more full explanation of the international experience with crop insurance. This experience clearly demonstrates that multiple-peril crop insurance has required significant subsidies from the public sector. Once the full social costs are measured, traditional crop insurance has been an unmitigated failure (Hazell, 1992; Hazell, et. al. 1996; Skees, 1999a, 1999b, and 2001b; Parchure, 2002).

Damage to crops, property, and person can be highly correlated if the source of the damage is a natural disaster. Since most forms of insurance, including local reciprocity and mutual insurance groups, have failed in providing relief from natural disasters, some form of *ex post* disaster relief is common (Cashdan, 1985; Rosenzweig and Binswanger, 1993; Fafchamps, 1992; Udry, 1994; Townsend, 1995).

Free disaster assistance is fraught with incentive and equity problems. Economists are rightly concerned with the incentives in such a system (Anderson, 1976; Dacy and Kunreuther, 1969; Freeman and Kunreuther, 1997; Kaplow, 1991; Kunreuther 1976, 1993, and 1996; Rettger and Boisvert, 1979; GAO, 1980 and 1989). If decision makers do not pay something for the risk associated with their decisions and free aid or debt forgiveness is used, disasters become self-perpetuating (Kaplow, 1991). While numerous equity issues can be raised regarding who gets the free aid, when it is packaged as debt forgiveness in a national banking system, such aid can be even more skewed toward those who already have assets.

Insurance markets that compensate for crop or livestock losses from natural disasters have long been touted as being an important component for recovery of poor households. Nonetheless, traditional insurance markets are missing or incomplete in most developing economies. As will be established, traditional crop and livestock insurance is a particularly bad idea for developing countries where asymmetric information and poor data create classic problems for insurance. Index insurance offers some promise for circumventing the problems with traditional crop insurance. Furthermore, innovation in global financial markets and in technology provides even more hope that index insurance contracts can be offered at more affordable prices. For example, satellite imagery may someday allow insurance providers to offer index insurance that is directly tied to vegetative growth given specific geographic coordinates.

After developing the conceptual foundation for understanding why index insurance can fit into the developing country's setting, the paper reviews some case studies that demonstrate that the use of index insurance in developing countries is growing. The World Bank has been heavily involved in many of these developments both in terms of price risk management and weather-yield risk management. However, as will be developed below, there are concerns about the basis risk for individuals who may use the futures markets or purchase index insurance. Basis risk occurs when an individual has a loss and does not receive payment or when there is payment and the individual has not suffered a loss. This can happen with index insurance that pays based upon an objective

measure of weather or area yields. Basis risk is also present when individuals use futures markets to protect against local price movements.

If a group of individuals working within a RFE purchase either price insurance (via put options) or yield insurance (via index insurance with indemnity payments based upon extreme weather events), there are opportunities to mitigate the basis risk. The collective group could form a mutual insurance company or they could be involved in formal or informal lending to members of the group. As will be developed below, the use of innovations presented in this paper could clear the way for blending mutual banking and insurance at a local level. The focus of the conceptual model presented here will be on localized rural finance (both formal and informal). Still, the risk management instruments that are introduced have a wider application: They can be used by larger RFEs as well as by individual households.[1]

Linking the use of risk-shifting innovations that are being tried around the world directly to rural finance has been largely missing. This paper builds a set of recommendations for using index insurance and, in some cases, futures markets in combination with rural finance. The intent is for the RFE to have the opportunity to purchase index insurance and put options to protect against the correlated risk of crop disaster, livestock deaths due to natural disasters, and commodity price declines. The indemnity payments can be used by the small local banking interest to 1) protect against credit defaults that follow a risk event; 2) facilitate a form of mutual insurance, and 3) offer lower interest rates after the risk event.

To be clear, the ideas presented in this paper are developed with several implicit and explicit assumptions. For example, the legal framework must be in place to assure the integrity of contracts (Fleisig, 2003). Furthermore, in many cases, the macroeconomic environment within the country must be stable enough to allow financial markets to function (Gonzalez, 2003). While both of these requirements are formidable obstacles, they may be less so with the arrangements presented in this paper. To the extent that financially strong and reputable international firms are offering index insurance contracts to RFEs within a developing country, the primary requirement will be up-front premium payments by the RFE. Such an arrangement could also be structured so that premiums and indemnities are paid in a strong international currency (dollar or euro), thus circumventing exchange rate risk and some inherent problems associated with a poor macroeconomy.

Risk Management and Risk Coping Strategies

Risk management strategies attempt to address risk problems *ex ante*. Risk coping strategies address risk problems *ex post*. Siegel and Alwang (2001) develop a taxonomy of risk-coping strategies for rural households. An excellent example of *ex ante* risk management is enterprise diversification. Using off-farm income to offset risk from

[1] See Skees et al. (2002) for more uses of the same information on weather disasters in several settings: 1) as a replacement for traditional crop insurance; 2) as a means to insure groups of farmers and facilitate mutual insurance; 3) as a means of providing more affordable reinsurance for traditional crop insurance, and 4) as a mechanism to trigger objective disaster payments.

farming is one way to diversify. However, if members of the household go to work off the farm after the disaster, this would be a risk coping strategy. Another common risk coping strategy involves selling of assets after the disaster.

An important distinction between independent and correlated risk must be made.[2] The source of the risk influences the ability and means used to manage and cope with the risk. Independent risk can be pooled and shared among neighbors. When risks are independent, two individuals having the same average incomes with the same level or risk can combine incomes and lower their risk. They can do this without changing their average income. Pooling of independent risk is a precondition for insurance. When risks are highly correlated, the advantage of pooling or combining incomes disappears. To cope with correlated risk, income must come from outside the local community (insurance, credit, or savings).

Diversification is among the most common risk management strategies for the rural poor. Dercon (2002) develops an excellent review of literature that suggests not only that the rural poor are likely to give up significant income to lower risk but many times they fail to smooth risk when they diversify. Of particular interest to this paper, Dercon (2002) points out that while the quest to diversify income by using both farm and off-farm sources may be effective during normal years, it can be highly ineffective during abnormal years. Since many of the sources of off-farm income remain tied to the well-being of farming in the community, any shocks to local agricultural incomes can place the diversified income of the rural poor in jeopardy as well. Quoting from Dercon, 2002 (p. 12):

> "Czukas et al. (1998) find evidence that non-farm income is positively correlated with shocks affecting crop income: drought adversely affects not only crop income but also non-farm income. They refer to Sen's analysis of famine — crop failure leads to a collapse of the demand for local services and crafts, limiting the use of diversification to handle risk."

Studies that examine the multiplier effect of farm income in rural communities suggest that the non-farm economy growth rate is tied to the farm economy growth rate in many developing countries (Ellis, 1998). Thus, it is likely that correlated shocks that impact farm income also are likely to influence the growth rate of the non-farm economy.

Building savings is the most common risk coping strategy for the rural poor. Since rural finance markets are limited in developing countries, accumulation of assets that can be liquidated to smooth consumption when there are adverse events is a common form of savings (Binswanger and McIntire, 1987; Bromley and Chavas, 1989; Rosenzweig and Wolpin, 1993).

[2] When making this distinction, language becomes important, as the literature uses a variety of terms. Independent risk is also referred to as idiosyncratic risk. Several words replace correlated risk in the literature: 1) covariate; 2) common, and 3) systemic.

There are at least two significant problems with using accumulation of assets as a risk coping strategy: 1) the asset can be lumpy and not easily converted to the proper level of needed cash during a crisis, and 2) the value of the asset can be risky, and even more troublesome, the risk can be correlated with the very shocks that one is attempting to mitigate. For example, since livestock is commonly used as the asset to smooth income shocks, this may work well when the shock is created by an independent risk event — health problems in the household, death, weddings, etc. However, when the shock is from a natural disaster such as drought, one can expect that livestock will also suffer. The household will either be forced to purchase feed, sell the livestock, or move the livestock to a region not impacted by drought. All of these risk coping strategies will be costly. More problematic, if everyone is trying to sell livestock at the same time because of drought, the price of livestock will be greatly depressed.

Banking and Insurance to Manage and Cope with Risk

If rural finance markets were working properly, individuals could conceivably borrow to smooth consumption when shocks create either lower than expected incomes or low crop yields for household consumption. However, it is rare that rural finance markets in developing countries are fully integrated with international finance markets. Country currency risk and correlated natural disaster risk can create serious problems for anyone holding savings in a local bank. Additionally, if either low prices or low yields create lower than expected incomes, this adversely impacts the ability to repay existing loans provided for inputs in the production process. As a consequence, rural finance markets either charge higher interest rates or restrict access to credit.

Banking and insurance involve underwriting risks of individuals and offering individuals the opportunity to address the risks either *ex ante* (with insurance) or *ex post* (with bank loans). While there are important similarities in banking and insurance, there are also important differences. With banking, the lender must either provide collateral or have an excellent history of repayment to obtain a loan. Poor households can rarely meet the conditions for a loan. By contrast to the banking requirements, an insurance contract requires no collateral or repayment history. The basic requirement is *ex ante* financing of the risk via a premium. If the poor can pay some level of premium, they are insured. Still, among the poorest of the poor the inability to pay premiums of any form may also preclude any form of insurance. In recent work, Goes and Skees (2003) are raising the question of how *ex ante* index insurance for natural disasters could be co-financed by charities. Some of this thinking is introduced below in the context of local self-financing groups (microfinance or cooperative).

Challenges for Traditional Banking and Insurance Markets[3]

Portfolio management is the key to successful banking and insurance. Having a well-diversified pool of risk allows both banks and insurance companies to spread risk among customers with different sources of income, over geographic space, and through time.

[3] Debraj Ray's book, *Development Economics,* includes two excellent chapters that review credit and insurance markets.

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Lenders and insurance providers must be knowledgeable regarding the risk of their customers. Underwriting risk of individuals is critical and involves extremely high transaction costs. Asymmetric information heavily favors the borrower and the insured. Lenders who decide to make loans without collateral will need even more information about the borrower. Obtaining the needed information to underwrite the individual risk requires monitoring and relatively high transaction costs.

Monitoring the activity of small households of the rural poor who wish to borrow small sums or purchase a small value of traditional insurance is basically not possible. The revenues generated from the financial activity most certainly do not pay for the monitoring cost in many of these cases. Still, without proper underwriting and monitoring, credit defaults will become a problem when loans are made to the rural poor. Credit defaults can also be traced to a shock (either coming from an independent risk or a correlated risk). Thus, in principle, a strong case can be made for using insurance with credit.

Under special circumstances, insurance can become a form of collateral. RFEs making loans are requiring that the borrower purchase insurance and sign over indemnity payments to the RFE as a means of repaying loans when adverse events create cash flow shortages. The trend for this type of arrangement is growing and, in some cases, includes forward price contracts on crops. When banks make such requirements, they are effectively turning over some of the underwriting responsibility to the insurance provider. Given the high social cost of underwriting the risk of the same individual two times (once for the bank and once for the insurer), merging these activities at some level may be socially optimal.

However, combining banking and insurance functions is also a major challenge. Banking and insurance have important differences in terms of potential financial exposure. In countries with working legal systems, a RFE can require that some form of collateral be used to increase the likelihood that they will recover something from the loans they make. The RFE must be able to make assessments regarding the probability of repayment of loans. If there is considerable risk of default on the loans, then the RFE will would have to charge higher interest rates. Such loading of interest rates is akin to an insurance premium. In some cases, governments provide loan guarantees to protect against large credit defaults. These guarantees can become problematic as moral hazard on the part of the RFE can increase. Moral hazard in this case means that the RFE becomes more lax in underwriting the loans they make.

Insurance can involve considerably more risk than banking and there are many cautionary concerns that must be addressed before a RFE embarks upon providing insurance. Some have raised serious questions regarding the ability of microinsurance to be sustainable (Brown, Green, and Lindquist, 2000; McCord, 2003). If a microfinance entity offers insurance services, there is considerable risk that they may not have enough funds to cover their full range of exposure. Further, they must have more sophistication in their knowledge of risk. Index insurance circumvents many of these concerns. As will be made clearer later, the microfinance entity would purchase index insurance and, in some cases,

put options on price. As a collective group, they would have agreements about how the proceeds of these contracts would be used. They would not expose the collective group to more commitment than agreeing to distribute payments from the index insurance or the put options. In effect, they could distribute these payments using informal systems of mutual insurance (i.e., they could attempt to make certain that those suffering the biggest losses would receive the most payment).

Managing Correlated Risk in Global Financial Markets

Price Risk Management

When risks are nearly 100 percent correlated, futures exchange markets have emerged to allow many buyers and sellers of the risk to share risk in an organized fashion. These markets have allowed participants to protect common or correlated risks such as changing commodity prices, interest rates, and exchange rates. Futures markets have a much longer history of successful use than many of the ideas presented in this paper. Thus, less time will be spent explaining these markets. There are numerous excellent texts that can be used to become informed regarding futures markets (e.g., Luethold, Junkus and Cordier, 2000).

Despite well-functioning futures markets, because of the complexity of and the size needed to participate in futures markets, intermediaries are needed to facilitate participation in something that looks much more like direct price insurance. The World Bank has been working with investment banks and with the International Finance Corporation (IFC) to offer something that is much more akin to price insurance or an Asian put option. If the domestic price is highly correlated with a futures market price, it is possible to offer such contracts to local users in a developing country. The buyer (such as a RFE) would pay a premium for the right to obtain price protection at some level. For example, if the world price of coffee is trading at 40 cents, the MFE could purchase an option or insurance that would pay anytime the world price of coffee drops below 30 cents. The payment would be made in such a fashion as to make up the difference between the new lower world price and the 30-cent level. By packing various size contracts, the investment bankers and IFC hope to make these types of contracts more accessible to a wide array of users. Kenyan coffee is used in this paper as a case that may fit the necessary condition that domestic prices be highly correlated with an internationally traded exchange market.

Natural Disaster Risk Management

When a hurricane or an earthquake occurs not everyone has a total loss. Still, many losses do occur at the same time. Crop losses have similar characteristics. While events such as too little rain, too much rain, or widespread frost create widespread crop losses, not every farm experiences the same loss. The challenge for those insuring losses from hurricanes, earthquakes, and crop disasters is to have access to enough capital to cover worst-case scenarios.

Since catastrophic risks are not independent, and in the classic sense are uninsurable, special global markets have emerged to share these risks. The traditional mechanism is to

share catastrophic risk with another insurance entity by what is called reinsurance. Reinsurance can take many forms. The simplest form to consider is another insurance policy on the insurance losses for a local insurance provider. Such a policy can be arranged as a "stop loss" policy: The local insurance provider pays a premium to the global reinsurer who agrees to pay for all losses beyond a certain threshold. As long as the reinsurer mixes this into a global book of business, then what were correlated risks at the local level become independent risks at the global level.

While reinsurance markets are extremely effective and have grown in recent years, there are significant limitations. First, price discovery is difficult. There is no price transparency. The international reinsurance market is a classic thin market with few buyers and sellers. Second, transaction costs are high. Reinsurance contracts can be unique, requiring costly legal fees to tailor the contract to the special circumstances. The local insurance provider will know more about the risk they are writing than the international reinsurer can expect to learn. Thus, the hidden and asymmetric information problems that plague local insurance providers are also present between the local insurer and the global reinsurer. It is expensive for the reinsurer to attempt to balance the information and monitor the local insurer. Third, the prices that must be charged for reinsurance may simply not match the willingness to pay. In addition to covering the transaction costs, the price of reinsurance reflects extra "loading" to build reserves and account for the ambiguity of catastrophic risk (Jaffee and Russell, 1997; Skees and Barnett, 1999). A lack of understanding about the risks and events being insured may cause insurers and reinsurers to set premiums too high (Camerer and Kunreuther, 1989).

Froot (1999) develops four explanations for the high price and low use of catastrophic reinsurance: 1) reinsurers have market power; 2) the corporate form for reinsurance is inefficient; 3) frictional costs of reinsurance are high, and 4) moral hazard and adverse selection at the insurer level are high. Froot (1999) goes on to point out how insurance regulations increase the transaction costs even further and how free government disaster assistance crowds out development of reinsurance markets. Finally, he discusses how decision makers may underestimate or simply not consider the very low likelihood of payment from reinsurance.

New Market Instruments for Sharing Catastrophic Risk[4]

In the past decade a number of innovations have been tried to offset the limits of reinsurance through the use of insurance securitization (Cole and Chiarenza, 1999; Doherty, 1997; Lamm, 1997). Insurance securitization involves the creation of marketable security that is financed by premiums flowing from a contingent claims transaction — generally the traditional insurance and reinsurance transactions. The concept is relatively straightforward: if the risk can be standardized in some fashion and packaged into a marketable security, then many investors can participate in the risk sharing. Since capital markets trade many times the value of the entire reinsurance capacity, this access to additional capital with lower transaction costs should compensate for many of the limitations in the reinsurance markets.

[4] Parts of some sections of this paper appear in other works by the author. They have been modified and added as important components of this paper.

These innovations offer potential applications for insuring against catastrophic and agricultural risks that may be especially beneficial for developing countries lacking traditional insurance markets. Despite significant growth in the volume of insurance securities, however, they remain a small percentage of the overall reinsurance market (roughly 5 percent). Still these markets hold promise, and there is considerable excitement in the industry about their potential (Elliott, 1998). Reinsurance companies have hired professionals experienced in weather trading markets to foster development of index-based insurance for managing highly correlated risks.

Two classes of equity instruments are currently being used to securitize insurance risk: exchange-traded indexes (e.g., the CAT contract on the CBOT) and risk-linked securities (e.g., Catastrophic or CAT bonds). Both instruments provide a mechanism of risk transfer from a primary insurer to a large group of investors/speculators. As such, they serve as another type of reinsurance. The actual arrangement for these equity instruments can take many forms. In some cases, they will look very similar to reinsurance and protect against excess monetary losses of the primary insurer. In other cases, they may simply be structured as an index product with an event-triggered risk (explained below). Beyond the security instruments that have emerged, event-triggered risks are being traded in other ways. The most significant event-triggered risk trades are in the new weather market where both temperature and rainfall are being traded.

Exchange-Traded Indexes

Exchange-traded indexes offer the opportunity to receive payments based on the occurrence of some event. Sandor, Berg, and Cole (1994) write about the attributes needed for successful futures and options contracts on indexes. Indexes should be standardized, verifiable, and well understood. When an index contract is properly constructed, it is largely free of moral hazard since an individual who uses the index contract should be unable to influence the outcome that determines payments from the contract. Monitoring needs are reduced as indemnity payments are solely based on the index, not upon what happens to the insured's individual losses. And while this may lower the price as it controls moral hazard and lowers transaction costs, it does mean that the insured faces a basis risk — they can have a loss even when the index does not trigger a payment.

The trade-off between increased basis risk and lower moral hazard is key for index contracts. This type of structure should encourage better management practices and risk mitigation measures. Since incentives are more properly ordered with an index contract, one can expect that there are opportunities for more price transparency and increased liquidity. Ultimately, secondary markets may also emerge where individuals who purchase index contracts to protect against their risk exposure can sell the contracts as conditions change and become more valuable to someone else who is at risk.

The Property Claim Services (PCS) CAT options that trade on the CBOT are the first exchange-traded indices. PCS is an industry authority that has provided estimates of catastrophic property damage since 1949. PCS provides the data needed to trade and

settle PCS CAT options. There are nine indices (one national, five regional, and three state) that track the PCS estimates for insurance losses resulting from catastrophes in each defined region for a specified loss period. The loss period is the time during which the catastrophe must occur — the most common loss period is set for quarterly losses. Thus, purchasing a call option at some specified loss level will give a form of reinsurance when losses during a three-month period exceed the "strike" loss level. The options are European, meaning they can only be exercised at the end of the contract. Cummins and Geman (1995) develop the economics of how to use and price the CAT contracts.

In the spring of 1995, the CBOT introduced crop-yield insurance and futures options for corn. Sandor, Berg, and Cole (1994) were leaders in writing about what was needed and how such a contract might be designed. In the first year, there was considerable interest. Iowa corn was the most active contract as open interest exceeded 2,000 contracts. U.S. Department of Agriculture (USDA) estimates of harvested corn yield per acre provide the basis for the index. One advantage of these contracts is that they could be traded throughout the season. This offered opportunities to offset risk positions at any time. There are a number of reasons why crop-yield contracts have not been successful. Government subsidized reinsurance offered to crop insurance companies and constraints in the regulatory environment are likely major reasons.

The concept of area-yield contracts in the United States was introduced when USDA began a pilot program on area yields indexed at the county level in 1993. Numerous articles have been written about area-yield insurance (Skees, Black and Barnett, 1997; Mahul, 1999; Miranda, 1991).

Risk-Linked Securities

CAT bonds are the most common risk-linked securities, mainly used to provide reinsurance protection for primary insurers. CAT bonds, just like corporate bonds, are debt instruments providing capital contingent upon the occurrence of a specific event. Those seeking catastrophic coverage pay a premium based on the risk. The premiums generate the interest payments for the bond investors. In exchange for assuming the risk, those purchasing CAT bonds receive a relatively high rate of return if there are no catastrophes. However, they may lose some or all of their investment or earnings on their investment if a catastrophe does occur. Since catastrophes should be independent of the general economic trends, fund managers may use CAT bonds to diversify their portfolios with an equity instrument that has zero correlation to traditional equity markets.

CAT bonds can be written to replace insurance losses from a single event such as an earthquake or a hurricane or they can be written to cover risk of aggregate losses for a portfolio of risk. In both cases, the likely trigger would be some high level of loss thus making them work just like a stop loss in reinsurance or as a call option on losses beyond some level. An advantage CAT bonds offer over reinsurance is that CAT bonds eliminate the default risk by holding capital in escrow throughout the term of the bond. With a traditional reinsurer, defaults are more likely because reinsurers do not have to guarantee their ability to pay future losses.

Numerous risk-modeling firms have emerged to model catastrophes and educate potential purchasers of catastrophic-linked securities. The more complex the risks, the higher the transaction costs associated with defining terms, modeling, and developing the unique characteristics needed to develop the contract. While most of the CAT bonds issued to date have transferred catastrophic risk to strengthen reinsurance capacity, there are many other potential uses. Any risks where a well-defined trigger can be identified could be packaged into a CAT bond. An easily defined trigger will reduce transaction costs since no one has to worry about moral hazard or how well the business at risk is underwriting their risks. In these cases, the parametric features (the full probability distribution function) can be estimated. Such contracts are known as parametric reinsurance. For example, at least two Richter scale CAT bonds have been developed in recent years. Payments are triggered by a certain value on the Richter scale at a certain location. Sophisticated models are designed to estimate the losses generated by incremental increases in the Richter scale measurements. These CAT bonds have been as large as $100 million. Agriculture has many risks that can be parameterized: weather risk, area crop yields, some environmental risks, and others. Any of these risks could be packaged into a CAT bond possibly with very low transaction costs.

Markets for Weather-Based Securities

Weather indexes began trading in 1996 as the U.S. power industry was deregulated. Some people lose and others win when certain weather events occur. When the same event has different impacts on different parties, a trade is possible. When the power industry was deregulated, revenues became more volatile. Extremely low and high temperatures create peak load problems for the electricity industry. By using index contracts that pay when the temperature is either too cold or too hot, the company can hedge against the added cost of buying power on the open market when demand is high. In some cases, power companies may also want to protect against normal temperatures since benign weather creates low demand.

As information systems improve and we learn more about the relationships between weather and crop yields and crop quality, it may soon be more useful to have a portfolio of weather contracts that meet particular needs. Farmers or agribusinesses may find that such contracts are more dynamic than traditional crop insurance. For example, different weather events will have varying influence depending on the cumulative weather events that create a unique growing season. If the crop starts slow due to a cold wet spring, the timing of the weather may influence yields differently than a season with a quick start. Further, new varieties may be expected to respond differently to weather events than old varieties. This knowledge may be used to tailor the rainfall contracts to the new varieties rather than using historic yield records. Improvements in information systems will continue. Credible and inexpensive ways of measuring weather events could make it more likely that market makers will be willing to write weather-base instruments that are linked to crop yields.

Reinsurance and Weather Markets

Much can be said about the international reinsurance community and their resistance to entering new and untested markets. The use of the capital markets for sharing "in-

between" risks remains in the infant stages, leaving the issue of capacity and efficiency in doubt. This raises questions about the role of government in sharing such risk. For the United States, Lewis and Murdock (1996) recommend government catastrophic options that are auctioned to reinsurers. Part of the thinking is that the government has adequate capital to back stop such options and may be less likely to load these options as much as the reinsurance market. Skees and Barnett (1999) have also written about a role for government in offering insurance options for catastrophes as a means of getting affordable capital into the market. However, the demand for catastrophic insurance will be limited where free disaster assistance is available.

Reinsurers have now acquired many of the professionals who were trading weather. SwissRe acquired professionals from Enron and PartnerRe and ACE acquired professionals from Aquila. *Reinsurers are now in a position to offer reinsurance using weather-based indexes.* This type of reinsurance should be more affordable since it is not subject to the same adverse selection and moral hazard problems as traditional insurance.

Problems with Traditional Crop Insurance

When agricultural risks are discussed, many of those discussions gravitate to the need for insurance. The background for understanding why traditional approaches to agricultural insurance are problematic has been developed above. Two themes will be repeated in this section: 1) crop risks are correlated, and 2) hidden and asymmetric information problems create ample opportunity for abuse. These same information problems also exacerbate the dual problems of adverse selection and moral hazard.

Traditional crop insurance has been an expensive social experiment in developed countries where data is much better than in developing countries. Numerous scholars have repeatedly emphasized that traditional crop insurance is simply not workable in developing countries. This section is included to reemphasize that point so that practitioners in developing countries have a very solid understanding of the problems with traditional crop insurance. The proliferation of international consultants who are touting traditional crop insurance as a workable solution for developing countries should be of significant concern to the development community.

Successful insurance programs require that the insurer have adequate information about the nature of the risks being insured. This has proven to be extremely difficult for farm-level yield insurance. Farmers will always know more about their potential crop yields than any insurer. This asymmetric information is the major problem with insuring farm yields. If an insurer cannot properly classify risk, then it is impossible to provide sustainable insurance. Those who know that they have been favorably classified will buy the insurance; those who have not been favorably classified will not buy. This phenomenon, known as "adverse selection," initiates a cycle of losses (Goodwin and Smith, 1995; Ahsan, Ali, and Kurian, 1982; Skees and Reed, 1986; Quiggin, Karagiannis and Stanton, 1993). The insurer will typically respond with "across the board" premium rate increases. But this only exacerbates the problem, as only the most risky individuals will continue to purchase the insurance. The problem can only be corrected if the insurer

can acquire better information to properly classify and assign premium rates to potential insureds.

Insurers must also be able to monitor policyholder behavior. Moral hazard occurs when insured individuals change their behavior in a way that increases the potential likelihood or magnitude of a loss. In crop-yield insurance, moral hazard occurs when, as a result of having purchased insurance, farmers reduce fertilizer or pesticide use or simply become more lax in their management. At the extreme, moral hazard becomes fraud where policyholders actually attempt to create a loss. Again, the problem is asymmetric information. Unless the insurer can adequately monitor these changes in behavior and penalize policyholders accordingly, the resulting increase in losses will cause premium rates to increase to the point where it becomes too expensive for all but those engaged in these practices.

Insurers must also be able to identify the cause of loss and assess the magnitude of loss *without relying on information provided by the insured.* For automobile or fire insurance the insurer can generally identify whether or not a covered loss event has occurred and the magnitude of any resulting loss. For multiple-peril crop-yield insurance this is not always the case. It is not always easy to tell whether a loss occurred due to some covered natural loss event or due to poor management. Nor is it easy to measure the magnitude of loss without relying on yield information provided by the farmer.

Actuarial Performance of Crop Insurance Programs

Performance of publicly supported multiple-peril crop insurance has been poor when all costs are considered. If companies were private, the premiums collected would have to exceed the administrative cost and the indemnities paid out. Hazell (1992) quantifies the condition for sustainable insurance as follows:

$$(A + I)/P < 1$$

where A = average administrative costs
I = average indemnities paid
P = average premiums paid

Given this ratio, Hazell finds that in every case the value exceeds 2 (Table 1). This means that government support is at least 50 percent. However, there are cases where farmers are clearly paying only pennies on the dollar of the real cost of the crop insurance program. A ratio of 4 means that the farmer pays 25 cents per 1 dollar of total costs. Skees (2001) reports a ratio of 4 for the current U.S. crop insurance program and Mishra reports that India's I/P ratio increased to 6.1 for the period 1985-94.

Table 1 has only one case where the loss ratio of indemnities over premiums approaches 1 — Japan. In this case, the administrative costs needed to achieve this lost ratio are quite unbelievable — over 4 ½ times higher than the farmer premium. It seems a very high price to pay to obtain "actuarially sound" crop insurance.

Table 1: Financial Performance of Crop Insurance in Seven Countries

Country	Period	I/P	A/P	(A+I)/P
Brazil	75-81	4.29	0.28	4.57
Costa Rica	70-89	2.26	0.54	2.80
India	85-89	5.11	na	na
Japan	47-77	1.48	1.17	2.60
	85-89	0.99	3.57	4.56
Mexico	80-89	3.18	0.47	3.65
Philippines	81-89	3.94	1.80	5.74
USA	80-89	1.87	0.55	2.42

Source: Hazell 1992

The other strategy in reaching the goal of an actuarially sound social crop insurance program is via premium subsidies. As subsidy rates have increased from 30 percent of premium to 59 percent in the United States, more farmers have purchased crop insurance. In 2002 as much as 80 percent of the eligible acreage for some crops is insured. These subsidies have masked the adverse selection and moral hazard problems by bringing the lower risk farmers into the pool of very high risk farmers. Once these lower risk farmers are in the risk pool, this can improve the actuarially performance, especially when the system is measuring the unsubsidized premium against the loss experience. Obviously this is an accounting ploy and reflects little about the true performance of the program. This is what the United States has done in recent years (Skees 2001).

In the processes of brining in the lower risk farmers via higher subsidies, little has been done to improve the classification problems or to fix moral hazard. When subsidies are increased, those high risk farmers who have obtained the most benefit from crop insurance in the past obtain even more benefit. The distribution of benefits from subsidies is strongly skewed toward the abusive set of farmers.

Index Insurance Alternatives

There are lower cost approaches to providing crop insurance that also mitigate the traditional problems associated with multiple-peril crop insurance. Index-based insurance products are an alternative form of insurance that make payments based not on measures of farm yields, but rather on either area yields or some objective weather event such as temperature or rainfall. Index insurance products are also akin to the entire discussion above regarding innovations in global financial markets that promise to offer better pricing for sharing catastrophic risk.

In some situations, index insurance offers superior risk protection when compared to traditional multiple-peril crop insurance that pays indemnities based on individual farm yields. This happens when the provider of traditional insurance must impose large deductibles. A deductible basically means that the insurance policy will not pay until the loss is very serious. Deductibles and co-payments (or partial payment for losses) are commonly used to combat adverse selection and moral hazard problems. Since these

problems are not present with index insurance, there is less need for deductibles and co-payments.

Index insurance provides an effective policy alternative as it seeks to protect the agricultural production sector from widespread, positively correlated, crop-yield losses (e.g., drought). When index insurance is used to shift the risk of widespread crop losses to financial and reinsurance markets, the residual idiosyncratic risk often has characteristics that make it more likely that rural banks can work to smooth consumption shortfalls with loans.

Two types of index insurance products are considered; those that are based on area yields where the area is some unit of geographical aggregation larger than the farm, and those that are based on weather events. An area-based yield contract has been offered in the United States since 1993. This policy was developed by the author and is named the Group Risk Plan (GRP). There are numerous ways to calculate payments on index contracts (Skees, 2000). For the U.S. GRP program, indemnity is calculated as

$$Indemnity = \max\left(0, \frac{Index\ Trigger - Realized\ Index}{Index\ Trigger}\right) \times Liability$$

where the index is the yield for the county where the farm is located (Skees, Black and Barnett, 1997). The *Index Trigger* is the product of a coverage level selected by the policyholder and the official estimate of the expected county yield per acre. Coverage levels range from 70 to 90 percent in 5 percent increments.
Expected county yields are estimated using up to 45 years of historical county yield data. For GRP, liability is calculated as

$$Liability = Expected\ County\ Yield \times Indemnity\ Price \times Scale \times Farmer's\ Planted\ Acreage$$

where *Expected County Revenue per Acre* in the equation above is equal to the product of the official estimate of price and expected county yield per acre and *Scale* is chosen by the policyholder but is limited to between 90 and 150 percent.[5]

To be clear, an example of how the Group Risk Plan works is in order. Estimates of the county yield are made using forecasting procedures that account for trends in yields due to technology. If the corn yield forecast for the county yield is 100 bushels, the farmer can obtain a contract that will pay any time the actual estimate of the county yield is below 90 bushels (the trigger= 90 bushels). Assume that the expected price on corn is $2.00 per bushel. The farmer can purchase a liability that is equal to 150 percent of the product of the expected county yield and the expected price, times their acres planted. The calculations for a farmer with 100 acres follow:

[5] The limitations on both *Coverage* and *Scale* were politically dictated. In principle, there is no reason that these parameters would need to be limited with index contracts. Still it is common to set some limits on how much index insurance a farmer can purchase. Some estimates of value-at-risk may be used for this purpose. For the GRP program, the farmer must certify the planted acreage used to calculate liability.

Liability = 100 x $2 x 1.5 x 100; or $30,000

If the farmer has a yield average that is above the county they have incentives to purchase the maximum protection or liability by using the maximum scale factor of 1.5. For a farmer who purchases a 90 percent coverage level, indemnity payments will be calculated by multiplying the percent shortfall in county yields times the $30,000 of liability. Thus, if the realized estimate of county yields for the year is 60 bushel (which is 1/3 below the 90 bushel trigger) the indemnity payment calculation is

Indemnity = (90 -60) / 90 * $30,000; or $10,000

Premium payments are based upon premium rates. Thus, if the rate is 5 percent for the 90 percent coverage level policy, the calculations for the premium would be

Premium = .05 x $30,000; or $1,500.

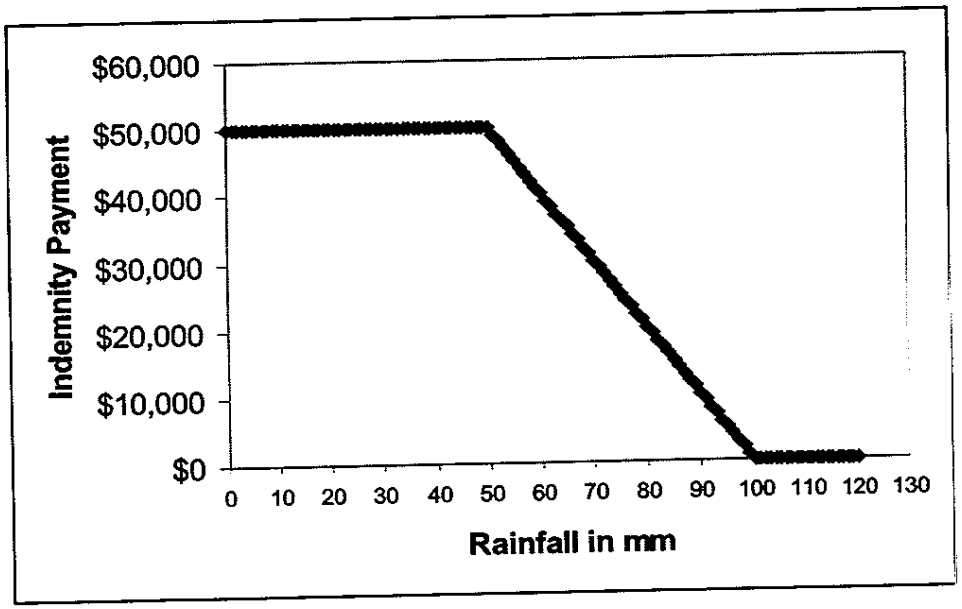
Of course, one could easily adapt this contract design to any number of other indexes such as aggregate rainfall measured over a stated period at a specific weather station or the number of days with temperatures above or below a specified level. The contract design used in GRP is sometimes called a "proportional contract" because the loss is measured as a percentage of the trigger. Proportional contracts contain an interesting feature called a "disappearing deductible." As the realized index approaches zero, the indemnity approaches 100 percent of liability, regardless of the coverage chosen.

The weather markets developed contracts that look very much like what Martin et al. (2001) proposed. They use unique language that is very similar to that used in futures markets. For example, rather than referring to the threshold where payments will begin as a "trigger," they refer to it as the "strike." In an attempt to make things more straightforward, they also pay in increments or what they call "ticks." Consider a situation where a contract is being written to protect against shortfall in rain. The writer of that contract may choose to make a fixed payment for every 1 mm of rainfall below the *strike/trigger*. If an individual or a RFE purchase a contract where the *strike/trigger* is 100 mm of rain and the *limit* is 50 mm, the amount of payment for each *tick* would be a function of how much liability was purchased. There are 50 ticks between the 100 mm and the *limit* of 50 mm. Thus, if $50,000 of insurance were purchased, the payment for each 1 mm below 100 mm would be equal to

$50,000/(100-50) or $1,000

Once the tick and the payment for each tick are known, the indemnity payments are easy to calculate. For example, if the rainfall is measured at 90 mm, there are 10 ticks of payment at $1,000 each; the indemnity payment will equal $10,000. Figure 1 maps the payout structure for a hypothetical $50,000 rainfall contract with a strike of 100 mm and a limit of 50 mm.

Figure 1: Payout structure for a hypothetical rainfall contract



Experiences in Index Insurance

Various area-yield insurance products have been offered in Quebec, Canada, Sweden, India, and, since 1993, in the United States (Miranda, 1991; Mishra, 1997; Skees, Black, and Barnett, 1997). Ontario, Canada currently offers an index insurance instrument based on rainfall. The Canadians are also experimenting with other index insurance plans. Alberta corn growers can use a temperature-based index to insure against yield losses in corn. Alberta is also using an index, based on satellite imagery to insure against pasture losses. Mexico is the first non-developed country to enter into a reinsurance arrangement that was based on weather derivatives.

In the United States, participation in the area-yield based Group Risk Plan has been relatively low. Nonetheless, in 2002, over 12 million acres were insured under GRP or the GRIP (Group Revenue Insurance Program). Participation is strongest is some markets where sales agents have focused on GRP. The loss experience (indemnities divided by premiums) since the introduction of GRP has been good, around 90 percent.

The Ontario rainfall insurance product was fully subscribed in the first year that it was introduced (2000). However, this is a limited pilot test of only 150 farmers and the product was introduced following a major drought. By 2001, 235 farmers had purchased about $5.5 million in liability with payments of $1.9 million.[6] This policy was targeted toward alfalfa hay production. Alberta has also introduced a rainfall index insurance product for forage production. This contract has been available for two years. In 2002, over 4000 ranchers subscribed to the contract.

[6] Personal email communication with Mr. Paul Cudmore of Agricorp, Canada, October 23, 2001.

For many emerging economies or developing countries, weather index insurance merits consideration (Hazell, 1992; Skees, Hazell, and Miranda, 1999). While basis risk may generally be lower with area-yield index insurance, there are several reasons why weather index insurance may be preferable in a developing or emerging economy. First, the quality of historical weather data is generally much better than the quality of yield data in developing countries. Quality data are essential in pricing an insurance contract. Second, it may be less costly to set up a system to measure weather events for specific locations than to develop a reliable yield estimation procedure for small geographical areas. Finally, either insufficient or excess rainfall is a major source of risk for crop losses in many regions. Drought causes low yields and excess rainfall can cause either low yields or serious losses of yield and quality during harvest (Martin, Barnett, and Coble, 2001).

The World Bank Group is pursuing the feasibility of rainfall index insurance in a number of countries. The International Finance Corporation (IFC) of the World Bank is interested in supporting these innovations so that developing countries can participate in emerging weather markets. The feasibility of weather-based index insurance is being considered for a number of countries, including Nicaragua, Morocco, Ethiopia, Tunisia, Mexico, and Argentina.

A major challenge in designing an index insurance product is minimizing basis risk. The phrase "basis risk" is most commonly heard in reference to commodity futures markets. In that context, "basis" is the difference between the futures market price for the commodity and the cash market price in a given location. Basis risk also occurs in insurance. It occurs when an insured has a loss and does not receive an insurance payment sufficient to cover the loss (minus any deductible). It also occurs when an insured has a loss and receives a payment that exceeds the amount of loss.

Since index insurance indemnities are triggered by area-yield shortfalls or weather events, an index insurance policyholder can experience a yield loss and not receive an indemnity. The policyholder may also not experience a farm-yield loss and yet, receive an indemnity. *The effectiveness of index insurance as a risk management tool depends on how positively correlated farm-yield losses are with the underlying area yield or weather index.* In general, the more homogeneous the area, the lower the basis risk and the more effective area-yield insurance will be as a farm-yield risk management tool. Similarly, the more a given weather index actually represents weather events on the farm, the more effective the index will be as farm-yield risk management tool.

While most of the academic literature has focused on basis risk for index type insurance products, it is important to recognize that farm-level multiple-peril crop insurance has basis risk as well. To begin, a very small sample size is used to develop estimates of the central tendency in yields. Given simple statistics about the error of the estimates with small samples, it can be easily demonstrated that large mistakes are made on estimating central tendency. This makes it possible for farmers to receive insurance payments when yield losses have not occurred. It is also possible for farmers to not receive payments when payable losses have occurred. Thus, basis risk occurs not only in index insurance but also in farm-level yield insurance.

Another type of basis risk results from the estimate of realized yield. Even with careful farm-level loss adjustment procedures, it is impossible to avoid errors in estimating the true realized yield. These errors can also result in under- and over-payments. Between the two sources of error, measuring expected yields and measuring realized yields, farm-level crop insurance programs also have significant basis risk.

Longer series of data are generally available for area yields or weather events than for farm yields. The standard deviation of area yields is also lower than that of farm yields. Since the number of observations (n) is higher and σ (the standard deviation) is lower, the square root of n rule suggests that there will be less measurement error for area-yield insurance than for farm-yield insurance in estimating both the central tendency and the realization. In most developing countries, long series of weather data are available.

Summary of Relative Advantages and Disadvantages of Index Insurance

Index contracts offer numerous advantages over more traditional forms of farm-level multiple-peril crop insurance. These advantages include

1. *No moral hazard:* Moral hazard arises with traditional insurance when insured parties can alter their behavior so as to increase the potential likelihood or magnitude of a loss. This is not possible with index insurance because the indemnity does not depend on the individual producer's realized yield.
2. *No adverse selection:* Adverse selection is a misclassification problem caused by asymmetric information. If the potential insured has better information than the insurer about the potential likelihood or magnitude of a loss, the potential insured can use that information to self-select whether or not to purchase insurance. Index insurance on the other hand is based on widely available information, so there are no informational asymmetries to be exploited.
3. *Low administrative costs:* Unlike farm-level multiple-peril crop insurance policies, index insurance products do not require underwriting and inspections of individual farms. Indemnities are paid solely on the realized value of the underlying index as measured by government agencies or other third parties.
4. *Standardized and transparent structure:* Index insurance policies can be sold in various denominations as simple certificates with a structure that is uniform across underlying indexes. The terms of the contracts would therefore be relatively easy for purchasers to understand.
5. *Availability and negotiability:* Since they are standardized and transparent, index insurance policies can easily be traded in secondary markets. Such markets would create liquidity and allow policies to flow where they are most highly valued. Individuals could buy or sell policies as the realization of the underlying index begins to unfold. Moreover, the contracts could be made available to a wide variety of parties, including farmers, agricultural lenders, traders, processors, input suppliers, shopkeepers, consumers, and agricultural workers.
6. *Reinsurance function:* Index insurance can be used to transfer the risk of widespread correlated agricultural production losses. Thus, it can be used as a mechanism to reinsure insurance company portfolios of farm-level insurance policies. Index

insurance instruments allow farm-level insurers to transfer their exposure to undiversifiable correlated loss risk while retaining the residual risk that is idiosyncratic and diversifiable (Black, Barnett, and Hu, 1999).

There are also challenges that must be addressed if index insurance markets are to be successful.

1. *Basis Risk:* The occurrence of basis risk depends on the extent to which the insured's losses are positively correlated with the index. Without sufficient correlation, "basis risk" becomes too severe, and index insurance is not an effective risk management tool. Careful design of index insurance policy parameters (coverage period, trigger, measurement site, etc.) can help reduce basis risk. Selling the index insurance to microfinance or other collective groups can also pass the issue of basis risk to a local group that can develop mutual insurance at some level. Such a group is in the best position to know their neighbors and determine how to allocate index insurance payments within the group.
2. *Security and dissemination of measurements:* The viability of index insurance depends critically on the underlying index being objectively and accurately measured. The index measurements must then be made widely available in a timely manner. Whether provided by governments or other third party sources, index measurements must be widely disseminated and secure from tampering.
3. *Precise actuarial modeling:* Insurers will not sell index insurance products unless they can understand the statistical properties of the underlying index. This requires both sufficient historical data on the index and actuarial models that use these data to predict the likelihood of various index measures.
4. *Education:* Index insurance policies are typically much simpler than traditional farm-level insurance policies. However, since the policies are significantly different than traditional insurance policies, some education is generally required to help potential users assess whether or not index insurance instruments can provide them with effective risk management. Insurers and/or government agencies can help by providing training strategies and materials not only for farmers, but also for other potential users such as bankers and agribusinesses.
5. *Marketing:* A marketing plan must be developed that addresses how, when, and where index insurance policies are to be sold. Also, the government and other involved institutions must consider whether to allow secondary markets in index insurance instruments and, if so, how to facilitate and regulate those markets.
6. *Reinsurance:* In most transition economies, insurance companies do not have the financial resources to offer index insurance without adequate and affordable reinsurance. Effective arrangements must therefore be forged between local insurers, international reinsurers, national governments, and possibly international development organizations.

Index insurance is a different approach to insuring crop yields. Unlike most insurance where independent risk is a precondition, the precondition for index insurance to work best for the individual farmer is correlated risk. It is possible to offer index contracts to anyone at risk when there is an areawide (correlated) crop failure. Furthermore, unlike

traditional insurance, there is no reason to place the same limits on the amount of liability an individual purchases.

As long as the individual farmer cannot influence the outcome that results in payments, then placing limits on liability is not necessary as it is with individual insurance contracts. Finally, the true advantage of blending index insurance into banking is that the banking entity can use such contracts to manage correlated risk. In turn, the bank should be able to work with the individual to help them manage the residual risk or basis risk. In simple terms, if the individual has an independent loss when the index insurance does not pay, they should be able to borrow from the bank to smooth that shock. This could effectively remove the primary concern associated with index insurance contracts — that someone can have a loss and not be paid.

As more sophisticated systems are developed to measure events that cause widespread problems (such as satellite imagery) it is possible that indexing major events will be more straightforward and accepted by international capital markets. Under these conditions, it may become possible to offer insurance to countries where traditional reinsurers and primary providers would previously have never considered. Insurance is about trust. If the system to index a major event is reliable and trustworthy, there are truly new opportunities in the world to offer a wide array of index insurance products.

The Role of Technology in Providing Needed Information

In recent years, state-of-the-art methods to forecast food shortages created by bad weather have significantly improved. For example, the East African Livestock Early Warning System (LEWS) is now able to provide reliable estimates of the deviation below normal up to 90 days prior to serious problems. These systems use a variety of information: 1) satellite images; 2) weather data from traditional ground instruments; 3) weather data from new systems, and 4) sampling from grasslands to determine nutrient content. More importantly, these systems allow problems to be forecast at a local level using geographic information systems. Since many of the early warning systems have now been in place for as long as twenty years, it is now possible to model the risk and begin pricing insurance contracts that match the risk profile.

Country Case Examples for Using Index Insurance

Mexico: Use of Weather Index Insurance for Mutual Insurance, Reinsurance, and to Facilitate Water Markets

Mexico has experience with using weather indexes to reinsure their crop insurance. Developments within the weather markets prompted new thinking about sharing catastrophic risk in agriculture. In 2001, the Mexican agricultural insurance program (Agroasemex) used the weather markets to reinsure part of their multiple crop insurance programs. By using weather indexes that were based on temperature and rainfall in the major production regions, a weather index was created that was highly correlated with the Mexican crop insurance loss experience. This method of reinsurance proved to be more efficient than traditional reinsurance.

The Mexican contract is an important development for many of the ideas presented in this paper. But beyond the use of weather indexes for reinsurance, Agroasemex also has begun working with *Fondos,* mutual insurance funds whose members are commercially oriented small farmers, to implement programs whereby they would purchase weather index insurance and then decide what type of mutual insurance to provide their members. These efforts remain in the early development stages.

Agroasemex researchers are also pursing the idea of using index insurance as a means of providing important linkages to the emerging water markets in Mexico. Under such a plan, the water irrigation authority would offer a certain amount of water or indemnity payments in years when water availability restricted how much irrigation water could be delivered. In principle, such an offering should improve the efficiency of water markets and provide improved incentives to irrigation authorities to manage water in such a fashion that they are making commitments to users (Skees and Zeuli, 1999).

Mongolia — Using Livestock Mortality Rates as Index Insurance to Cover Deaths of Large Numbers of Animals in Mongolia

Herders in Mongolia have suffered tremendous losses in recent *dzud* (major event, ex. winter disasters) with mortality rates of over 50 percent of the livestock in some locales. Recent work by the World Bank has focused on the feasibility of offering insurance to compensate for animal deaths. Such an undertaking is challenging in any country. Mongolia offers even more challenges given the vast territory in which herders tend over 30 million animals. Traditional insurance approaches that insure individual animals are simply not workable. The ability to understand even the simplest issue of who owns specific livestock would require very high transaction costs. The opportunities for fraud and abuse are significant. Monitoring costs required to mitigate this behavior would be very high.

Work is moving ahead for using the livestock mortality rate at a local level (e.g. the *sum* or rural district) as the basis for indemnifying herders. No country has so far implemented such insurance for livestock deaths. But few countries have such frequent and high rates of localized animal deaths as does Mongolia, and Mongolia is one of the few countries to perform an animal census every year. This concept may therefore be precisely what is needed to start a social livestock insurance program.

The mortality index insurance would pay anytime the mortality rate (adult livestock deaths divided by the total census number of livestock in the area at the beginning of the year) exceeds a well-specified threshold. The payment would be a function of the mortality rate times the amount of protection (or liability) purchased by the herder. To illustrate how such insurance might be implemented Skees and Enkh-Amgalan (2002) developed a prototype insurance contract that is reproduced below.

DRAFT LANGUAGE FOR ILLUSTATION ONLY
MONGOLIAN LIVESTOCK INSURANCE

This insurance is solely based on the official sum statistics on adult livestock losses for cattle and yak in sum Saintsagaan in aimag Dundgobi.[7] *The insurance will pay you when the mortality rate (the ratio of adult losses during the year 2002 divided by the total herd population at the beginning of the year) exceeds a value of 6.5%. To be eligible, you must register for this insurance by May 1. Registration involves a statement of intent to purchase, and a reporting of your animal numbers by species at that time.*

Value of Insurance
While we believe the average value of cattle and yak to be about Tg 100,000, you may purchase any value of insurance between Tg 20,000 and Tg 200,000 per animal reported.

Paying Premium
You will pay a premium rate of 4% times the value of insurance you chose. The premium payment is due on January 1. Should no payment be received by that time, we will cancel this insurance policy.

Paying for losses:
If the mortality rate for the sum of Saintsagaan in aimag Dundgobi exceeds 6.5%, we will pay you the product of the mortality rate times the value of insurance you have chosen. For example, if you purchased Tg 10,000,000 and the mortality rate was 10%, you would receive a payment of Tg 1,000,000. While this insurance should provide compensation under most circumstances when you have large losses of animals, please understand that you may have livestock losses when the sum mortality rate does not trigger a payment.

Data for a limited number of sum in nearly every aimag were available from 1969-2000. These data afforded the opportunity to perform an assessment of the risk associated with offering a mortality index insurance program across Mongolia. While anyone who knows the recent history of losses understands that a very high level of covariate risk is present, these data show that serious losses occur in livestock in about 1 in 5 years. This is the frequency of loss ratios (indemnity divided by pure premium) in excess of 200 percent in the simulated mortality index insurance program that would be spread across Mongolia. And while 2000 is the worst year in the 30 years of data, 1969 is nearly as bad. Historical records also suggest that 1944 was more serious with mortality rates in excess of 30 percent. These losses would make a mortality index insurance program costly and require some risk sharing in the international capital markets. The report provides ideas about how this might occur with both traditional reinsurance and the emerging weather markets.

There are a number of reasons why livestock mortality insurance is being pursued in Mongolia under the Livelihoods Sustainability Project: 1) it is simple; 2) it is largely free

[7] A Sum is the local county and an Aimag is the state or provincial government.

of the common problems of adverse selection and moral hazard; 3) it is easy to administer with low administrative cost, and 4) it is largely effective for getting ready cash to herders in a region during a *dzud*. However, the most fundamental reason why this concept is being pursued is the strong desire that whatever is offered must not interfere with the exceptional efforts that experienced herders take to save animals during severe weather. Using individual insurance would likely diminish these efforts. Herders would likely ask; "Why should I work so hard to save my animals if I will simply be compensated for those that are lost?" Since the index insurance would pay all herders in the same region at the same rate, the incentives for management to mitigate livestock losses remain strong. No one would reduce their effort to collect on insurance. Those who increase their efforts during a *dzud* would likely be compensated for this effort even though they do not lose livestock. In some cases, they could reasonably expect to receive payments that would compensate for the added effort or the added cost of trying to save their livestock.

Uganda —Rural Bank Use of Weather Index Insurance for Bank Customers

Mosley describes a form of index-based insurance available in six provinces in Uganda through the Centenary Rural Development Bank (CERUDEB). CERUDEB offers weather insurance to bank customers to hedge against correlated risks from natural disasters. This system eliminates moral hazard by insuring against a single verifiable weather event. Additionally, this program encourages risk mitigation by requiring a deductible based on the amount of expected income loss. Structuring insurance in this manner reduces administrative costs so premiums are kept low, at 6 percent. The spatial distribution of the provinces has ensured that weather events between provinces are not correlated; that is, there is never a triggering drought in all provinces simultaneously.

India —A Case of Microfinance Insurance (BASIX)

Mosley also describes an alternative form of insurance in India that has been offered through an NGO microfinance organization (BASIX). The BASIX program operates similarly to a cooperative and relies on peer monitoring to reduce incidences of moral hazard and adverse selection. Village committees perform individual loss adjustments. Because payments are based on individual losses, premium rates are higher than the Ugandan CERUDEB program, at 20 percent. Half of the premium is deposited into the village fund, a quarter goes to BASIX, and the remainder goes towards the inter-village fund that provides indemnity payments.

Kenya —The Potential for Using Coffee Futures Markets for Price Risk Management[8]

Like a number of developing countries, Kenya has worked to deregulate prices of international traded commodities. In the Kenyan coffee sector, this has imposed significant hardships coffee price declined and the within season volatility of coffee prices increased significantly within the country. To be clear, no futures market could have protected against the price declines. However, the data suggest that there is some potential to use the international futures markets for coffee to hedge prices in Kenya.

[8] This contribution was made in unpublished work performed in Spring 2003, by Mr. Kimathi Miriti a Ph.D. candidate at the University of Kentucky.

Coffee production in Kenya is dominated by small holders; 65 percent of the coffee is produced by roughly 500,000 small holders. A network of about 200 cooperative societies processes all coffee from small producers and delivers it to the auctions market. Coffee estates process and deliver their own produce to the same auctions market. Nonetheless, the small holders bear both yield and price risk from growing coffee.

Coffee prices received by growers in Kenya are strongly correlated with futures prices at the New York Board of Trade (NYBOT). In unpublished work, Miriti found the following relationship:

$$LNKP = -.47 + 0.622D + .97*NYBOT$$
$$\text{Std error}=(.06) \qquad (.08) \text{ and } R^2 = 0.74$$

Where

LNKP = the natural log of prices received by Kenyan farmers (International Coffee Organization (Monthly data, 1982 – 2001)

D = a dummy where D=1 since post market liberalization since 1993.

NYBOT = the natural log of the nearest NYBOT futures price

Since the regression is fit using natural logs, the coefficient of .97 on the futures price suggest that there is nearly a one to one correspondence between movement in Kenyan domestic prices and the NYBOT futures prices. Thus, the opportunity exists for farmer cooperatives to hedge their prices. Such arrangements are being facilitated by the World Bank in Nicaragua, Uganda, and Tanzania. The Bank has used intermediaries who have used futures contracts to hedge their risk and, in turn, have offered local groups what is effectively a form of price insurance.

Recommendations for Blending Index Insurance and Rural Finance

Progress has been made in designing and offering index insurance contracts for a variety of correlated risk in developing countries. The motivation for using index insurance contracts rather than individual indemnity has been developed. Index insurance can shift correlated risk out of small countries into the global market. To the extent that the index is based upon a secure and objective measure of risk, this approach provides an important risk shifting innovation for developing countries where the legal structure for more sophisticated insurance products is commonly woefully inadequate. Index insurance contracts involve significantly lower transaction costs and can be offered directly to end users from companies that operate in a global market, particularly if the end user is positioned to aggregate large amounts of risk (e.g., RFEs).

It is possible that offering index insurance directly to the RFE can circumvent bad government, poor macroeconomic policies, and inadequate legal frameworks. To the extent that the writer of the index insurance is a reputable global partner, the RFE could pay premiums in dollars and be paid indemnities in dollars as well. This would mitigate

inflation risk within the country. The legal framework that is needed to allow RFEs to purchase these contracts from a global writer should be much more straightforward than the legal framework needed to offer traditional insurance. The major challenge within the developing country will be in knowing that the global partner has the reputation and the resources to pay indemnities. Should the International Finance Corporation of the World Bank Group become more involved in partnering on writing index insurance contracts for price, yield, weather, and livestock, many of these concerns could be eased.

The issue of basis risk has been of some concern if one is selling index insurance contracts to individuals. However, if these contracts are sold to RFEs, the RFE should be in a position to mitigate basis risk in a number of creative ways. It is useful to illustrate some potential arrangements that could emerge between global sellers of index insurance contracts and rural finance entities. Consider a microfinance group or a small rural finance entity (RFE) with members having household activities in the same neighborhood. While this group of individuals may use many informal mechanisms to pool risk and assist individuals when bad fortune visits one of their members, they are unable to cope with a major event such as drought that adversely impacts all members at the same time.

If the group could purchase an index insurance contract that would simply make payments based upon the level of rainfall (an excellent proxy for drought), the group would be in a much better position to cope when everyone suffers a loss at the same time. The RFE would need to develop *ex ante* rules regarding how indemnity payments from index insurance would be used. Three examples of how those *ex ante* rules may be developed are presented for illustration.

Indemnity Payments Could be Used to Forgive Debt

Since making loans is a major activity of most RFEs, the ability to repay the loans will likely be in jeopardy when there is an event that adversely impacts everyone. Having loan defaults from a large number of borrowers at the same time is likely to put the RFE at some risk. Thus, indemnity payments from index insurance can be used to offset defaults that occur due to natural disaster. Effectively, indemnity payments become a form of credit default insurance. The RFE would still need to implement rules regarding debt forgiveness for individuals.

Indemnity Payments Could be Used to Facilitate a Form of Mutual Insurance

The indemnity payment from index insurance could be directly distributed to members of the RFE via insurance-like rules that are determined by the members. Given that only actual indemnity payments received would be distributed, a common problem among mutual insurance providers in developing countries would be avoided — inadequate cash to pay for indemnities that are specified in insurance contracts (McCord, 2003). To the extent that the RFE is relatively small and members know one another, the asymmetric information problems discussed earlier would be avoided. This, of course, is the advantage of mutual insurance.

Indemnity Payments Could be Used to Facilitate Better Terms of Credit

Since lending is an excellent means of smoothing consumption when there are unexpected cash flow problems, the RFE could tie the index insurance directly into the loan arrangements. Loans that are made immediately following a good season where no indemnity payments are made could be higher than normal to collect premiums that would pay for the index insurance. Interest rates could be lowered using indemnity payments directly, immediately after a major event. Interest rate reductions could be tied directly to the severity of the event. (Parchure, 2002).

Challenges and the Road Ahead: Who Will Pay?

While there are many challenges to making some of the ideas presented here work, possibly the most significant among them involves paying for insurance. This is especially true if one expects the rural poor to pay. Premiums for some natural disaster risk could be quite expensive. Goes and Skees (2003) have been working with the concept of persuading those who give to victims of natural disasters *ex post,* that *ex ante* giving might be more effective. In fact, there are potentially some financial advantages to individuals to provide *ex ante* donations. NGOs and charities of all types have been quick to respond when a natural disaster such as a major drought or the Mongolia *dzud* victimizes the rural poor. Dumping in supplies or even large sums of money after the event is highly inefficient and many questions can be raised about who obtains the benefits.

To the extent that a credible risk consortium could be developed to write index-based insurance contracts for a wide array of disaster risk, NGOs and charities may be better served by purchasing these contracts. This would give them the needed resources for quick response. Further, they would have more influence in working with local groups regarding *ex ante* rules about how to spend the money. Given that a number of groups are involved in financially supporting microfinance, these same groups could also co-pay premiums when they are convinced that a local rural finance entity has a true need for the type of index insurance contracts that have been presented in this paper. Such undertakings could motivate many of the *ex ante* approaches presented. The RFE would know what they are going to do with indemnity payments to facilitate improved management of correlated risk; someday making the challenge of coping with correlated risk at the local level much less formidable.

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Discussant Reaction Paper

Comments on Paper

"Risk Management Challenges in Rural Financial Markets: Blending Risk Management Innovations with Rural Finance"
by Jerry Skees

By Hector Ibarra
(Reinsurance Director of AGROASEMEX)

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RELATIVE IMPORTANCE OF AGRICULTURE IN THE RURAL ECONOMY OF MEXICO

According to empirical studies[1], the contribution to the annual average income generated from agricultural activities in rural areas of Mexico is only 14%. Nevertheless, if we consider the agricultural related economy as a whole, taking into consideration activities such as the supply of inputs for agricultural production, the temporal employees hired for the production of different crops, processing and merchandising; the contribution of agriculture rises to 40%. This number does not consider the consumption multiplier effect, since the income generated from agricultural activities is expended in the local stores and services providers. Just to illustrate this fact, it is important to mention that the non agricultural enterprises are typically microenterprises, occupying 50% of the total work force, but whose products are almost exclusively sold at local markets. Therefore, for the rural economy in Mexico agriculture remains as the main source of income, and because of itz nature, it also represents the mayor source of variability to the incomes of the rural population.

These same empirical studies have demonstrated for Mexico that the diversification of income generating activities (including migration) allows the economic agents in the rural areas to diminish the probability of being below a certain poverty line. Nevertheless the results also demonstrate that diversification generates a limitation in achieving higher incomes (economic development) that is usually achieved when specialization occurs, and also demonstrate that diversification does not function as an efficient risk management strategy when faced with correlated risks as droughts, etc. These results go in line with the arguments presented by Dr. Jerry Skees in his paper.

PROFILE OF RISKS FOR AGRICULTURAL ECONOMIC AGENTS

Regretfully, the study of risk on empirical works of rural finance or any other study related to the economy of the rural sector in general is usually not considered. Therefore most of the countries have neither information about their risk profile of their rural economies, nor information about the way economic agents in the rural sector cope with different risks, and therefore have little idea about the specific economic consequences of risks on rural economies. This is something donor agencies promoting sound microfinance practices, like the USAID, should analyze in detail.

In Mexico, Institutions like the World Bank have made some efforts to analyze the topic of risk management. A survey of rural entrepreneurs (REs), which was carried out in 1994[2], indicated that about 60% of the respondents experienced an "economic crisis" between 1989 to 1994 (World Bank, 1995).[3] According to the same survey, the main source of risk for rural economic agents involved in agricultural production is low yields. 48% of those economic agents with farming activities answered that low yields was their source of risk for the economic crisis experienced during the period under analysis, while the second most important source of risk for

[1] Wiggins Steve etal. "The Impact of Agricultural Policy Liberalization on Rural Communities in Mexico". 1999

[2] The survey, conducted in July-August 1994 covered 1,944 rural households in Guanajauto, Puebla, Taumalipas and Veracruz.

[3] Economic crisis was defined as an abnormal year resulting in lower income than the average. With this relative definition of the economic crisis, information could be captured both for people above and below the poverty line. As a matter of fact, in terms of measuring risk it is not important if the individual is in poverty or not. When it becomes important to divide the population by income is when you are analyzing the impact of such risks and the way the individuals are coping with it.

economic agents with agricultural production was the expenses related to the illness of the entrepreneur or a member of its family (15%). Yield risk is almost 3 times more important than the second source of risk for rural entrepreneurs with agricultural activities. It is of outmost importance to highlight the fact that the mayor source of risk for yield variation is weather risks, therefore this is another important conclusion to support the argument of Dr. Skees in favor of the relevance to develop formal mechanisms to manage weather risk for farmers in rural economies.

As we mentioned earlier, besides looking at the various sources of income risk, it is also important to assess the risk management strategies and capabilities of small farmers. Unfortunately, the 1994 survey (World Bank, 1995) did not report on risk reduction (e.g., crop or field diversification) and/or risk mitigation strategies (e.g., crop insurance, savings), but only on risk coping strategies. However, the reported risk coping strategies do shed some light on alternative risk management strategies available to small farmers. The major risk coping strategies for small farmers were increased labor market participation by the farmer and/or household members (38%), reduced consumption (22%), interest-free loans and/or donations from friends and relatives (15%), sales of assets – notably livestock[4] - (10%) and interest-bearing loans from formal or informal sources. Interestingly, only about 1% of the respondents reported that they delayed repayment of loans (although, only a small proportion had access to formal or informal loans). It was also noted (World Bank, 1995) that loans for consumption smoothing were usually received from informal lenders (since formal lenders usually restrict loans to productive purposes), and that interest rates for these informal loans were considerably higher than for formal sector loans, although repayment rates were more flexible and based on the ability to repay. Another, more recent study of rural financial markets (World Bank, 2000c) indicates that many small farmers resort to a variety of self-insurance strategies that include precautionary savings – primarily using livestock and/or food stocks[5] – along with social capital (e.g., assistance through social networks, including remittances from relatives living outside the area) and, to a much lesser extent, financial assets (e.g., savings). Clearly, it is difficult to assess the short- or long-term efficiency of these coping strategies, without knowing more details about the benefits and costs of the different options. This is therefore another recommendation for donors agencies: it is of outmost importance to develop the appropriate conceptual framework to evaluate the comparative efficiency of the different risk management mechanisms, in order to make policy recommendations oriented toward achieving a more efficient risk management system. As we have explained this issue should become one important topic in the design of poverty alleviation strategies.

NATIONAL INSURANCE SYSTEM FOR THE RURAL SECTOR IN MEXICO

The history of agricultural insurance in Mexico can be tracked back to the 1940's. Nevertheless, the history is full of failures with different models of insurance (monopoly of state, private insurance, insurance based on collective association initiatives, etc.). The most successful model began in 1990 with the creation of Agroasemex as a government owned Insurance & Reinsurance Company. The reason why I am going to describe in detail the Mexican System is

[4] In many cases, the asset sales were livestock, which are often held by small farmers for home consumption, cash sales, and for their value as a form of precautionary savings.

[5] A major problem with holding livestock as a form of savings to be used in times of economic crisis is that many farmers might also be experiencing such a crisis and attempting to sell their livestock – thereby lowering the value of the livestock for risk management. Use of financial savings could improve the ability of small farmers to utilize their assets to manage risk.

because it is one of the only worldwide available systems for a developing country that has combined the participation of the state, mutual organizations and private companies, which will be useful for the discussion of the topics included in Dr. Skees paper.

The current national insurance system for the rural sector consists of AGROASEMEX, the state-owned insurance company established in 1990 to succeed ANAGSA, the Fondos de Aseguramiento, or Insurance Funds, and private insurance companies. AGROASEMEX provided direct insurance to farmers until 2001 and provides reinsurance to the Fondos and the private companies. A Fondo is a group of farmers in a more or less homogeneous area that provides mutual insurance to its members. Because of the limited capacity to absorb systemic risk, the *fondo* reinsures itself through AGROASEMEX. In addition, AGROASEMEX supervises the *fondos* and provides technical assistance, for example in management, technical expertise, training, etc. There are 295 *fondos* of which in 1999 there were 195 in operation and 200 in 2000. The participation of the private companies is restricted to 6 companies (less than 7% of the total insurance companies registered in Mexico).

The present crop insurance system in Mexico focuses on agricultural regions with productive potential and financial viability. Subsistence and poor non-commercial farmers are supposed to be covered through the government's national disaster scheme called FONDEN. Thus, from the 21.9 million hectares of agricultural land in Mexico, only 1.6 million hectares are insured. About 55.7% of the insurance (in terms of area coverage) goes to four states namely Sinaloa, Sonora, Chihuahua and Tamaulipas. These are states with relatively large share of commercial agriculture. This is one of the primary limitations of the traditional crop insurance schemes. To control moral hazard and adverse selection (concepts which are well defined in Dr. Skees paper) insurance is usually limited to the most productive areas in order to try to maintain under control transaction costs (this is true even for the self insurance funds which has become the most successful, comparatively, institutional provider in terms of handling transaction costs combined with a good technical and profitable result from crop insurance).

If you look to the historical results of the Mexican system for the period 1991-2000, AGROASEMEX had a loss ratio[6] for agricultural insurance of 81.4% and 63.8% for livestock insurance. Overall, the loss ratio is 75.7%. The loss ratio is higher compared to the *fondos* for the same period estimated at 56.5%. The overall good loss ratio of the system can be favorably compared to any system in the world. Even though the insurance area is concentrated and only about 10% of the agricultural land is insured, transaction cost still remains a big threat to the system.

This phenomenon of concentration is enhanced by the fact that insurance is linked to credit, since the credit institutions are usually the ones who forced the producer to buy insurance as a guarantee of repayment to the creditor. Credit access in countries like Mexico is concentrated in larger farmers, as can be shown in the next table.

[6] A simple definition of loss ratio is the ratio of indemnities paid over premiums collected. A loss ratio above 100% means that the insurance company is loosing money. The loss ratio presented here does not include administrative costs. Thus, even with a loss ratio below 100% the insurance company may be loosing money if it has high administrative costs.

Table 1: Credit, insurance and household characteristics

Landholdings in hectares	0	0.1 to 5	5.1 to 15	>15	All
ORGANIZATIONAL PARTICIPATION					
Cooperatives	0.0%	1.0%	3.0%	4.0%	2.0%
Producers Associations	0.0%	4.0%	4.0%	3.0%	4.0%
Credit Unions	0.0%	0.0%	0.0%	0.0%	0.0%
Self Insurance Funds	0.0%	1.0%	2.0%	5.0%	2.0%
CREDIT					
Received Credit for Gov. Institutions	0.0%	16.0%	20.0%	25.0%	19.0%
Comercial Credit	0.0%	1.0%	1.0%	1.0%	1.0%
Banrural Credit	0.0%	7.0%	12.0%	19.0%	11.0%
Pronasol	0.0%	4.0%	4.0%	4.0%	4.0%
Non Banking Formal Credit	0.0%	1.0%	0.0%	1.0%	1.0%
Other Sources of Formal Credit	0.0%	4.0%	2.0%	3.0%	3.0%
Requested Formal Credit	9.0%	19.0%	24.0%	31.0%	23.0%
Received Credit from Informal Sources	17.0%	14.0%	17.0%	18.0%	16.0%
Tiene cartera vencida	0.0%	9.0%	14.0%	17.0%	12.0%
INSURANCEe					
Crop Insurance	0.0%	1.0%	5.0%	6.0%	3.0%
Insurance for Machinery	0.0%	0.0%	0.0%	0.0%	0.0%
Life Insurance	0.0%	2.0%	5.0%	2.0%	3.0%
Health Insurance	17.0%	5.0%	12.0%	13.0%	9.0%
Other Type of Insurance	0.0%	0.0%	0.0%	0.0%	0.0%
Number of observations	23	511	457	263	1,254

Source: 1996 ejido survey.

An analysis of the 1996 Ejido data survey suggests however, that most smallholder farmers do not obtain formal credit nor purchase formal insurance. (Table .1). Overall, about 3% of the ejido farmers surveyed in 1996 indicate that they purchase crop insurance with the higher percentage of those surveyed have 5 hectares of land or more. On the other hand, 19% of the farmers surveyed report that they receive official credit of which 11% is from BANRURAL. Aggregate data also shows that the link between insurance and credit was not as binding at the time of the ejido survey in 1996 but may have increased as a result of the more recent policies of FIRA and BANRURAL (development banking institutions) that encourage risk management at the farm level. Moreover, few ejidatarios participate in the types of associations that might facilitate credit. According to the survey results, only 2% of those ejido farmers surveyed reported that they belonged to a mutual insurance fund (*fondo de aseguramiento*). And a higher percentage of these farmers had more than 15 hectares of land.

Additionally it is worthwhile to mention that even though we have not detailed information about microfinance institutions portfolio in rural sector, we have received comments from respectable professionals in this business, that credit for agricultural activities has been historically low even for microfinance institutions, since they believe their sustainability as institutions providers of credit depend very much on the high repayment rate of their portfolio and agriculture represents a big risk in terms of the overall health of it.

Looking to this scenario is when it becomes important to analyze such topics as the possibility to blend risk management innovations with rural finance, as Dr. Skees suggests in his paper.

During the year 2000, Agroasemex approached the World Bank to get involved in the initiatives to develop insurance schemes based on weather indexes. The main reasons for that was our impression that they could really become an interesting approach to diminish moral hazards and adverse selection, lower transaction costs, and in general arouse as a more efficient formal option to hedge weather exposure at different levels (farmers to insurance companies, insurance companies to reinsurance companies or capital markets, reinsurers to reinsurers or capital markets, government CAT exposure to financial markets, etc).. There is one additional feature, which is very well explained in Dr. Jerry Skees paper, regarding the recent developments in the international financial markets. The new generation of products is fundamentally based on indexes, which means the parameters of risk in a financial contract are agreed at the moment of signature (cat bonds, weather derivative tradable indexes, over the counter weather derivative contracts, securitization of risk in general, etc.).

The work with the World Bank in 2000 was oriented towards evaluating the feasibility to use weather index products to hedge the exposure of crop yield to weather variability. The study demonstrated in very aggregate terms that yield was correlated to rainfall in this case, for some states in Mexico. This work shed some light about the potential of index products in Mexico. Nevertheless, the lack of experience worldwide in applying this schemes to reality (making them feasible in operative terms) required very specialized tasks like the design of the contracts, the design of pricing models to register the product with the insurance regulators, develop an accepted weather database for the international markets, develop or enhance the measuring networks for contract settlement, etc. when we finished the work with the World Bank it was difficult to realize how complex were the problems ahead, and most important how to solve them. Since this kind of instruments have really become viable in developed countries mostly, where you won't find such serious problems like the quality of weather data, there was no previous experience on how to solve the hurdles in countries like Mexico, with such many institutional, legal, infrastructure, etc., limitations.

It took almost a year and a half before we were able to design the first parametric financial instrument, which was used as a substitute of reinsurance for Agroasemex agricultural risk portfolio. Several factors played in our favor like the existence of very strong technical teams concentrated in the market makers as Enron & Aquila, which allowed them to invest human resources in the development of new solutions. With the extinction of these companies the technical teams of these companies have distributed in different banks and reinsurance companies around the world to develop indexed products. But with the current financial situation, such teams remain small and therefore concentrate in bigger deals. It is very difficult to convince their management to allocate their small resources available to explore new businesses in countries interested to develop such mechanisms. Therefore there exists very few opportunities for interested countries to find support for the design of feasible schemes (technically, financially, and operatively). As I mentioned before the efforts of the parties interested in promoting these instruments worldwide are not comprehensive enough.

It was until 2003 that we were able to comply with the requirements (infrastructure, design of contracts, etc.) for the formal launch of the first commercial scheme to hedge the weather catastrophic exposure that agricultures faces in a specific state of Mexico (Guanajuato). All these issues are mentioned in order to raise the case for international donors to find mechanisms to support the creation of really knowledgeable institutions or advisors that could assess interested

countries on this topic with a broader perspective on rural economical development issues, and with the capability of assessing newcomers in this business.

At this point it is impossible for us as Agroasemex to share with the audience of the conference organized by WOCCU, the results of the implementation of commercial indexed products, because we have just began in this journey, in terms of designing products to be bought by external economic agents as farmers, state governments, insurance companies, etc.

DESIGN OF APPROPRIATE INSTRUMENTS TO HEDGE WEATHER IN THE INTERNATIONAL MARKETS

I would like to deepen the discussion over some issues related to hedge weather that usually is missed from most of the technical papers about the use of alternative markets to hedge weather risks.

When analyzing the most efficient way to manage any risk, including weather risk, it is very important to develop a well understanding or characterization of it. Risks might be defined according to four categories:[7]:

a) **Frequency:** Risk by definition is related to the uncertainty of the future outcomes of reality in different time frames (seconds, minutes, weeks, years, etc.). The frequency of any risk can be defined by the expected number of times the risk will materialize in reality in relation to a certain time frame. Following this line of argument we could say that risks might be of low or high frequency. For example, the bite of a mosquito in a tropical place might be a high frequency risk. On the other hand, the risk of getting infected from a disease eradicated in a certain place, like tuberculosis in the US, is a low frequency risk.

b) **Intensity:** In order to evaluate how serious might be the effects of a certain risk on the well being of a certain individual or group of individuals, frequency is not the only issue to analyze, intensity is also very important. Following the previous example, the bite of a mosquito might be a very frequent risk but has a very low intensity, therefore the impact on the well being of the affected individual is quite small. On the contrary, tuberculosis might be a very low frequent risk, but its intensity is very high since it can really impact the health of the people affected.

c) **Individual vs. Covariate (Collective) Risks:** There is risks that might affect individuals on an isolated basis, like diseases and personal accidents; and there is another type of risks that affect a group of individuals at the same time, like droughts. Therefore the presence of a covariate risks are based on the degree of positive correlation between the members of a certain group of individuals.

But weather has one important feature; it is a very complex system with a great degree of variability. When scientists refer to the pattern of behavior and variability of weather, they usually refer to the cyclical nature of weather (short, medium and long terms cycles interacting together)[8]. Weather varies in different forms. Some of these forms are well understood scientifically, but others have not been decoded.

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[7] Morduch J.,"Between Market and State: Can Informal Insurance Patch the Safety Net? 1997.
[8] Dischel Robert. "Climate Risk and the Weather Market". 2002

The main pattern of variability is related to the annual cycle of stations (travel of the earth around the sun). Besides this source of variability there exists several other phenomena at different scales (global, regional or local) whose influence modulate the normal patterns of weather. One of the most worldwide studied modulator is ENSO (Southern Oscillation "El Niño"). Another very well studied regional phenomena are the topography, the wind patterns and the variations of sea temperature nearby a certain area of influence. The changes of weather due to this phenomena occurs in different time scales (between stations, years or even longer periods), but their impacts in some cases are still not completely understood.

Weather is also vulnerable to different modulators whose influence lasts for longer periods (decades, centuries). These phenomena are known as low frequency oscillation. Their effects are usually not yet fully understood by scientists. The Pacific Decadal Oscillation (PDO) is one example of such misunderstood phenomena.

All the above technical description has been included in order to make the next several points:

- Catastrophic events are usually defined in the financial markets according to the frequency of risks. In the securitization markets, catastrophic events are those whose frequency is 1/50 or lower. Even though catastrophes are also related to the intensity of the event, the frequency has become an important criteria for investors in determining their involvement in securities related to catastrophic events like earthquakes. According to market experts, the appetite of investors hasn't been attracted to those phenomena with a frequency higher than one in fifty years event. Therefore it seems that other kinds of risk with higher frequency would require different engineering of the products to attract the interest from the capital markets.
- The main challenge of agriculture is that it is often subject to very important exposures to weather events with greater frequency and still catastrophic impacts. For example in Mexico important information has been generated to demonstrate the impact that ENSO has on Mexican agriculture. According to the leading experts the ENSO cycle lasts 5 to 7 years, with strong ENSO events repeating every two cycles (10 to 14 years). In Mexico 1983 was a catastrophic year for agriculture, as it was 1997, both related to strong ENSO events.
- This problem is aggravated when we add the fact that the economic impact from different weather variations patterns cannot be quantified yet.
- One of the most important recommendations for donor agencies will be related to the fact that there are very few instruments, advisors, etc., worldwide capable of assessing interested parties in evaluating the accessibility of certain markets to hedge a specific exposure to weather risk and even more important capable of evaluating the comparative efficiency of the available instruments on the market. These aspects related to complex financial engineering decisions are available to only but a few worldwide. Developing proper technical bodies, seminars and literature is very important for educating countries, companies, etc., on how to hedge more efficiently their weather exposure, specially in agriculture where in some cases there are events which have catastrophic consequences relatively frequently.
- Since weather can affect several individuals at the same time, it is considered a covariate risk, following Dr. Skees nomenclature of his paper. The presence of covariate risks limits the capability of the risk taker to diversify the risks geographically. It has been demonstrated empirically that the coefficient of variation for the technical results of

insurance companies in the US (indemnities/premiums) specialized in property business (automobiles, fire, etc.) ranges from 5.3% to 5.6%., while the same coefficient for companies specialized in agricultural insurance is around 84%. This variability added to the fact of the low price discovery in traditional reinsurance markets, as was also explained by Dr. Skees in his paper, is translated to very discretionary loadings over the pure expected price of risk, which difficult the assessment of the efficiency of traditional reinsurance contracts.

- Lastly it is also important to consider the transaction costs associated in the design of the different risk transference mechanisms. For example, it is estimated that the placement costs of a Cat Bond (including commission of placement institution, modeling for the assessment of risk, etc) is around US $1,000,000. These costs are almost independent of the size of the operation, therefore small operation become more expensive in relative terms.

Most of the comments in this section were drafted in order to raise the consciousness of interested parties in the design strategies to transfer weather risk to the international markets. Each problem (countries exposures for example) requires a proper analysis to avoid any surprises in the efficiency or costs related to it.

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Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Case Studies and Breakout Sessions

The case studies provide a closer look at best practices and recurring challenges in rural finance project implementation. They have been categorized according to major theme. Each case study highlights innovative ways in which rural finance practitioners have overcome challenges faced in various regions around the world.

Breakout 1 **Regulation for Expanding Rural Financial Services** **Location: Continental C**

Moderator: Bob Vogel (IMCC)

Case Studies: *USAID Azeri Rural Credit Project (ARC)*
Presented by Al Harding (ACDI/VOCA)

Supervision and Regulation of Microfinance Industry in Ecuador-USAID/SALTO Project
Presented by Rodrigo Espinosa (Superintendency of Banks-Ecuador)

Breakout 2 **Surveys of Delivery Systems in Rural Finance** **Location: Oceanic B**

Moderator: Martin Hanratty (USAID)

Case Studies: *Serving Small Rural Depositors: Proximity, Innovations and Trade-Offs*
Presented by Madeline Hirschland, (Independent Consultant)

Business Transactions for Smallholder Farmers and Entrepreneurs via DRUMNET
Presented by Jonathon Campaigne (PRIDE Africa)

The Case of DEMOS-Croatia
Presented by Caroline Tsilikounas (DEMOS)

Breakout 3 **Risk Management: Pricing, Insurance, Guarantees** **Location: Polaris A**

Moderator: Lawrence Johnson

Case Studies: *The Use of Price and Weather Risk Management Instruments*
Presented by Erin Bryla (World Bank)

Presented by Mark Wenner (IDB)

Presented by Stavely Lord (USAID)

Breakout 4 **Agricultural Lending Practices: Non-Financial Services with Financial Products**
Location: Polaris B

Moderator: Renate Kloeppinger-Todd (IFC-WB)

Case Studies: *Kyrgyz Agricultural Finance Corporation*
Presented by Baktygul Jeenbaeva, (KAFC)

Moldovan Savings and Credit Associations' Experience
Presented by Victor Chiraic (BIZPRO-Moldova)

Financeria El Comercio S.A.E.C.A.
Presented by Carlos Rivarola (Financiera El Comercio-Paraguay)

Breakout 5 **Rural Finance Expansion: Experience in Commercialization** **Location: Continental B**

Moderator: Stephen Smith (G.W.U.)

Case Studies: *Expanding Commercial Microfinance in Rural Areas: Constraints and Opportunities*
Presented by Stephanie Charitonenko and Anita Campion (Chemonics)

Reverting the Tendency in Developing Finance:The Case of Banrural S.A. in Guatemala
Presented by Luis Alfaro-Gramajo (INCAE-Guatemala)

Selected South African MicroFinance Case Studies in Rural Financing
Presented by Kachesa Bbenkele (Micro Enterprise Alliance)

Case Studies and Breakout Sessions

The case studies provide a closer look at best practices and recurring challenges in rural finance project implementation. They have been categorized according to major theme. Each case study highlights innovative ways in which rural finance practitioners have overcome challenges faced in various regions around the world.

Breakout 6 **Risk Management: Islamic Financial Policies** **Location: Oceanic A**

Moderator: Ghiath Shabsigh (IMF)

Case Studies:

Case Study of Farmer's Commercial Bank
Presented by Ahmed Gabber (Farmer's Commercial Bank-Sudan)

Islamic Banking and its Potential Impacts
Presented by Thomas Timberg (Nathan & Associates, Inc.)

Case Study of Bank Indonesia
Presented by Maulana Ibrahim (Bank Indonesia)

Breakout 7 **Rural Finance in the Age of HIV/AIDS** **Location: Polaris C**

Moderator: Joan Parker (DAI)

Case Studies:

Response Required: Mitigating Risk in African Credit Unions Serving HIV/AIDS-affected Communities
Presented by Anna Cora Evans (WOCCU)

HIV/AIDS and Rural Microfinance-A Matter of Survival
Presented by John Magill (DAI)

Home Loan Guarantee Company –South Africa
Presented by Ethel Matenge-Sebesho (HLGC)

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Paving the Way Forward for Rural Finance:
An International Conference on Best Practices
Conference Agenda

DAY 2: Tuesday, June 3, 2003

7:30 a.m. - 8:20 a.m.	Information and Coffee/Continental Breakfast
8:30 a.m. - 8:45 a.m.	*General Session: Opening Remarks* Introduction: •Barry Lennon (OMD – USAID) Keynote Speaker: •US Congressperson (TBC)
8:45 a.m. - 10:30 a.m.	*General Session: Rural Finance Institutions & Systems* Moderator: •Barry Lennon (USAID) Presenter: •Manfred Zeller (Inst. Rural Development -University of Gottingen), *Models of Rural Financial Institutions* Discussants: •Calvin Miller (CARE) •Robin Young (DAI) •Anthon Slangen (FAO) •David Richardson (WOCCU)
10:30 a.m. - 11:00 a.m.	Coffee Break
11:00 a.m. - 12:30 p.m.	*General Session: Innovations in Rural Finance* Moderator: •Beth Rhyne (ACCION) Presenter: •Juan Buchenau (Frontier Finance), *Innovative Products and Adaptations for Rural Finance* Discussants: •Carlos Cuevas (World Bank) •Marguerite Robinson (Institute Fellow Emeritus – HIID)
12:30 p.m. - 2:00 p.m.	Lunch Break - on own
2:00 p.m. - 3:30 p.m.	*Breakout Sessions* (7 concurrent sessions) **See insert for more detail about each session** Breakout #8: Gender Targeting of Rural Financial Services: Is This Appropriate? Breakout #9: Agribusiness: Vendor Financing in Input Markets Breakout #10: Agricultural Lending Practices: Methodologies and Programs Breakout #11: Rural Financial Institutions: Start-ups Breakout #12: Rural Financial Institutions: Restructuring and Post-Restructure Results Breakout #13: Risk Management: Information Technology Breakout #14: Rural Financial Institutions: Savings Mobilization
3:30 p.m. - 4:00 p.m.	Coffee Break
4:00 p.m. - 5:15p.m.	*General Session: Rural Finance Innovation Case Study* Moderator: •Juan Buchenau (Frontier Finance) Presenter: •Manuel Orozco (Inter-American Dialogue) *Remittances, the Rural Sector, and Policy Options in Latin America* •Douglas Pearce (CGAP) *Buyer and Supplier Credit for Farmers: Do Donors have a Role to Play?*

Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Lead Theme Paper

Theme: Rural Finance Institutions and Systems

Models of Rural Financial Institutions

By Manfred Zeller
(Professor and Director, Institute of Rural Development
Georg-August-University Göttingen, Germany)

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

1 INTRODUCTION[1]

1.1 Purpose and outline of paper

This paper describes different models of rural finance institutions, and examines their comparative advantages as well as related challenges to and strategies for deepening rural financial systems. A greater emphasis is given to microfinance, however the paper addresses other institutions under a rural financial systems perspective as well.

This topic requires a description of the different types of informal financial institutions and their strengths and weaknesses, and a discussion of the objectives of rural financial policy within the broader framework of development policy and goals, as presented in Chapter 2. Chapter 3 compares the main characteristics of rural as opposed to urban environments. This highlights the specific constraints and issues of rural and agricultural finance. Chapter 4 presents different models of rural financial institutions. In view of the specific characteristics of rural areas and of agriculture, and in view of multiple policy objectives, I seek to highlight the comparative advantages of different institutional models, and discuss challenges to and strategies for sustainably enhancing a rural population's access to financial services. This paper is not about which type of institution is better or worse for a particular target clientele in a particular operating environment. Instead, one of the major recommendations of this paper is that there is no blueprint for rural finance. Institutional diversity is desired to enhance competition, depth and breadth of outreach, and welfare impact. In Chapter 4 I further discuss in the transferability of existing microfinance best practices to rural and agricultural contexts. Chapter 5 summarizes the major conclusions. What follows next is a discussion of the motivations for a renewed interest in rural and agricultural finance.

1.2 Why is there a renewed interest in rural and agricultural finance?

Since the widespread recognition in the mid-1980s of the failure of the old paradigm of directed agricultural credit with subsidized interest rates, rural and agricultural finance kept a low profile on the agenda of many governments and donors. Recently,, there has been a renewed interest by policymakers, donors, and international development organizations in rural as well as agricultural finance as major development organizations have published new strategy papers on rural and agricultural finance (see Wenner, 2002, FAO 1998, Klein et al., 1999; and IFAD, 2000). Overall, the new strategy documents are cautious in nurturing the idea of promoting rural and agricultural finance, and are well aware of past failures.

There are three principal motivations for this renewed interest.

The Decline in Formal Rural and Agricultural Credit Supply

[1] I gratefully acknowledge comments by Gertrud Buchenrieder and Franz Heidhues, Juan Buchenau and John von Pischke, Richard Meyer, Manohar Sharma, Heywood Fleisig, Lucy Ito and Catherine Ford, and research assistance by Renate Schmidt. All views expressed are mine.

First, with the dismantling of government and donor support to subsidized agricultural finance starting in the mid-1980s, and in conjunction with structural adjustment programs delinking and privatizing the supply of agricultural inputs, marketing of agricultural produce, and provision of credit previously given by parastatal organizations in many countries, the supply of formal rural and agricultural credit appears to have considerably declined. Little is known of how much of this commonly perceived decline of state-driven credit has been compensated for by an increase in informal credit granted by traders, agribusiness firms and informal savings and credit groups[2]. In most developing countries, commercial banks have not entered the rural and agricultural credit market on a substantial scale. After liberalization, some commercial banks actually closed rural branches Wenner, 2002). Macro-economic stability, sound legal frameworks, and financial sector liberalization are necessary, but not sufficient conditions for expanding the financial frontier. A few developing countries, mainly in North Africa, the Middle East, and South and East Asia (Steinwand 2003), such as Egypt, China, India, and Pakistan, continued with their state-owned subsidized rural banking infrastructure (Zhu et al., 2002; Meyer and Nagarajan, 2000; Ali et al., 1994; and Sharma et al., 1999). Other countries experienced success because they transformed their agricultural development banks with a focus on designing demand-oriented services and recovering costs, as is the case with the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand and the micro-banking system of the BRI in Indonesia (Yaron 1992; Yaron et al. 1997, Patten et al., 2001). Today, it is still important to recall why these institutions need to be either dismantled or transformed. Indeed, repeating the same mistakes would be a waste of scarce resources[3]. *I, therefore, begin with a recommendation: We must learn from the past failures of directed, subsidized agricultural credit programs even if these failures have been documented many years ago. This knowledge is still relevant today.* Yet, many view the decline of rural and agricultural credit as disconcerting, and questions naturally arise whether it could be done any better in the future.

The Role of Rural Finance for Agricultural and Economic Growth, Food Security and Poverty Reduction

Second, while agriculture is, relatively speaking, a declining sector in the course of development, in many developing countries it is still a leading economic sector, the main exporter, and the major employer, especially for the poor and women. Improved financial markets accelerate agricultural and rural growth. Financial services assist households in maintaining food security and smoothing consumption, thereby safeguarding or enhancing labor productivity , the most important production factor of the poor (von Braun et al. 1992; Heidhues, 1995; Murdoch, 1995; Zeller, 1995; Zeller et al., 1997; Zeller, 2001). Because of agriculture's strong forward and backward multiplier effects for the overall economy (Mellor, 1966), economic growth in agriculture - especially in subsectors that directly or indirectly benefit smallholders, tenants, and wage

[2] Two studies, each covering four African countries, have not identified any effects of financial liberalization on the price and availability of informal credit (Mosley, 1999; and Steele et al., 1997).

[3] For a comprehensive critique of the old paradigm of subsidized and directed agricultural credit and on changes in paradigms and views, see Adams (1988); Adams, Graham, and von Pischke (1984); von Pischke and Adams (1980), Adams and von Pischke (1984), Krahnen and Schmidt (1994), and Meyer and Nagarajan (2000).

laborers- is a key precondition for overall economic growth and poverty reduction. At present, most of the poor still live in rural areas.

Any student of an introductory course in micro-economics or development economics learns that access to savings, credit and insurance services can have beneficial effects on households and their enterprises and therefore on economic growth, and that microfinance in particular may also contribute to more equitable growth. Access to credit, however, has an economic benefit only if and when that access generates a broadly defined net economic surplus after having deducted the private and social costs of loan provision (including the opportunity costs of scarce public funds in alternative poverty reduction policies). While the evidence on the impact of credit on household welfare, agricultural technology adoption, and on agricultural sector growth is mixed[4], many practical constraints (i.e. time and money) and methodological difficulties in estimating the impact of a policy or project with a reasonable probability of error exist[5]. Simple common sense tells us that savers who continue to deposit money for different motives, borrowers who continue to repay their loans, and clients paying regular premiums for health and life insurance over long periods actually derive an economic benefit.

Doing better this time?

Third, and possibly most important, the hope of being able to do it better this time clearly comes from our recognition of the financial sustainability of a small, but increasing number of microfinance institutions (MFIs) and their considerable achievements in reaching large numbers of relatively poor women and men. Successful MFIs (some for example featured in the *Microbanking Bulletin*) already operate – at least partially – in rural areas albeit much of their lending is for non-farm enterprises[6]. There is also more hope this time around because of more suitable conditions in both the macro-economy and agricultural sector in many countries (see Gonzalez-Vega, 2003) that underwent structural adjustment, financial, and agricultural sector reform. Recent experience during the 1990s in transformation countries also strongly supports the view that macroeconomic and sectoral reforms need to precede efforts to build rural financial systems and institutions. There is little hope in building sustainable, self-reliant banking

[4] Mixed means that the literature reports positive, negative, or no significant impact of access to credit on household welfare. For a recent review on credit impact assessment studies at the household and individual level, considering income as well as different welfare criteria such as food security, education, nutrition, and health, see Sharma and Buchenrieder (2002). A review more focused on agriculture is contained in Meyer and Nagarajan (1997), again featuring research citations with mixed results. The evidence on positive impact, e.g. see Sial and Carter (1996) and Pitt and Khandker (1998) as well as on negative impact of credit access on household income (e.g. see Hulme and Mosley, 1998, and Diagne and Zeller, 2002) suggests that credit impact on income and welfare is conditional on other factors, such as access to knowledge, markets, public services and technology. In conclusion, public investment in financial institutions does not make economic sense in every environment.

[5] A very useful guide on assessing the impact of development projects on poverty is Baker (2000).

[6] Pioneering innovations include, for example, (1) *ASA, Grameen Bank* and *BRAC* in Bangladesh who began as NGOs in the mid-seventies (2) transformation of the rural bank network of *BRI* in Indonesia, (3) *Prodem*, a NGO that transformed into today's *Bancosol* in Bolivia, (4) *SEWA*, a women's movement in Gujarat, India, that was one of the first NGOs to form a bank and to retail insurance products such as life and health insurance to poor women, and (5) *Calpiá*, a microbank in El Salvador that offers financial services to a broad clientele, including small farmers.

structure as long as they are financially tied (and often dependent on) loss-making public sector enterprises that are kept in business by state subsidies (Heidhues et al., 1998). Moreover, the improved theoretical framework and empirical knowledge on how demand and supply of credit is determined and on the role of information asymmetry creating transaction costs helps to foster a better understanding of the potentials and limits of financial services for poverty reduction and economic growth.

2. CHANGING WISDOMS AND POLICY OBJECTIVES IN RURAL FINANCE

Since the mid 1980s, there has been a paradigm shift in financial policy (including rural finance) from subsidized credit to financial systems development (Adams, 1998). The old paradigm of sector-directed, supply-led and subsidized credit has been based on faulty assumptions about the willingness and ability of poor farmers and other entrepreneurs to pay for financial services, which led to faulty policy design and implementation.

The new paradigm departs not from the need, but from the demand (i.e. willingness and ability to pay market prices) for savings, credit and insurance services by farmers and other entrepreneurs. Instead it focuses on building sustainable financial institutions and systems, and introduced the operational policy objective of financial sustainability of MFIs. The new paradigm recognizes that high transaction costs and risks that partly result from information asymmetries and moral hazard problems (Stiglitz and Weiss 1981) for both financial intermediaries and clients are some of the root causes of the gap between demand and supply. Therefore, the new paradigm places emphasis on searching for technological and institutional innovations (including suitable governance and incentive structures) to reduce the costs and risks of financial intermediation. The new paradigm recognizes the possibility of market as well as government failure (i.e. institutional failure in general), and negates the thesis put forward by proponents of market liberalization that a "financial system which is not repressed would by itself function optimally" (Krahnen and Schmidt, 1994, p.24). The new paradigm in contrast sees financial market liberalization (e.g. with respect to interest rate formation) as a necessary but not sufficient condition for deepening financial systems. Moreover, as the required technological and institutional innovations needed to deepen the financial system and to serve poorer segments of the population can be readily copied by for-profit financial institutions, the resulting free-rider problem prevents the private sector from sufficiently investing (compared to socially optimal levels) in such innovations. In conclusion, public investment in pro-poor (and pro-rural) financial innovation is required.

This holds true not only for microfinance, but for rural finance as well. Thus, public investment in rural finance can be justified, for example, to fund (action)-research and promising institutional start-ups as well as institutional expansion until reaching financial sustainability within reasonable time periods, and to support pilot experiments with promising new products, technology or technical assistance, such as for training of staff and transfer of best practices. Given the long gestation periods required in building sustainable institutions, public investment in institution-building requires long-term planning horizons with operational flexibility in instruments and timing. *The required*

public investment in rural finance is more labor and knowledge-intensive, and far less capital-intensive than past investments following the old paradigm.

In this chapter, I first review the faulty assumptions about poor peoples' demand for financial services, highlight lessons learnt from informal markets, and then discuss trade-offs and synergies between different policy objectives of micro- and rural finance.

2.1 Learning from informal demand and supply

At first glance, many might be tempted to say that the poor, earning incomes of less than a dollar per day, are neither creditworthy nor are they able to save; nor can they pay for insurance against any of the risks they face. That these common assumptions are wholly unfounded has been demonstrated time and again by empirical research on informal financial markets and the risk-coping behavior of households (Alderman and Paxson, 1992; Deaton, 1992; Udry, 1990; Rutherford, 2000; and Townsend, 1995). During the past fifteen years, these myths should have been laid to rest by the recognition of an increasing number of successful institutional innovations that provide savings, credit and insurance services to poor women and men in developing countries who were previously thought of being unbankable and uninsurable.

False assumptions about the demand for financial services by poor households and smallholder farmers were one of the major reasons why the old paradigm of directed, subsidized credit was accepted for so long. Most financial policy until the end of the 1980s and even today has been based on these faulty premises, leading to well-meant, but inefficient and costly policies with negligible outreach to smallholder farmers and rural dwellers. Past policy neglected to provide savings and insurance services (which are especially relevant for poorer clientele), and much, if not all of the emphasis was put on 'giving and forgiving' loans in great numbers. The old paradigm ignored the fact that by using informal contracts "many of the poor borrow,save, and all insure" (Zeller and Sharma, 2000). The old paradigm ignored this ranking of importance. The ranking actually gets more pronounced with increased levels of poverty, female head of household, higher risk aversion, and greater exposure to food insecurity and other risks (Zeller et al., 1997).

Most, if not all so-called credit projects quickly degenerated into transitory income transfer programs with doubtful coverage of the poor, but with never-ending need for injecting public resources to keep state-driven banks and savings and credit cooperatives from collapsing. Faulty perceptions about the clientele and its demand serve as excuses for inaction or lead to policy recipes promoting ill-adapted services, institutions and market structures.

The truth is that the poor are creditworthy, can save, and pay for insurance. They have done it all along, as the myriad of informal savings, credit and insurance arrangements between friends, relatives and other networks demonstrate daily. But it is also the truth that the financial institutions and related knowledge and technology as well as an enabling policy environment were not previously in place (and still are not in many countries or rural areas within countries). Because the conditions did not exist nor was it acceptable to think about at central, commercial and state banks alike, the poor were deemed to be unbankable.

To put it positively, one thing that may be learned from the "microfinance revolution", (Murdoch, 1997) is that institutional - not only technological- innovations

and changes in the legal and regulatory policy framework can extend the feasibility frontier of sustainably by reaching the poor with financial services. While increasing numbers of people living around or somewhat below the poverty line are reached, the outreach to the poorest remains low[7]. However, our recent learning experience tells us that this does not mean the poorest of the poor are not bankable. At present, we just do not have the technologies and institutional arrangements in place to reduce transaction costs to economically sustainable levels for this group of clientele in many operating environments, in particular rural ones. Yet, the informal sector serves even the poorest of the poor. Informal institutions can be categorized as follows[8].

Lending among relatives, neighbors, and friends.

Borrowing from socially close lenders within the moral economy is often the first recourse that poor households have in financing expenses, especially those related to essential consumption expenditures. Transactions are collateral-free and in most cases interest is not charged. These are essentially informal mutual aid schemes that have the principle of reciprocity at the core of transactions. Hence, both the lender (deposit-taker, or insurance provider) and the client gain from the transaction, and the process is self-sustaining. The borrower is able to finance urgently needed expenditures quickly and with few transactions costs: a lengthy appraisal process does not exist, little or no paperwork or travel time is involved, and the terms of the transactions are well understood. The lender gains a right to reciprocity in that she or he can lay claim to in the future. Furthermore, the risk of loan recovery is at a minimum since the lender only lends to persons who are part of her or his social network, within which contracts can be enforced. For each partner, therefore, the long-term gains associated with maintaining borrowing privileges is greater than the short-term gain of reneging on the payback. *Such social capital and informal financial contracts can be exploited and used through the formation of member-based institutions.*

The rotating credit and saving associations (ROSCAs) found in many countries are also network-based. These associations, which may even operate under a designated, sometimes remunerated manager, pool savings from members each period and rotate the resulting pot among them using various rules. The process is repeated until the last member receives the pot. Because of the rotation rules, these schemes are less suited to address household risk unless the timing of the receipt coincides with unexpected events. Other ROSCAs auction the fund. Still some others allow the fund to be paid out earlier in times of crisis of one of its members, at times requiring a premium payment. Also, unlike demand deposits, once the saving is committed, it cannot be withdrawn immediately and the member is required to wait her turn. The main purpose of a ROSCA is to accumulate savings and channel this to borrowers in some pre-specified order, thereby fulfilling an important intermediation function. *Informal financial self-help groups exist in many*

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[7] On the limits of microfinance for the ultra-poor, see Zeller (2001).

[8] This typology is based on Zeller and Sharma (1998), drawing on empirical research of the International Food Policy Research Institute in ten African and Asian countries. All of these features of informal finance are relevant for, and have been copied and adapted into micro-finance. For brevity, I focus here on examples for informal loan transactions, but similar lessons can be learnt from informal savings and insurance contracts. Sentences in italic font highlight implications for (rural) micro-finance. Additional information on informal financial markets is contained for example in Adams and Fitchett (1992) and Ghate (1992).

countries, and have inspired to some extent the innovations in solidarity group lending as well as linkage banking.

Informal moneylenders and pawnbrokers

Typically, they are approached when the amount demanded (e.g. loan amount and its timing, sometimes need for confidentiality) cannot be fulfilled by socially close lenders, such as friends, neighbors, or ROSCAs. Moneylenders charge explicit interest rates in order to obtain real positive returns on their capital. In fact, interest rates are usually high, and real rates in the range of 5-10 percent per month are common. Typically, moneylenders lend only to households about whom they possess enough information. However, they may also lend to others about whom they possess less information if punitive actions against those that default are feasible. Lending may be either secured by physical collateral (e.g. land, movable property such as gold and jewelry, or by production assets such as animals and standing crops), or by social collateral, such as third-party guarantees or loss of reputation in one's social network. These collateral substitutes are effective in sustaining the informal lending business because contract enforcement is legitimized by social norms. *Member-based institutions, such as village banks, groups, and savings and credit cooperatives have a comparative advantage over socially distant banks in using social capital for the enforcement of their contracts. Also, deposit-taking institutions have a comparative advantage in using informal enforcement mechanisms compared to institutions that lend "cold" money.*

Tied Credit

Informal, but socially and/or spatially distant lenders frequently tie their loans to complementary transactions in land, labor or commodities as they lack adequate information about the creditworthiness of the borrower or suitable physical or social collateral. Thus, traders disburse input and consumption credit to farmers in exchange for the right to market the growing crop; shopkeepers increase sales by providing credit for food, farm inputs, and household necessities; and landowners secure access to laborers to whom they lent in the hungry season. The important feature of these types of transactions is that the lender also deals with the borrower in a non-lending capacity and is able to use this position to screen applicants and enforce contracts at relatively low transaction costs compared to a pure money-lending contract. In the complementary non-financial contract, the lender often exercises near-monopoly power (such as often occurs between landlord and tenant or employer and laborer) that may feature usurious, i.e. monopolistically priced interest rates. Tied credit has frequently been used by state-owned marketing boards that monopolize agricultural input supply and output marketing. It is also used by agribusiness processing firms that control critical bottlenecks in the production or marketing of agricultural, and often perishable products. *However, the deregulation and liberalization of agricultural markets has reduced the scope of using tied contracts as collateral substitute in rural lending.*

These four informal institutions provide valuable financial services, and much may be learned from them. However, they should not be romanticized. Lending among family members and friends as well as ROSCAs may bear a high risk for poor people, for example with respect to default or social exclusion. Information tends to be segmented and to circulate within specific groups or networks excluding others (Robinson 2001). Communities can be driven by vested interests of the local elite. Moreover, *all of the above institutions have serious limitations with respect to term and size transformation, liquidity, and risk diversification* because they are based on personal relationships and

reciprocity and deal in socially, culturally, economically or geographically limited sectors.

2.2 The triangle of microfinance: financial sustainability, outreach, and welfare impact

Internationally agreed principal objectives of development cooperation are the United Nations' Millennium Development Goals (MDGs). These set targets to reduce poverty and make improvements in the various dimensions of poverty (or welfare) such as education, health, nutrition and women's empowerment[9].

Following the concept of a logical framework, (financial) sector policy objectives need therefore to be consistent with these principal objectives[10]. *Microfinance as well as rural financial policy has to be evaluated against three objectives: financial sustainability, breadth and depth of outreach, and the welfare impact* (Zeller and Meyer, 2002).

Financial sector policy can support the Millenium Development Goals (and thus poverty reduction) in two ways:

- Indirectly, through supporting a sustainable financial system as a precondition for economic and social development. This indirect pathway includes causal chains that can be summarized under the thesis of *poverty reduction through economic growth.* An example of one of these causal chains is that owners of wealthier enterprises who use the financial services create additional demand for goods and services of the poor thus increasing their income.
- Directly, by increasing the access of poor people to financial services. Within this direct pathway, Zeller et al (1997) distinguishes three sub-pathways of how access to financial services can influence the poors' income generation and consumption stabilization.

Governments and donors may differ in their perceptions about the relative effectiveness and efficiency of the two pathways. Indeed, which one may receive more emphasis has to necessarily vary with country- specific conditions. It follows that governments and donors also differ in their relative emphasis on the three objectives in micro- and rural finance, i.e. financial sustainability, depth of outreach, and welfare impact. This, of course, influences their view on the relative efficiency of different types of financial institutions, and thereby influences how financial policies are designed in practice and how the institutional landscape evolves. Because of market imperfections, the state has a legitimate role for investing in financial systems development (Stiglitz, 1992; Krahnen and Schmidt 1994). However, given the possibility of government failure

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[9] Poverty has many dimensions. The dimensions of poverty include all basic needs such as good nutrition, health, education, housing, clothing, as well as income or entitlements as a means to satisfy these basic needs. Many of the basic needs, and thus dimensions of poverty, are articulated as recognized in the MDGs. In this paper, I interchangeably use the term poverty reduction with the internationally agreed MDGs. On microfinance as a strategy to reach the MDGs, see Morduch et al (2003).

[10] This is not meant to imply that (micro-) and rural finance as well as building sustainable financial systems is a panacea for poverty reduction and the achievement of MDGs. There is a broad agreement among policymakers, policy analysts and practitioners that promoting finance is one of several measures which can be undertaken to fight poverty. It is by no means the only measure.

(i.e. governments may not be able to correct market failures), and social opportunity costs of public funds, there are of course also limitations of public investment in finance.

There has been a shift in paradigm in rural finance in the late 1980s, and much of this can be traced to the failures of subsidized small farmer credit and the successes of a few MFIs. The objectives of financial policy have changed along with the paradigm shift. Initially, the focus was on improving the outreach of MFIs to the poor, that is, serve more of the poor (breadth of outreach) and more of the poorest of the poor (depth of outreach). Eventually, the objective of sustainability of financial institutions took on great importance. Following the work of Ohio State University and other institutions in the 1980s, the view emerged that the building of lasting, permanent financial institutions requires that they become financially sustainable, that is, they cover their costs. Some analysts (for example, Christen et al. 1995; Otero and Rhyne 1994) argued that increasing the depth of outreach and financial sustainability are compatible objectives in the sense that increasing the scale of operations will also increase the absolute number of poor people among clients: "It is scale, not exclusive focus, that determines whether significant outreach to the poor will occur" (Christen et al., 1995). Several other authors present analysis (Hulme and Mosley, 1996; Conning, 1999; Cuevas and Paxton, 2002; Lapenu and Zeller, 2001 and 2002) that supports the notion of a trade-off between improving depth of outreach, i.e. reaching relatively poorer people, and achieving financial sustainability[11]. The trade-off stems from the fact that transaction costs have a large fixed cost component so that unit costs for smaller savings deposits or smaller loans are high compared to larger financial transactions. This law of decreasing unit transaction costs with larger size transactions generates the trade-off between improved outreach to the poor and financial sustainability, irrespective of the lending technology used. To cover the higher costs of these loans, interest rates need to either be set higher, or the MFI may follow a strategy of using economies of scale, scope and risk to cross-subsidize smaller loans. Breadth of outreach (in terms of number of clientele) and depth of outreach (at present measured through the very imprecise, but widely used indicator of average loan size (or balance) in relation to per-capita GDP are now regularly reported, e.g. in the *Microbanking Bulletin*[12]. Wenner (2002) states that depth of outreach, specified as target maximum average loan size, has become a criteria used by the IDB for certain instruments of (rural) microfinance policy.

Financial sustainability of the financial institution and outreach to the poor are only two of the policy objectives of microfinance. The third policy objective relates to the impact of financial systems development, particularly on poverty reduction. When policy intervention and direct support for institution building requires public investments funded

[11] Many micro-finance practitioners support the notion of a trade-off, e.g. Gons et al. (2001), as well as interviews and data analysis presented in the Microbanking Bulletin (Issue No. 5, September 2000). .

[12] Most donors and practitioners agree that average loan size or balance (preferably expressed as a percentage of GDP per capita) is indeed a highly imperfect measure of depth of poverty outreach but – as Robert Christen states - it is "among the best available in expressing something about *absolute and relative* poverty"(Microbanking Bulletin, September 2000, page 1). Median loan sizes, or loan size distributions, are better measures but are less often reported and still do not directly inform about the absolute or relative poverty level of clients. It is also important to note that reporting of loan size is often not transparent. Some MFIs report only "average initial loan size" and not "average loan size of outstanding portfolio." For a recently developed operational method to assess the *relative poverty level* of clients compared to non-clients of MFIs using a multi-dimensional concept and measure of poverty, see Henry et al. (2003) (manual available at http://www.cgap.org) and Zeller et al (2001).

either by domestic or foreign taxes or donations, the question arises about the payoff or impact, for example in terms of economic growth and alleviation of poverty and food insecurity.

Institutional innovation in microfinance following the new paradigm has relied on financial support by donors and governments and by other social investors such as philanthropic foundations. In fact, many, but not all, MFIs that reach large numbers of female and male clients below the poverty line require continued state or donor transfers to fully cover costs[13]. Moreover, most, if not all, of the MFIs featured in the *Microbanking Bulletin* that already reached financial sustainability have required public investment at some point in their existence, be it to enable technical assistance or to receive capital for going to scale so as to reduce unit costs. Some may consider these funds provided by governments, donors and other social investors as subsidies (with a negative connotation), but – from a policy perspective- these funds constitute public investment (be it good or bad investment) in institution and systems building. Such public investments are justified from a public policy perspective if the discounted social benefits of public investment in microfinance are expected to outweigh the social costs. These costs include the opportunity costs of foregoing the net social benefits of other public investments, such as in primary education (Zeller et al. 1997). The subsidy dependence index (Yaron, 1992) has become a widely accepted operational measure to quantify the amount of social costs involved in supporting the operations of a financial institution[14]. Addressing the policy question of whether such public investments are economically –not financially- sustainable (Zeller et al., 1997) requires a comparison of social costs with social benefits. This consideration raises welfare impact as an important third objective of microfinance.

The triangle of microfinance, which reflects the three objectives of financial sustainability, outreach, and impact, is represented in Figure 1 (Zeller and Meyer, 2002). MFIs attempt to contribute to these objectives (either indirectly through pursuance of financial sustainability leading to scale and serving many clients or directly through targeting poorer segments of the population) but many stress one particular objective over the other two. Donors, governments, and other social investors also differ in their relative emphasis on the three objectives[15]. Some MFIs may produce large impacts (especially if financial services are coupled with non-financial services addressing other constraints of the poor) but achieve limited outreach. Others may make smaller impacts but are highly financially sustainable with a large breadth of outreach, and investments in such institutions may have a high cost efficiency in reducing poverty. The potential trade-offs between depth of outreach and financial sustainability have been noted, but they may also exist between impact and financial sustainability. As Sharma and Buchenrieder (2002) argue, the impact of finance can be enhanced through complementary non-financial services, such as business or marketing services or training of borrowers that raise the profitability of loan-financed projects. Complementary services are sometimes

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[13] Examples are Grameen Bank and BRAC, or village banks. Exceptions are for example ASA in Bangladesh that is financially sustainable in established branch offices but relies on public funds for expanding branch network in more disadvantaged rural areas.

[14] The approach by Yaron measures social costs under the assumption that the market interest rate used in this approach is an accurate measure of social opportunity costs.

[15] On arguments of the institutionalist versus the welfarist approach in micro-finance, see for example Morduch (1999a, 1999b, and 1999c), Woller et al. (2001), and Schreiner (1997a and 1997b).

offered by MFIs but supplying them increases the complexity of the operation and its costs, thereby foregoing efficiency gains from specialization and jeopardizing financial sustainability if the additional costs are not covered by borrowers (which almost never happens).

There may also be trade-offs between impact and depth of outreach. The impact assessment studies reviewed by Sharma and Buchenrieder (2002) suggest that the very poor can benefit from microfinance largely by smoothing their consumption through improved management of their savings and through borrowing. Those just above or just below the poverty line can use loans more effectively for productive purposes, which ultimately raise their income and asset base. Thus, expanding financial services may improve the welfare of the very poor, but not necessarily lift them out of poverty because of their lack of access to markets, technology, knowledge, and other factors that expand the production frontier.

These potential trade-offs exist in urban as well as rural finance, and must be addressed when financial institutions develop their business plans and decide between marketing their services to only the very poor, to a mix of clients clustered around the poverty line, or to owners of small- and medium-size enterprises. Clearly, to improve the prospects for achieving financial sustainability, financial institutions may wish to concentrate on non-poor lower-income clients as some Bolivian MFIs and BRI do (Navajas et al, 2000; BRI et al., 2001, cited from Steinwand, 2003). This raises the question of what outcome is considered most socially desirable or optimal. And giving an answer "*is a matter of value judgment*" (Morduch, 1999c). For example, is public support more desired for MFIs that specifically target the poor, such as those in Bangladesh that use specific wealth criteria in an attempt to exclude those living above the poverty line? These questions on trade-offs arise when donors and policy-makers consider investing in rural finance[16].

There are also potential synergies among the three objectives of microfinance policy. First, financial sustainability is likely to be perceived by potential clients as a critical indicator of MFI permanence, and will influence their decision about whether it is worthwhile in the long run to become and stay clients. Thus, greater financial sustainability can positively influence outreach. This synergy is even more important for savers who must have faith in the permanence of the institution to which they entrust their savings. No one will save with an institution that is considered temporary. Second, striving for financial sustainability forces MFIs to be sensitive to client demand and induces them to improve products, operations, and outreach. Better financial products, in turn, generate greater economic benefits for clients, and thus greater impact.

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[16] At present, no (informed) yes or no answer to this question exists because of the lack of rigorous social cost-benefit analysis in comparing different types of MFIs and measuring the opportunity costs of alternative public investments. Recent research in Bangladesh comes closest to conducting a social cost-benefit-analysis of rural finance. For group-based MFIs in Bangladesh, results by Pitt and Khandker (1998) show a marginal income effect of 15 Taka per 100 Taka borrowed whereas Zeller et al. (2002) calculates 37 Taka. The latter study – in addition to the borrowing effect measured by Pitt and Khandker- measures the effect of having access to unused credit limits that induce households to choose more risk-efficient asset portfolios and consumption smoothing strategies. Morduch (1999c) calculates that the social cost of providing 100 Taka of credit through Grameen Bank dropped from 25 to 11 Taka. Thus, these studies support the notion of a positive cost-benefit-ratio. While more impact studies are important for general policy guidance, it is unlikely that they will be used in the future for operational decisions on public investments (just as there exists a general lack of ex-ante cost-benefit-analysis in development policy).

The conceptual framework shown in Figure 1 points to a wide set of potential trade-offs and synergies between the triangle of microfinance that needs to be better understood. Clearly, both the institutionalist and welfarist group among microfinance have good arguments, and can provide empirical evidence supporting their favored synergies or trade-offs. However, only a public-welfare perspective can consistently unite these different arguments. In addition, a public welfare perspective – using cost-benefit-analysis- can, beyond micro and rural finance, help overcome constraints in other areas (communications, markets, health, and education, etc) which hinder the economic, social and human development of the poor and, also of micro and rural finance.

The triangle in Figure 1 is drawn with an inner and an outer circle. The inner circle represents the many types of institutional and technological innovations and best practices that contribute to improving financial sustainability (such as employment of cost-reducing information systems), impact (such as designing demand-oriented services for the poor and more effective training of clients), or outreach to the poor (such as more effective targeting mechanisms or by introducing lending technologies that attract a poorer group of clients). The outer circle represents the external environment including the macro-economic and sectoral policies that affect directly or indirectly the performance of financial institutions. Innovations at the institutional level (the inner circle) and improvements in the policy environment (the outer circle) contribute to improving the overall performance of the financial system and its institutions.

While finance is certainly not charity, institution-building and innovation can be significantly fostered by public investment. Such investment has to be appraised with the same evaluation criteria as for any other public investment. The social benefit-cost ratio of public support for MFIs will be affected by many factors, including the macro policy, socio-economic and agro-ecological environment. *Some environments may be so hostile to financial-sector development that public investments in MFIs will certainly generate a negative social return, whereas in others the same investment can be highly profitable.*

3. DIFFERENCES BETWEEN URBAN AND RURAL ENVIRONMENTS

There are at least two dichotomies that are worthwhile to consider when identifying differences between urban and rural operating environments for financial systems development. The first refers to general differences between urban and rural environments, the second one between farm and non-farm enterprises.

A precondition for successful rural financial systems building is a stable and favorable macro-economic environment and suitable regulatory frameworks (see Gonzalez-Vega, 2003), which, most importantly, allow for deregulated interest rates and competition. Investing in financial institution-building in countries with repressive financial system frameworks is not advisable, neither in urban nor in rural areas, except perhaps for small-scale schemes with the primary aim of learning and institutional innovation.

3.1 The Urban-Rural Dichotomy

When comparing urban and rural areas within the same country, a number of characteristic differences are observed. These differences (1) – (12) can be grouped into the four categories of those that

(A) lead to **higher transaction costs** for financial institutions and their clients, irrespective of the MFI model (or type) used;

(B) lead to **higher systemic risks, more volatile cash flows, and complex, heterogeneous legal frameworks** of doing business and financial transactions in rural areas;

(C) result in **lower risk bearing ability and higher vulnerability** of rural households, again emphasizing the demand for financial services for consumption smoothing over investment loans; and

(D) lead to a **lower commitment of development organizations to rural areas** in general, and a weaker implementation of planned policies in rural areas.

More specific descriptions of these characteristic differences between urban and rural areas are given below.

(A) Higher transactions costs:

(1) Lower population density in rural areas
(2) Considerable spatial dispersion of rural households, markets and institutions
(3) Lower level of infrastructure. Despite or because of greater distances and less traffic density, rural infrastructure is inferior in quantity and quality. This applies to communications, roads, education and other infrastructure.
(4) Lower level of access to information, education, and business training.

(B) Higher systemic risks, lower and more volatile cash flows, and complex, heterogeneous legal frameworks:

(5) Higher degree of segmentation in commodity and financial markets and institutions, creating greater fluctuations of prices.
(6) Lower degree of income diversification in the rural economy (lower share of public sector employment as well as service and industry sector). Covariant weather risks do not only affect agricultural sector, but the rural economy as a whole through forward and backward linkages of agriculture with the non-farm sector. Not all of agricultural and other household production is monetarized. As a result, per-capita cash flows tend to be lower and less diversified, and can fluctuate more. Rural households develop a myriad of informal institutions so as to smooth consumption in the wake of fluctuating income and to mobilize savings for on-lending[17]. However, these institutions tend to be segmented by ethnicity, social class, and location, and are therefore quite ineffective when dealing with

[17] See the major informal financial institutions listed in chapter 2.

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aggregate shocks caused by floods, insects, or drought. Apart from risk transformation, informal institutions also have serious shortcomings in term and size transformation.

(7) Enforcement of formal laws is more costly and time-consuming, and conventional collateral, such as titled land and buildings, is much scarcer. Many rural areas cannot offer such collateral at all, except for titled real estate in rural towns or those owned by registered businesses. Traditional or informal laws, norms, rules, and institutions become more prevalent, and may vary from one ethnicity or social strata to the other even in the same area. In any case, informal laws, sanctions, and norms must be taken into account by financial institutions, and add to the complexity of doing financial business. Innovative rural finance builds upon and adapts to or uses these informal norms and rules.

(C) Lower risk-bearing ability and higher vulnerability:

(8) Higher incidence and depth of poverty as well as higher incidence of female heads of households due to male rural-urban-migration leads to lower risk-bearing ability of households and their enterprises. Demand for micro-insurance, precautionary savings services, remittance payment services, and credit for consumption smoothing becomes relatively more important, whereas demand for loans for income generation (working capital as well as term loans) decreases.

(9) Lower level of human development, such as education, nutritional and health status of the population, etc.

(10) Lower level (in terms of quantity and/or quality) of access to basic needs and services such as drinking water, health care, and social assistance.

(D) Lower commitment of development organizations to rural areas:

(11) Commitment of government to development is lower in rural areas that are far away from politicians and bureaucrats' own social circles, the voting ballot or political lobbying networks. Farmers and rural folk are usually not an effective pressure group. Most developing countries feature higher per-capita investments in urban compared to rural sectors, even in such basic public services as primary education. Legal frameworks are often urban-biased as well, and favor the ruling class over (ethnic) minorities and rural dwellers.

(12) There exist massive selection biases in the placement of development institutions, projects and local and foreign staff towards cities, or towards rural centers with better living conditions for foreign as well as national staff. Within rural areas, community-level investments cluster along roads that are at least passable by four-wheel drive vehicles. As a result, donor-aided projects may compete with each other in most-favored countries, sectors, or rural areas through bidding up the allowances paid to government and communities for participation in workshops, seminars, and training.

In sum, when undertaking within-country comparisons, rural areas are at a considerable disadvantage when compared to urban areas. Risks and transaction costs are higher, political commitment to development is lower, and ability to bare risk is lower. This translates into higher transaction costs and risks of rural compared to urban

finance, lower and unstable cash-flows, and less potential for financial institutions to cover their costs. Many rural areas feature such a low population density and lack basic infrastructure, that – given the current finance technology – the net social costs of publicly supported finance clearly would exceed their benefits. *In other words, at present many rural areas are simply off limits for public investment in financial institution building.* In such disadvantaged areas, public investments in other sectors – mainly infrastructure and basic social services – are likely to be more effective from a social investor's point of view.

However, when making cross-country comparisons, there are of course stark differences between rural areas. For example, rural villages in Lower Egypt have an infrastructure and population density superior to rural villages in smaller countries of Eastern and Southern Africa.

3.2 Differences between agriculture and other economic sectors

Agriculture commands the highest share of rural GDP in many developing countries, and most of the poor still live in rural areas. Most rural households derive the predominant share of their income from agriculture and related input and output industries and services comprising total agribusiness. Other economic sectors depend more or less heavily on agriculture through forward and backward linkages. The savings and loan portfolios of rural financial institutions can therefore be affected by agriculture even if their clients earn their income in other sectors.

Agriculture features some distinct characteristics in comparison with other sectors of the rural economy.

(1) **Location-specificity.** Most of agriculture is production in space, i.e. implying that producers are dispersed, leading to higher transaction costs in commodity and financial markets with regressive effects on small and marginal farmers as well as other entrepreneurs trying to make small-size transactions. Because of remoteness, farmers' access to services, infrastructure, and so on is inferior compared to non-farm households living in rural towns and centers. Everything else equal, this implies for example lower education status of farmers.

(2) **Terms of trade for agriculture**. Because of the urban policy bias, governments tend to heavily tax agriculture, mainly through state marketing of food and export crops, import taxes on agricultural inputs and machinery, and export taxes on agricultural products (Krüger et al., 1991; Yaron, Benjamin, and Piprek, 1997). Thanks to structural adjustment programs, there have been considerable reductions in agricultural taxation in most developing countries since the mid-1980s. Together with an improved macro-economic environment in many countries, especially in Asia and Latin America, this certainly raised the profitability of agriculture. However, supply response has been sluggishly forthcoming in many Sub-Saharan and some other countries, because of structural constraints. Moreover, very costly protection of domestic agriculture in most developed countries (mainly EU and US) continues to persist despite the efforts of the World Trade Organization.

(3) **Production processes depend on natural conditions and require time.** Crop and much of animal production directly depends on weather conditions.

These pose covariant risks to the farming community. Some crop and animal production is of short duration (2-3 months for most vegetables and poultry), but tree crops on the other hand have gestation periods of many years. Farmers respond to these covariant weather risks and lumpy agricultural cash flows through a number of strategies, such as income diversification on- and off the farm, staggered investment into tree crops, and seasonal migration and remittances. This all results in considerable shares of non-farm income in farming households as well as income and cash-flow smoothing that may enable many to make regular cash payments. The poor tend to be the most diversified. Yet, diversification may mean losing the benefits of specialization.

(4) **Seasonality.** Mainly because of its dependence on weather, agricultural production features seasonality, creating cash surpluses after harvest and cash scarcity before harvests. Because of seasonality, prices of food can vary strongly, and price spreads of one hundred percent between the hungry and the post-harvest season in poorly integrated markets are common. Other factor prices, such as wages, as well as informal credit limits also feature distinct seasonal patterns in poorly integrated markets.

(5) **Significant role of women in agricultural and especially food production.** Women are prime producers of food crops in many countries, and therefore key to food and nutritional security (Quisumbing, 1995). Women are discriminated against in cash crop production in many societies, and in some backward rural societies even barred from market and financial transactions. In many households, because of gender discrimination, fungibility of capital may not exist. Thus, reaching women in rural areas may pose significant additional socio-cultural challenges.

(6) **Incidence and depth of poverty.** In rural areas of many developing countries, semi-subsistence farmers, rural wage laborers, and female-headed households belong to the absolute poor. The depth of poverty is particularly high in these groups.

(7) **High volatility of prices in agricultural commodities.** Prices for agricultural commodities, such as sugar, coffee, and cocoa, exhibit large price fluctuations over the years. Price risk of key commodities is a covariant risk that is virtually impossible to deal with by rural financial markets and institutions alone (e.g. Malawi's dependence on tobacco, Ghana's dependence on cocoa, and Nicaragua's dependence on coffee). Risk in food and other markets may further be enhanced by erratic public market interventions.

3.3 Types of clients of rural financial institutions

Within the rural and agribusiness sector, one may distinguish three broad groups. They are:

(1) Vulnerable households near or below poverty line: Wage laborers, tenants, smallholders, retail first-level buyers and small processors of food and agricultural produce, and owners of micro-enterprises. Most in this group belong to the absolute poor in LDC countries, and are frequently vulnerable to poverty in higher-income developing

countries[18]. Clients of this group demand financial services for consumption smoothing (mainly precautionary savings products plus term deposits, micro-insurance, and small lines of credit) and working capital loans, many of them for seasonal crop production or off-farm micro-enterprises. Term loans are not frequently demanded by this group because of insufficient equity capital, more pressing problems, risk aversion and low risk bearing ability. Most of this group does not have any traditional collateral, and the majority tries to use informal finance to safeguard food security and other basic needs.

(2) Above the poverty line and not vulnerable: Larger smallholders (some being landlords and some having titled land), owners of small estates, traders, owners of micro- and small enterprises, and a good share of civil servants or other permanent employees in most countries. Many of them may have titled land or buildings as collateral, but face high transaction costs in accessing commercial banks.

(3) **larger agribusiness and other firms and owners of plantations** may exist in many, but not all, rural areas. These may also lack access to the commercial banking sector. As they possess titled land and buildings collateral and formal book-keeping records, they could be also served by micro-banks seeking to diversify their clientele.

3.4 Implications

The specific characteristics of rural areas and of agriculture explain why financial institutions prefer to operate in urban areas. Moreover, they explain why financial institutions tend to disproportionately serve clients with non-farm enterprises or salaried jobs in rural towns. While there have been significant improvements made in the competitiveness of agriculture through policy reform as noted above, the above characteristics of seasonality, dispersed farm settlements, widespread and deep poverty, and covariant risks make agriculture overall less attractive for financial intermediaries. Irrigation and improved agricultural research and extension in technologies, such as high-yielding seeds, pesticides, and veterinary services, can substantially reduce risks in crop and animal production. Rural infrastructure can reduce transaction costs in real and financial markets.

It is therefore not a coincidence that pioneers in rural finance, such as BRI, BAAC, ASA, BRAC, and Grameen Bank, have been formed in areas with a high share of irrigated cultivated area. Most of their operating areas feature high population density and relatively good infrastructure that allow access to improved agricultural technology and output markets at reasonable transaction costs. In a nutshell, rural and agricultural finance may need to be preceded by a sufficient level of public and private investment in agricultural technology, market and other infrastructure so as to decrease risks and increase profitability of agriculture. *Financial institutions need therefore to start rural operations in high-potential areas, and avoid overexposure to agriculture or even to specific clientele groups and agricultural commodities.*

The heterogeneity of clients in rural areas offer challenges, e.g. the need to develop a larger array of financial products. However, it also offers potential, mainly exploiting economies of scale and diversifying asset and loan portfolios. *Expansion into rural areas of traditionally urban-based MFIs can therefore exploit economies of scale*

[18] This group may also include lower-level public officials and employees in service and commerce. It does not include the destitute (or so-called ultra-) poor who have not enough social and other capital to be accepted even by the most poverty-targeted member-based financial institutions (Zeller, 2001).

and scope, and reduce portfolio risk through greater diversification. However, many urban-based MFIs may also lack the products, experience and staff needed for dealing with farmers and agribusiness.

4. TYPES OF RURAL FINANCIAL INSTITUTIONS

4.1 Introduction

The above diverse rural and agricultural characteristics call for different types of financial institutions, each having comparative advantages and addressing specific market segments.

Institutional innovations in microfinance are rarely the pure product of market forces. Instead, the major innovations in conformity with market principles have been fostered by public investments or by private altruistic action. The large and successful MFIs reaching the poor in developing countries have all relied on public investments by donors and governments, at least during their formation stage. Because of widespread market imperfections concerning financial services to the poor, institutional innovation and expansion in microfinance are seldom solely market-driven, but a process that has been nurtured by the public sector, civic organizations, and altruistic leaders.[19]: Some examples may substantiate this claim.

Solidarity groups: The Grameen Bank. Professor Muhammad Yunus addressed the banking problem faced by the poor in Bangladesh through a program of privately funded, altruistically motivated action-research. In 1976 with help from his graduate students at Chittagong University, he designed an experimental credit program to serve the poor. It spread rapidly to hundreds of villages. Through a special relationship with rural state-owned banks, he disbursed and recovered thousands of loans. However, the bankers refused to take over the project at the end of the pilot phase. They feared it was too expensive and risky in spite of his success. Eventually, through the support of donors, the Grameen Bank was founded in 1983 and now serves more than two million borrowers.

Credit union movement in nineteenth century Europe. The origins of the microfinance movement lie in Germany, the concept of the credit cooperative was developed by Friedrich Wilhelm Raiffeisen and Herrmann Schulze von Delitzsch in the 1840s and 1850s. Their altruistic rather than profit-maximizing action was motivated out of the concern to assist the rural population to break out of their dependence on moneylenders and to improve their welfare. After this institutional innovation, since about 1870, the unions expanded more and more rapidly within Germany with little or no government support. Similar experiments were done in other European countries at the time, and the cooperative movement quickly spread to North America and other regions (Hollis and Sweetman, 1998). For example, by 1920, the Ukraine had over two million

[19] *Private-for-profit R&D has contributed little to the microfinance revolution that we have witnessed in the past fifteen years. Private-for-profit MFIs will be needed to go to scale, and have entered the micro-finance market, e.g. through the foundation of micro-banks from scratch.* Going to scale was enabled by creation of micro-banking knowledge – mainly through non-government organizations - that was greatly facilitated by altruistic action and public investment.

members of savings and credit cooperatives, and post-socialistic Poland has now seven hundred thousand members[20].

State-owned microbanks in Indonesia. A much-heralded example of the microfinance movement is the village-level microbank system of the BRI in Indonesia. This state-owned bank serves about twenty-two million microsavers with autonomously managed microbanks. They are highly profitable. The microbanks of BRI are the product of a successful pro-business transformation of a state-owned rural credit program during the mid-1980s.

The above innovations have something in common. They were created as the product of action by the state, donors, or altruistic leaders that facilitated social experimentation and institutional innovation.

4.2 Major types of rural microfinance institutions

Institutional innovation does not necessarily mean to create a new institutional type at the international level (as the pioneers of the cooperative movement did), but includes the adaptation of an existing institutional type to the constraints and potentials of a certain client group in a specific local environment. The many different types of MFIs can be distinguished by two criteria: their legal status and their lending technology. With respect to their legal status, one can distinguish credit projects, credit unions[21], village banks, and private-for-profit micro-banks.

Credit projects are implemented by a supporting organization (state development agency or a non-government organization (NGO)) and are limited in time. Usually as part of or linked to a larger (integrated) rural development program, the rationale of the credit project is to finance critical inputs of so-called project beneficiaries. Issues of financial sustainability usually receive little or no consideration at all: interest rates are often subsidized, repayment is low, and overhead high. These give-and-forgive credit projects undermine systematic, long-term efforts to strengthen the financial system. The practice of ***revolving credit funds*** features similar weaknesses (Krahnen and Schmidt, 1994). As credit projects and revolving credit funds lack vision for institution-building, they will not be discussed further[22].

Credit unions are owned and controlled by their members and function according to democratic rules (if not disturbed by the central or local government as is the case in

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[20] Outside assistance to Polish credit unions was restricted to training of leaders and professionalization of credit union management and staff. Operational costs of credit unions were not covered by outside funds; instead, start-up credit unions took out loans that they had to repay, albeit at preferential rates. Non-performing CUs (those that showed a negative financial performance trend) were (and continue to be) swiftly liquidated or merged with strong credit unions. One of the keys to Polish credit union success is leaders' realization that outside assistance would and should end. Assuming a limited window of outside assistance, Polish CU leaders concluded that the surest way to assure their long-term capacity to serve the financially excluded was to (a) be profitable; (b) diversify membership to spread costs across; (c) utilize outside assistance cautiously and strategically. (Source: Personal communication with Lucy Ito).

[21] In this paper, I use the term credit union also for savings and credit cooperatives.

[22] There are of course exceptions, for example *Calpiá* in El Salvador grew out of a GTZ-supported credit project begun in 1988. This project had a focus on sustainability from the very start. By now, *Calpiá* is a sustainable microbank offering services to urban and rural clientele. It was first owned by non-profit NGOs, and now is owned by IMI, IFC, FMO, IPC, and the NGO *Fundasal*. Another successful project is *Caja Los Andes* in Bolivia.

many developing countries, or by cronyism among members). Profits are reinvested, or shared among members. Credit unions –especially larger ones with remunerated staff and professional management- are focused on profit, but the cooperative origins and the member-based governance structure also feature equity concerns for weaker members. The one-person, one-vote rule is a clear expression of the cooperative spirit of self-help and care for weaker members in the cooperative movement. Credit unions are registered under a country's cooperative law or are included as a special category in the banking law, but may lack effective external supervision or authorizing legislation. The unions form regional and national networks that enable them to transfer excess liquidity. Credit unions are a viable institutional type for rural microfinance: They can draw on one hundred and fifty years of experience in rural and urban areas, and are in fact the number one provider of microfinance[23]. The major comparative advantages of credit unions lie in their ability to service large numbers of depositors, and use these savings to provide a diversified range of loans to individual members. Other key strengths are their ability to sustainably achieve a large breadth of outreach, and also considerable depth as suggested by median savings deposit and loan size and its distribution in several countries such as Bolivia, Ecuador, Philippines, and Sri Lanka (Branch and Evans, 1999; Evans, 2001). While most members of credit unions are non-poor, they also reach many poor people because of their breadth of outreach. Recent innovations in rural areas include lending to village banks (in cooperation with Freedom from Hunger in the Philippines) and to solidarity groups. Here, one key innovation is that potential credit union members are offered a *choice* of a *group loan* (village banking) *product* or an *individual loan product* or a *voluntary savings product* (not tied to borrowing).

Government institutions have often misused the cooperative movement for political purposes. In fact, government interference is a major cause of cooperative failure – especially in developing countries. Cooperative performance in rural areas is mixed (Braverman and Guasch, 1989; Huppi and Feder, 1990), and changes in the regulatory and supervisory framework as well as technical assistance is often called for to improve performance. Krahnen and Schmidt (1994) assert that the ownership and governance structure of credit unions tends to favour depositors over the interests of owners and borrowers, leading to a safety-oriented policy that sacrifices profitability and efficiency. However, under the risky conditions of rural areas in developing countries, this conservative policy can indeed be risk-efficient in the eyes of risk-averse depositors and low-income owners. Krahnen and Schmidt (1994) conclude that this conservatism is one of the reasons why credit unions are so widespread and have persisted for so long. After all, it is the majority of savers that are the backbone of a credit union.

Village banks are semi-formal, member-based institutions that are promoted by international NGOs, first by FINCA and then later also – with modifications to the original model with respect to complementary services or greater decision autonomy granted to members - by Freedom from Hunger, CARE, Save the Children, and others. Members own the village bank, but ownership is not formally registered. Members can decide on interest rates for internally generated savings deposits and on-lending their internal account, and usually feature high interest rates on loans and savings deposits

[23] Based on a postal survey of international micro-finance NGOs and networks with 67 and 50% response rate respectively, Lapenu and Zeller (2001) estimate that 60.5 % of savings and 59.9% of loans are provided by the cooperative model. See also Cuevas (1999) on the role of credit unions in Latin America.

compared to going rates in the commercial banking sector. The banks serve a poorer clientele compared to credit unions, and have a high share of female members. Village banks are promoted with the ultimate objective of reducing poverty. Emphasis is therefore on depth of outreach and impact on poverty reduction, and NGOs often provide complementary services such as education or business training to enhance impact.

A village bank is less complex in structure and administration than a credit union, thus enabling less educated members to manage the bank. However, start-up costs for formation and training are believed to be relatively high and are externally financed by the supporting NGO and its donors. The main form of credit guarantee relies on social pressure. One of the major comparative advantages of village banks – especially for rural areas - is that they can operate as member-governed, autonomous institutions, and thus are highly flexible in determining rules of admission and the level of savings and loan interest rates adapted to local socio-economic conditions. The expectation is that the village banks accumulate and retain sufficient equity capital to become self-reliant. However, this objective of financial sustainability has for the most part not been achieved. Village banks have shown great strength in reaching poorer clientele, but not in reaching financial sustainability most likely because they chose more disadvantaged locations and clientele initially.

A major disadvantage of a village bank is that – unless they are linked with a bank, credit union or federation of village banks- their savings and loan portfolio is constrained and influenced by the local village economy, including the threat of covariant risk. Because of the small size of a village bank (30-50 members), it is unclear whether they have significant comparative advantage over informal community-based institutions in financial intermediation and pooling of risks, other than the access to donor-funded external capital for on-lending to the local rural economy.

From a financial systems perspective, the long-term sustainability and outreach of village banks hinges upon their ability to integrate into the formal financial system. They need to establish linkages with banks or credit unions for refinancing and for earning return on otherwise seasonally idle funds as this seems to be their long-run competitive advantage compared to informal institutions. Federations of village banks may also serve these intermediation functions across villages and rural areas. If they choose this way to achieve market integration, they will come close to cooperative models. Chao-Beroff (1999) describes the successful example of the formation of self-reliant village banks that established a refinancing linkage with the National Agricultural Bank in Mali.

Member-based institutions. Being member-based institutions, credit unions and village banks have some common characteristics (Table 1) and strengths. These include building institutions that can empower communities as a whole and create social capital, their lower-cost in-depth information for example on low-income or illiterate clients, and the flexibility (at least in principle) to adjust interest rates and other terms for savings and credit products to location-specific demand schedules. All these points are highly relevant for extending finance to heterogeneous rural areas and clientele groups. *For being sustainable in rural and agricultural finance, it is critical that credit unions and village banks have mechanisms in place to deposit excess liquidity or call in loans through a linkage with banks, or a second-tier or even national-level federation. Covariant risks and seasonality constitute clear limits to expansion and threats to survival for local stand-alone institutions.*

Solidarity credit group. With respect to lending technology, there are differences between individual lending and solidarity group lending. The major characteristics of solidarity groups are listed in Table 1[24]. Major rural MFIs such as Grameen Bank, ASA, SHARE, and the rural operations of the women-owned SEWA bank in India offer loans to solidarity credit groups. *The use of solidarity groups as retail institution allows MFIs to reduce their transaction costs, and thereby increase their depth of poverty outreach.* Large-scale solidarity group lending schemes either operate as banks (e.g. GB, SEWA), or as NGOs (ASA, SHARE) that use the services of rural banks for deposit and payments between NGO branches and headquarters. ASA, an NGO founded in the 1970s, is financially sustainable in its established branches, perhaps because it efficiently uses the existing rural (state-owned) banks, thereby reducing overhead costs. These four MFIs listed above are widely considered as successful in reaching poor women *so that the amount of subsidy that they have required or currently require appears well spent from a social investor's point of view* (Morduch, 1999; Zeller et al, 2001). As they charge interest rates above the "market" rates of banks, and as they reach highly unattractive segments in the eyes of for-profit-financial providers, the potential detrimental effects on competition in the financial system may have been low in the past. However, as competition becomes fiercer between the large, group-based MFIs in Bangladesh, subsidies for individual poverty-focused MFIs may need to be reviewed in order to provide for a more level-playing field. The comparative advantage of solidarity credit groups in increasing depth of outreach are increasingly recognized and used by other MFIs. However, adjustments of the solidarity lending approach need to be made so as to adapt the group approach (i.e. not replicate) to other socio-economic and agro-ecological contexts, e.g. concerning frequency of meetings and repayment. Furthermore, customers (and their institutions) may grow out of solidarity group lending as recent changes in ASA, Bancosol, and ACCION-supported schemes suggest. Table 3 lists the pros and cons of individual and solidarity group lending.

Linkage type. This alternative retail group-based model builds on pre-existing informal self-help groups (SHGs), such as ROSCAs. Its major advantage is that group formation costs were already born by the members. Like other member-based institutions, the "linkage model" (Kropp et al, 1989; Seibel, 1985; Seibel et al. 1994) seeks to combine the strengths of existing informal systems (client proximity, flexibility, social capital, reaching poorer clients) with the strengths of the formal system (e.g. risk pooling, term transformation, provision of long-term investment loans, financial intermediation across regions and sectors). The main principles are:

- Participation: Members of a SHG enter into a group contract with a bank that provides savings and credit services to the group. An intermediary NGO may provide complementary services, such as training or certification of creditworthiness of groups.
- Responsibilities/profit sharing: The bank, sometimes assisted by an NGO, provides the services. The SHG may organize internal member-managed savings accounts, such as is the case with ROSCAs.

[24] In this paper, solidarity groups are not considered to be MFIs, as Table 1 may suggest. However, because they are an institution, they feature comparative advantages as well as disadvantages that are relevant for rural agricultural lending or lending to the poor.

- Structure: The SHG is linked to the bank through a group contract. Individual members of the SHG do not have any links with the bank.

Linkage banking has been promoted by GTZ in Indonesia and other Asian and African countries, and by NABARD in India (Meyer and Nagarajan, 2000). Although "linkage banking" certainly has some comparative advantages for rural intermediation, especially for poorer clientele, little empirical evidence exists so far on its performance.

Are member-based institutions and solidarity group retail lending transferring transaction costs to clients? Yes, they do. By doing so, MFIs can exploit the informational cost advantages of member-based institutions, thereby lowering MFI's overall system transaction costs when reaching poorer clientele (compared to a direct, individual relationship between lender and borrower). This question is raised as a point of critique against member-based and member-owned institutions, most forcefully against village banks and solidarity group lending. While credit unions offer individual loan contracts, their participatory decision-making creates transactions costs as well, albeit presumably not as high on a per-capita-basis as they are in village banks or solidarity credit groups that feature weekly meetings. However, this disadvantage of higher clients' transaction costs does not heavily weigh in the eyes of those clients of member-based MFIs who are not able to get an individual loan contract from a commercial or micro-bank precisely because individual contracts carry higher transaction costs for the lender when dealing with poor, illiterate clientele– all other things equal.

Microbanks. Microbanks, as defined in this paper, represent a wide array of institutions. They do, however, have in common the primary operational focus of reaching financial sustainability. They differ from commercial banks in two aspects. First, they acknowledge and wish to serve the demand for financial services for micro- and small-scale entrepreneurs, but toften avoid mentioning the word *poor* or *poverty* in their mission statement. Second, they use collateral substitutes and other innovations, just like other MFIs. Microbanks include the state-owned community-level banks of BRI in Indonesia, *Bancosol* in Bolivia (transformed from an NGO), *Calpiá* in El Salvador, the present-day *Sparkassen* in Germany, or micro-banks "built from scratch" with technical assistance from consulting companies such as IPC. Their main difference with credit unions and village banks (or NGO-led banks such as *Grameen Bank* and *SEWA Bank*) is that they are not owned by their members, but instead are owed by individuals or legal entities. Legal entities can be the state (BRI-unit desa), NGOs, private companies, or individuals, or a combination of all of these. While the social and poverty focus of member-based MFIs is clearly embedded in the ownership and therefore incentive structure, micro-banks depend on the social commitment of its owners to make compromises between making more profit or staying at the lower end of the market. Profits can be increased by moving up market, but this does not necessarilyrequire a reduction in services to poorer clientele as serving a range of clients is often a safer and better long-term strategy.

Due to their heterogeneous origins, the ownership structure differs widely in practice. *Calpiá* for example grew out of a credit program with a strong sustainability focus (Navajas and Gonzalez-Vega, 1999), and is owned by non-profit NGOs. Micro-banks lend mainly on an individual basis (such as BRI-community banks or IPC-supported banks)[25] but also feature solidarity group lending (such as BancoSol). It is

[25] Internationale Projekt Consult GmbH (IPC) in Frankfurt, Germany.

obvious that clients prefer to have an individual loan if they could get it on the same terms than those provided by member-based institutions (if we for now ignore other benefits of member-based MFIs, such as social capital formation and sense of ownership, self-help and pride). This is so because participation in any of the above MFI-types carries additional transaction costs on behalf of the client, e.g. for meetings. Yet, because of informational advantages of member-based institutions dealing with poorer clientele, member-based institutions can be more efficient in environments with lower population density, higher illiteracy, and poor road and communications infrastructure.

Microbanks offer relatively high loan sizes (see Table 2), an indication that their depth of poverty is weaker compared to the other MFI-models in Table 2. It follows that their breadth of outreach to the poor (i.e. numbers of poor reached) will depend more on their scale as opposed to other MFIs[26]. However, the presumably better-off clients of microbanks may not have any access to traditional commercial banks, and loans to small and medium enterprises as well as larger commercial farmers can make an indirect contribution to poverty reduction, e.g. by creating salaried jobs for poor people. While depth of outreach is certainly not their comparative advantage (unless they begin to link up with village banks or solidarity groups such as BancoSol did at one time), the advantages of micro-banks lie in servicing the neglected middle market[27]. For rural areas and agricultural finance, micro-banks offer comparative advantage for larger, commercial farmers (with or without classical collateral), agribusiness traders, and processors. However, micro-banks offering lower loan sizes, such as IPC-supported banks in the Philippines and Mozambique, will certainly also penetrate the middle end of the microfinance market. This competition – mainly with credit unions- should be seen as healthy (if done on a level-playing field), as it will force credit unions and micro-banks to further innovate. As credit unions and micro-banks have distinct comparative advantages, they may coexist and fiercely compete in some market segments, while dominating others. *After all, this is exactly what we want.*

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[26] As noted earlier, there are flaws to using average loan size as a reflection of depth of outreach. Median loan size or even better, distributions of size of loan and savings deposits, provide more reliable information on depth of outreach. Using average loan size can inadvertently mask the depth and breadth of outreach to the poor.

[27] IPC describes its target clientele as "micro and small enterprises, small farmers and other comparatively weak economic units". According to calculations from data reported at IPC's website in January 2003, the average outstanding loan size of IPC-supported microbanks as percentage of GDP per capita lies at 218. This is well above the averages reported in the Microbanking Bulletin (MBB), which are 45 for all MFIs and 83 for financially sustainable MFIs. This comparatively high value could be attributed to the circumstances of IPC's approach: (1) most micro-banks operate in former socialist countries of Eastern Europe, (2) the lending methodology (individual versus group lending), and the charter (banks versus credit unions or NGO-supported village banks). Still, the respective numbers according to the MBB are lower than IPC's numbers: 86 for Eastern Europe, 88 for individual lending and 135 for banks. It seems more likely that microbanks supported by IPC target the high end and small enterprises (and not the population with incomes around the poverty line). The respective numbers from the MBB are 189 for high end and 467 for small enterprises, in contrast to 16 for low end and 64 for broad. However, IPC's numbers vary strongly by country, ranging from 12 in the Philippines up to 711 in Moldova. IPC definitely serves a wealthier clientele in Eastern Europe (297), the data for their projects in other countries (79) seem more in line with MBB's general numbers. For example, according to personal communication with Juan Buchenau, a recent study by the Ohio State University in El Salvador on Calpiá (which receives technical assistance from IPC) found that 40% of its rural clients were poor, and 20% of these were extremely poor.

Table 2 suggests that the village bank, linkage model and the solidarity group reach relatively more women and poorer clients than the cooperative and the microbanking models.

4.3 Other rural financial institutions

Each of the above MFI-types shows comparative advantages and disadvantages. I turn now to state-owned development banks, commercial banks, and other providers of rural and agricultural finance.

Development banks focus on medium- and long-term financing of larger rural and agricultural projects (with a high content of public goods, or high impact on economic growth that the private sector for one or the other reason fails to finance). Some of them focus on particular economic sectors. Due to their development objectives, they can and do support microfinance networks and apex institutions, and provide refinancing to member-based financial institutions, such as rural village banks (see e.g. case of BNDA in Mali described in Fruman, 1998 and Chao-Beroff).

National and international development banks, such as KfW, IDB, and EBRD, provide funds for "upgrading" promising NGO-run schemes (such as *Calpiá*) or by giving equity grants for newly built micro-banks. As these banks are (partly) privately owned for-profit-banks, questions may arise (as with credit guarantee schemes) whether this results in true additional lending to microfinance clients (i.e. higher economic growth), or to a crowding-out type of competition with credit unions which receive – in my opinion that is not substantiated by data- the lowest amounts per client in public investments by donors and governments. The equity investment can be critically considered a transfer of public funds to private owners, and if the primary (or even declared secondary) objective is not depth of outreach or impact on poverty reduction, it is difficult to justify these public investments on equity grounds as well. However, they can be justified provided that these microbanks constitute critical elements in the rural financial system (for example serving agro-industry and rural SMEs, and as second-tier institutions serving credit unions and village banks).

Transformation of state-owned agricultural or rural banks. If not transformed based on business principles, these banks are a continuing burden to the taxpayer and to rural financial systems building. They constitute the classical case of government failure in rural finance. The lessons learnt from the old paradigm still apply today in many countries such as China, India, Egypt and Pakistan. However, some of these banks – provided that there is true political commitment and ownership of reforms- can be successfully transformed (as BRI and BAAC demonstrated) with business-oriented management reforms. A study of rural state-owned banks in Nepal, Sri Lanka and India analyzes recent reform efforts that seek to apply and adapt some of the lessons learnt in Thailand and Indonesia (Steinwand, 2003). *Profit and success in business is not necessarily incompatible with public ownership if management is given the right incentives*. Therefore, it is too early to write the transformation approach off and to argue that BAAC and BRI are exceptional cases from which one cannot learn from for other countries. Often, state-owned development banks possess large branch networks for rural

financial intermediation, and have staff that is especially familiar with agricultural enterprises[28].

Downscaling commercial banks aims at inducing commercial banks – through technical assistance and staff training for example funded by public funds- to enter into the neglected upper and lower middle market (see second and especially third group of clientele in section 3.3). However, recent experiences by IPC with this approach highlighted many obstacles, such as those described by Schmidt (2001) and von Pischke (2003). These obstacles are likely to be higher for banks entering into rural and agricultural finance because staff is not skilled in financially assessing investments in crop and livestock production and may cherish big-bank investment culture.

Microbanks for whole-sale traders, agro-processors and larger farmers. Many present-day rural financial institutions effectively screen out this relatively wealthy group either directly by setting targeting criteria or indirectly by offering financial products of little relevance to this clientele, which demand larger short-term credit lines as well as long-term investment credit. Larger traders and farmers as well as agribusiness processors are an equally neglected clientele that have critical functions to fulfill in agricultural development and therefore rural poverty reduction. Microbanks aiming at this clientele in rural areas could have considerable potential compared to credit unions, as these types of clientele are too wealthy for credit unions

In countries with a booming agricultural economy such as many in Asia, trader input credit to farmers is important. Equally important can be the provision of finance to capital-intensive agroprocessors such as dairy firms. Partnerships of public and private banks can have a role in enabling larger-scale investments with high expected social pay-off.

Contract farming. In so-called *bottleneck* markets, agribusiness firms play a viable role in rural finance and technology transfer through contract farming. Bottleneck markets exist because of the specific characteristics of some crops (cutflowers, export pineapple and other fruit, and organic coffee) and animal produce (milk) that give a high likelihood to the processor that the farmer will not sell her or his produce in another competing marketing channel. Before agricultural liberalization, there were many politically created bottlenecks through which crops were sold. After liberalization, the array of potential crops shrank tremendously, and competition in the processing sector rose even for classical plantation crops such as palm oil (for example palm oil in Indonesia). Contract farming can reduce the risks of processors and farmers, enhance provision of technology, inputs, and loans to farmers, and increase the quality and quantity of produce for processing. These intrinsic risks and other advantages could be better exploited in repeating, long-term contracts, and agribusiness firms may be able to borrow against these contracts from commercial banks. *It appears that contract farming is a viable, but under-exploited and under-researched commercial option for agricultural finance in developing and transitioning countries.*

[28] See also IFAD's rural finance policy on this point. Gonzalez-Vega and Graham (1995) raised the question of whether state-owned (agricultural) development banks could potentially play a significant role as a source of rural and micro-finance. They identify conditions and opportunities for successful transformation.

4.4 Microfinance best practices

This section asks the question of whether current best practices in microfinance are transferable to rural and agricultural finance.

A recent study (Klein et al., 1999) reviews best practices as far as agricultural lending is concerned (Table 3). I agree with the authors that most current best practices in microfinance are relevant and applicable in rural areas. However, repayment schedules, timing of loans, and other credit contract features need to be adapted to rural and farm households. *But this is nothing new: Current microfinance works to design specific products for certain target clientele groups.*

The old and exclusive emphasis on farm budgets as a way of assessing creditworthiness is completely outdated, and needs to be replaced by cash-flow-analysis of the farm household, considering all sources of income as is practiced in microfinance. However, farm budgets and investment analysis (Gittinger, 1982) are still relevant and need to be applied in larger investment projects that demand term finance as is the case for larger, lump-sum investments in farm buildings, machinery, animals, and tree crops. Here, the assessment for farmers must again include their other income sources.

With respect to savings, recent books such as Branch and Klaehn (2002) and working groups by GTZ and CGAP on savings mobilization (Wisniwski and Hannig, 1998) sum up our best knowledge in provision of savings services. Again, this knowledge is also relevant for servicing rural areas and farmers. As in the case of the lending business, savings need to be diversified so as to better respond to seasonality and covariance risks when expanding rural finance.

Micro-insurance is the most difficult of the three financial services. So far, the industry's experience is mainly with services covering idiosyncratic risks such as accident, certain illnesses, and death. Again, pioneers in micro-insurance consist mainly of non-government organizations such as SEWA, ASA, and BRAC, and they continue to broaden our knowledge.[29] Dror and Preker (2002) and Churchill et al. (2003) have recently compiled the lessons learned from and the best practices for micro-insurance. In rural areas, as discussed above, covariant risks such as weather play extremely important roles for micro-insurance, as discussed by Skees (2003) in his paper for this conference.

[29] For a comprehensive discussion of agricultural sector risks in finance, see the conference paper by Skees (2003).

5. CONCLUSIONS

This paper began with a recommendation: *Learn from past failures.*

Which institutional type (or model) is best suited for rural and agricultural finance? Three major reasons call for institutional diversity in rural areas, and further public investments in institutional innovation and adaptation. First, donors and governments and other social investors differ in their relative emphasis on direct or direct pathways of poverty reduction through financial systems development. So do the types of rural financial institutions reviewed in this paper. Second, the diversity of socio-economic contexts and the different levels of political, social and economic development require that the various institutional types are adapted to the local context. Because of the diversity, there is need for several institutional types that compete with each other in some market segments while dominating others. Because of the specific characteristics of rural areas and of agriculture, institutional and technological innovation and adaptation is crucial to reduce transaction costs for institutions and clients alike. Progress is achieved by testing different ways and learning from failures. Such innovation can be enhanced through participatory processes with, by and for poor women and men that addresses the diverse demand for financial services. It can be also enhanced by public-private partnerships to strengthen financial and other services provided by agribusiness and traders to farmers, for example through contract farming or leasing of specialized equipment. Third, the main institutional retail types in rural finance, i.e. credit unions, micro-banks, and village banks, all have their justification because of their specific comparative advantages. Instead of choosing one approach (targeted to the poor vs. targeted to non-poor), the best use of public support is to allow both extremes and in-between approaches within a rural financial systems perspective. That is, to allow and support the building of a diverse system of financially sustainable institutions. *Indeed, the second major recommendation of this paper is that there is no blueprint for rural finance, and institutional innovation and adaptation to specific socio-economic and agro-ecological contexts as well as to specific clientele groups is always required.*

The third recommendation is that public investment in specific rural financial projects should be pursued with a *financial systems perspective.* This implies that – when building financial institutions- public action and public-private-partnerships need to also foster horizontal and vertical integration in a necessarily decentralized rural financial system. Village banks, solidarity groups, and pre-existing self-help groups are possible first-tier types at the rural retail level with a high depth of outreach. The village bank as a first-tier retail institution has comparative advantages over solidarity groups and informal self-help groups, but lacks the size and diversification needed to become a stand-alone institution able to deal with seasonality and covariant risks that can be pervasive in rural areas. Of course, this need for integration, i.e. linking with commercial and development banks, also arises for credit unions and for micro-banks, but to a lesser extent for small and undiversified village banks. Nonetheless, integration of first-tier institutions, be they village banks, credit unions, and microbanks, is very essential. The issue of size is in this context very important: Any MFI will be strongly affected in rural areas by seasonality and covariant risks, that is *stand-alone retail rural financial institutions are doomed to vanish once public support is phased out.* Consequently, larger size and diversification of

clientele and products is very desirable to sustainably serve rural populations. Greater exposure to rural areas, or to agriculture in general, and to specific crops in particular, all raise the need for horizontal and vertical integration of village banks, credit unions and micro-banks. The latter two can also assume a useful role in rural areas (in addition to their first-tier retail function) as second-tier financial providers to village banks or solidarity and other self-help groups. The third tier of rural finance will then consist of commercial, (transformed) state-owned, and cooperative banks. These institutions fulfill important functions in rural financial systems development, and are also needed to fund larger rural and agricultural investments, some of them through public-private-partnerships investing in new agribusiness processing and trading firms. However, these third-tier institutions do not have any comparative advantage in dealing with the micro- and small enterprise sector, farmers, and other poor or not-so-poor rural dwellers.

Fourth, best practices of (mainly) urban-based microfinance are relevant for rural and agricultural finance as well. But replicating best practices is simply not enough for expanding the financial frontier. Designing, experimenting with, and building financial institutions benefiting the rural poor and not-so-poor require economic resources and adequate consideration of longer-term social returns, and the case of publicly funded R&D – performed in partnership with the private and civic sector - in rural finance appears strong.

Given the renewed interest in rural and agricultural finance, a word of caution against over-emphasizing the role of rural and agricultural (micro-)finance for poverty reduction and economic growth concludes the paper. Rural households – especially the poor - face complex, multiple constraints on earning opportunities, and addressing these constraints – such as lack of access to knowledge, infrastructure and markets – may often prove a better strategy for agricultural and rural development and poverty reduction. The impact of financial services on welfare is likely to vary with accessibility to complementary inputs such as irrigation, education, market and social services. In many rural environments or for some socioeconomic groups, access to finance in general and to credit in particular may do no good, while in other regions and for other groups, it can make an important difference. Thus, the challenge to expand rural and agricultural finance is very large, indeed.

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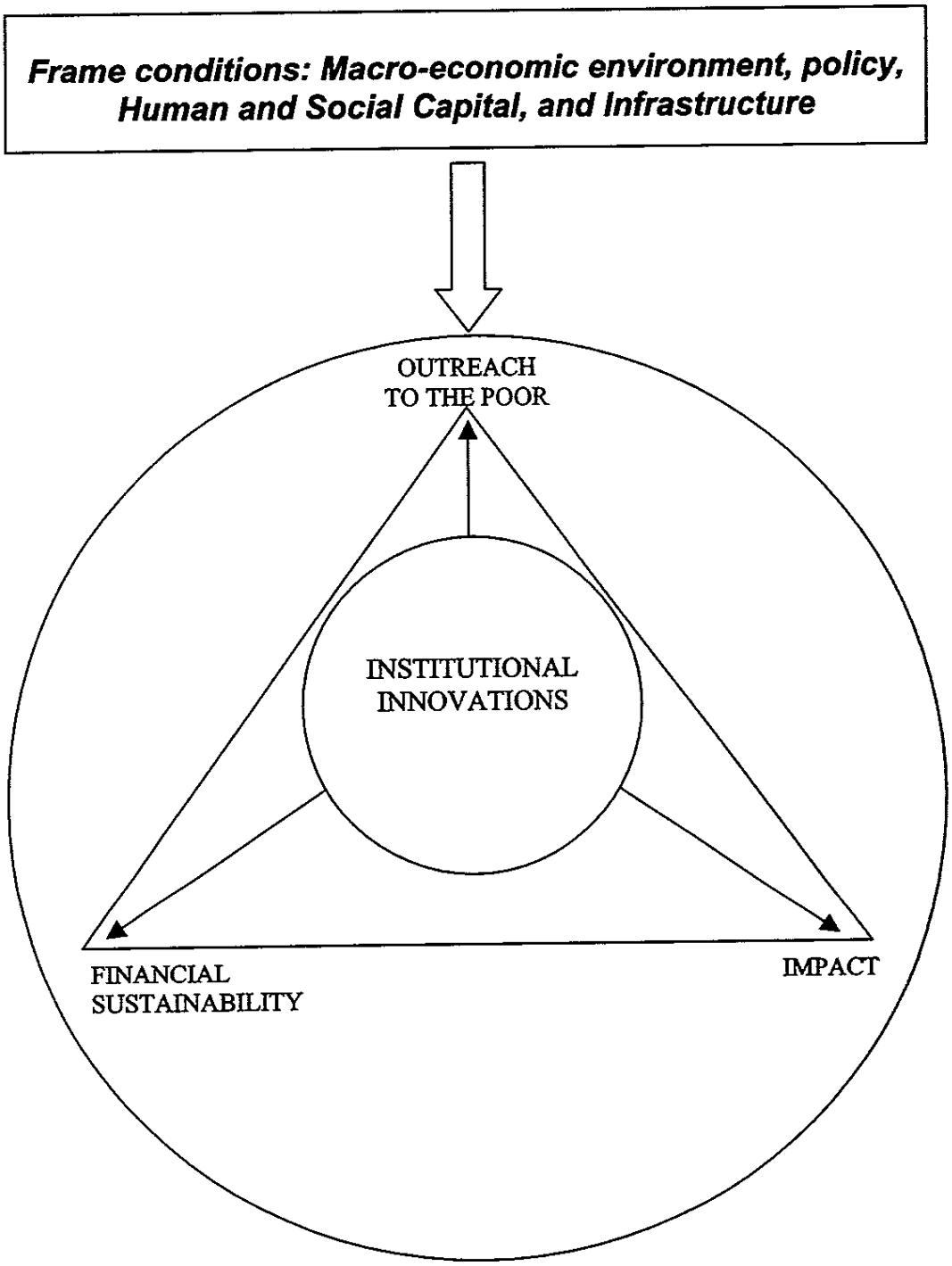
Figure 1. The Triangle of Microfinance



Source: Zeller and Meyer (2002)

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Table 1: Types of microfinance institutions and major characteristics

	Size of the local organization	Ownership of equity	Rules/ decision-making	Eligibility/ screening	Main source of funding	Relations Savings/Credit	Structure	Main type of guarantee	Management
1. Credit unions (e.g. supported by WOCCU, Raiffeissen, Desjardins)	New group, on average 100-200 members	Member (equity shares)	Democratic (One person = one vote)	Purchase of shares; sometimes type of occupation or social group	Member savings	Focus on savings; credit mostly from savings	Pyramidal structure unions or federations/ local branches Bottom-up	Savings	Salaried-staff and elected, voluntrary members
2. Village Bank (for example supported by FINCA or CIDR)	New group On average, 30-50 members.	Member	Bottom-up/democratic (members), links with banks supported by NGO/state	Village member Payment for membership	External loans Later member savings through growing internal account	Focus on credit, less on savings	Decentralized at the village level (linkage with a formal bank , credit union or federations of village banks possible)	Savings, social pressure	Elected members (self-managed); some may be remunerated
3. Microbanks (e.g. BancoSol, BRIvillage banks, IPC-supported banks)	Individual relationship with the client	Investors: donors providing equity, private firms or individuals, foundations, or state (e.g. BRI)	Top-down	Information on the client	Client savings, equity (partially provided by donors or state), and commercial loans	Focus on both credit and savings services	Centralized with local branches	Conventional collateral as well as innovative collateral substitutes	Salaried staff
4. Solidarity Group Retail Model, either by NGOs (e.g. ASA, SHARE) or Banks (Grameen Bank), but lately also by other MFI-types used	New group center (5-6 groups of 5-10 members each)	Members	Top-down	Accepted as a member of a group by peers, or (worse) by supporting institution	External loans and grant	Focus on credit; mainly compulsory savings, some with micro-insurance products	Pyramidal structure, mostly top-down	Group pressure	Salaried staff
5. Linkage retail model (for example promoted by GTZ/IFAD and NABARD in India)	Pre-existing informal group or groups with variable size that can obtain loans and save as a group with a public or private bank	Member	Mix of bottom-up and top-down approaches (supporting agency/ members)	Member of a pre-existing SHG Peers, bank or NGO approval	External loans Member savings	Saving first (but just as collateral)	Decentralized at the village level, linkage with closest bank branch	Saving, social pressure, NGO intermediation	Salaried worker from the formal institution; may be NGO staff

Source: Adapted from Lapenu and Zeller (2001).

Table 2: Indicators of poverty outreach, by type of microfinance institutions and lending technology[30]

Indicators	Cooperative	Solidarity group	Village bank	Microbank with individual contract	Linkage model
Percent of female members	55	87	84	40	76
Average loan size ($)	369	255	122	737	218
Loan size (in % of per capita GDP)	94	52	25	173	45
Average size of savings deposit ($)	301	37	32	78	28
Savings deposit (in % of per capita GDP)	28	8	6	61	8

Source: Lapenu and Zeller (2001).

[30] The data comes from a postal survey that was conducted by the International Food Policy Research Institute (IFPRI) in 1999. The respondents of the survey were international NGOs involved in microfinance as well as national, regional and international microfinance networks. These respondents were asked a number of characteristics of the MFIs they support in Asia, Africa and Latin America. Of the 43 international NGOs contacted, 29 (67 percent) responded. Of the 26 networks contacted, 12 (46 percent) responded. Though less than half of the microfinance networks responded, the information provided a broad overview of MFIs by region or country. In total, the data refers to 1468 MFIs in 85 developing countries with an estimated number of 43 million savers and 17 million borrowers. Most of the networks that did not answer are national networks with more limited coverage of institutions. This type of sampling has a number of shortcomings that are acknowledged elsewhere (Lapenu and Zeller, 2001). Nonetheless, Table 2 suggests some general patterns that appear plausible.

Table 3: A compendium for Best Practices in Agricultural Finance (Source: Klein et al., 1999)

Table 3.1 Programme Design

	Recommendations:	Details
Loan term and loan use	• provide only short-term working capital • provide only occasionally investment capital	• especially for first-time clients
Loan size	• keep first-time loans small	• avoid encouraging borrowers to introduce potentially risky major changes in their existing business activities (to accommodate the receipt of a single loan)
Interest rates	• charge higher interest rates than conventional formal lenders. • interest rates must be positive in real terms	
Type of service	• "credit-only" (technical assistance or business training may be carried out through partner agencies)	
Repayment schedule	• Arrange frequent repayment instalments (weekly or monthly) • Clients with a good track record may have their schedule altered • closely monitor the borrowers repayment performance	• closely monitor the borrowers repayment performance • especially in case of collateral substitutes (because of practical and legal problems with seizure)
Repayment incentives	• reward good borrowers (full and timely loan repayments) with repeat loans, maybe with increased loan size • charge late payment fees and penalties • Use local networks to enforce loan repayment	• networks can effectively publicize information on delinquent borrowers
Assessment of loan repayment capacity	• Use standardized checklist to assess loan repayment capacity and willingness • Consider all income sources and expenditures of the microenterprise household unit (in addition to the value of the securities) • Use local networks to verify borrowers' reputation • Use collateral substitutes: co-signers, third-party guarantors, household goods, and other proxies	

Table 3.2 Decentralization

	Recommendations:	Details:
Decentralized decision making	• Decentralize staff responsibilities • Monitor decentralized decision making through staff performance bonuses based on loan recovery and loans disbursed (number and volume)	
Branch network	• Use decentralized branch network: • e.g. Use mobile bank units in branch offices or agencies (e.g. in markets)	• Loan officers regularly visit their clients • Decreases information costs and reduces loan default risk • Allows the loan portfolio to grow and to diversify • Creates client confidence and promotes sense of responsibility • Helps to better integrate financial services into local communities • Enhances the quality of service and contributes to long-term sustainability

Table 3.3 Lending Technology

Recommendations: **Details:**

⇒ Use a variety of strategies to reduce lending costs and risks of low income clients: use individual and group lending technologies

- Generally prefer/ concentrate on individual lending

Advantages of Individual Lending:
- Loan products fits the clients' demand and loan repayment capacity
- Encourages closer lender-borrower relationship
- Strengthens mutual trust between lender and borrower
- May increase compliance with contractual loan obligations

Problems of Group lending:
- Group formation and group maintenance is costly
  ⇒ work with existing groups (linkage-banking)
- Borrower risk is greater since every group member bears his own risk and that of other group members
- Negative solidarity: the exposure to pay for fellow member loan defaults encourages borrowers to apply for the same loan size rather than fitting loans to individual repayment capacity. If one member fails, the whole group defaults
- Less flexible terms and loan repayment installment
- Lack of written records hampers individual loan appraisal
- Group information advantages and peer pressure works less well in heterogeneous groups and/ or where members live dispersed
- Homogenous groups may result in covariant risks to the lender
- A powerful group leader may misuse his position
- A group may be severely impaired if a good group leader leaves.

- Use group lending methodology in order to increase the breadth and depth of outreach:

Reasons against individual lending (re risk reduction):
- A lower number of clients is served
- Minimum guarantee requirements may still remain beyond the capacity of most low income household and prevent loan approval

Reasons for group lending:
- can increase the lender's outreach capacity (by using insider information and peer borrower screening)

Table 3.4 Charter

	Recommendations:	Details
NGOs	• upgrade to formal banks[31]	• overcome the lack of professional expertise and business culture as well as small breadth of outreach and restricted savings mobilization
Credit Unions	• strengthen performance	• through changes in the regulatory and supervisory framework as well as technical assistance from international credit union organizations
Banks	• Create new MFIs with clear corporate mission and set of objectives	• avoid traditional banking cultures and attitudes that discriminate small/ micro-lender and to overcome past management mistakes and poor reputation (failed credit programs, government interference)

Table 3.5 Sustainability

	Recommendations:
Productivity of loan officers	• Use performance bonuses for the loan volume handled, the quality of the loan portfolio, the number of low income or remote clients • Staff must be well-trained and motivated
loan portfolio management	• Invest in adequate banking software to computerize accounting and MIS (depending on volume and scope of the financial services, on organizational and operational structure of the financial institution • Integrate loan portfolio monitoring and reporting with liquidity fund management • Respond promptly to potential loan delinquency problems • Take immediate decisions on corrective follow-up actions based on field staff reports; reschedule loans if legitimate reasons for overdue loan repayments exists

[31] Alternatively create a new legal body for supervised NGOs that are allowed to take deposits (discussed in Tanzania).

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Table 3.6 Target Group

Recommendations:	**Details:**
Concentrate on recurring borrowers	• financial transactions costs are lower for recurring borrowers • Build up longer term lender-client relationship to lower costs of obtaining information
Concentrate on financing non-farm, especially trade activities, but extend lending operations to farmers if commercial banks enter the microfinance market and draw away clients	• Trade activities have a high turnover and generate regular income flows (less risky) • Do not lend exclusively for farm activities (because these have less stable production cycles and often present a market seasonality in their revenues) • Costs and risks of servicing groups of urban microentrepreneurs are usually lower than working with small farmer groups.
Select experienced micro-entrepreneur borrowers	• Experienced micro-entrepreneurs with a proven track record are more likely to be successful and to take their loan repayment obligation seriously in the future (less risky than beginners)
Borrowers should contribute equity for the investment	• this increases the borrower's stake in submitting a realistic loan application and promoting the success of the business (especially for larger loans)

Table 3.7 Environment

Recommendations:	**Details:**
Concentrate on the urban/ peri-urban environment, i.e. areas with higher population density	• Easier management of lending costs and risks • Infrastructure and commodity markets are more favorable for microbusinesses • Higher literacy • More frequent relations between bank staff and clients
Extend lending operations into small municipalities	• If commercial banks enter the microfinance market, some of the clientele may shift over to them
provide a favourable economic and legal framework	• Stable macroeconomic policies • Adequate legal and regulatory/ supervisory framework for financial sector development • Deregulation of interest rates • Avoid policy distortions that discriminate against a specific economic sector
Develop coping strategies against unexpected external shocks, i.e. floods, droughts	• e.g. organizational and operational structure, depth of funding sources, specific lending technologies and risk management strategies

Discussant Reaction Paper

Comments on

"Models of Rural Financial Institutions"
by Manfred Zeller

By Calvin Miller
(CARE)

This paper was made possible by support provided in part by the US Agency for International Development (USAID) Agreement No. LAG-A-00-96-90016-00 through Broadening Access and Strengthening Input Market Systems Collaborative Research Su
pport Program (BASIS-CRSP) and the World Council of Credit Unions, Inc. (WOCCU).

All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

The document is good in quite objectively covering various models that are used. While it was not the objective to cover non-institutional models, I was glad to see that Mr. Zeller did touch on non-institutional ones. I did think that the covering of non-institutional approaches was not as adequate as I would like. Hence, on this it may be good to qualify in the document that it is not meant to really address the non-institutional approaches except to indicate that in rural finance the use of non-institutional models is very important and whose enormous value must be recognized. He could also highlight the many non-institutional models and then more fully describe some of them, as he already does in the document (contract farming, and informal ROSCAS are two he describes.)

On page 28 under "microbanks for wholesale traders.....", I do not see why this is microbanks. This could just as easily be banks in general and also credit unions. We could also indicate here, or somewhere, the role of equity finance as one model for rural finance as it is one method of finance. Equity finance can be institutional, such as venture capital groups or companies, or individual. I do not want to propose that a lot be said on this, but I do think it is important that the reader will be able to recognize that rural finance includes equity finance.

I was happy to see the emphasis on savings and savings-led models, including a good recognition of the role and value of Credit Unions. On the discussion of ROSCAS (pg 7), I would like to point out that there are improved and significantly modified ROSCAS such as CARE has done very successfully in many low-income, rural communities. These modifications, for example, allow any member to borrow when they desire, thus eliminating the weakness of waiting on one's turn, etc. I would be happy to provide more info on this if desired.

Also, on page 7 under "Informal moneylenders..." section, the last part that is in italics does not fit the paragraph, as it has nothing to do with rest of the section.

I thought it was good to include the typology chart and I have found people really found it useful when I used a somewhat similar chart I designed a few years back. On the chart, I thought that there ought to be a horizontal grouping of "Non-bank Financial Institution" (Financiera, EDPYME, Cajas, Building Society, etc.) since they are quite important

On the 1st column, I would suggest to take out the part in brackets (e.g. ...) since it is confusing or conflictive. For example, "Village Banks" -- it is best not to single out just a couple of institutions. Also under Microbanks, to mention BancoSol and then on the next column say "individual relationship" when BancoSol used to "preach" and was known for solidarity groups and still uses them, as well as individual, has a big potential to confuse readers. Under Credit Union, the size should say 100 to 5,000+, or something like that, since so many Credit Unions are larger than 100-200.

I pretty much agreed with the Conclusions. There is no blueprint. One could re-emphasize more the issue of risk management and cash flow and business analysis as part of rural finance, especially investment finance.

On pg. 42, on loan size, some things are too simplistic. For example:

- Loan term – provide only short-term working capital; many crops are longer than that and what if they want to buy an ox? We could simply say "start small", which is more correctly hits at the main point. The loan terms in general should likely be linked with the cash flow plans, (which are indicated in the document.)
- Loan use – I'd separate this as a separate point, since an important concept is to look at the loan use in terms of the projected returns, even sub-use. For example, a loan to raise potatoes in the Altiplano is normally not a great idea in traditional systems, but a pre-harvest loan so they can store and sell later can have huge returns and is not risky.
- Interest rates – may want to mention that in rural lending, especially slow-turnover agriculture, that one cannot assume that the clients can afford high interest rates common to urban finance.
- Type of service – the point on de-linking is OK, but to say "credit-only?" what about savings; or equity finance?
- Repayment – weekly or monthly may not be feasible and should be noted. Payment of interest monthly and capital after harvest is another option for rural agr. lending.
- Assessment – good.

Table 3.2 – the "Details" part is confusing as how it ties together with rest. The whole table has marginal value.

Table 3.3 -- the "Details" part in this table needs to reorganize the groups which are out of logical order. The table is not very useful since it has a simplistic approach – group or not, and does not say very much that most readers do not know.

Table 3.4 – I have several problems with this table. NGO to Bank upgrades are not a proven recommendation for rural areas. In fact, a problem demonstrated in the document is that banks do not like rural finance. On Credit Unions, the recommendation is universal, so is not really a recommendation for CUs. For new bank MFIs for rural finance, not sure if one can recommend that since there are so few successes to build the case around, except in high-density, year-around, irrigated agriculture such as Bangladesh and Indonesia. Sorry I was so hard on this little piece.

Tables 3.5 & 3.6 are good

Table 3.7 – if we are to analyze rural finance, then the point to "concentrate on urban/peri-urban" does not fit. The rest of the table is fine.

Summary – Overall, I thought it is a good, solid, informative and quite comprehensive document on a very broad subject.

DISCLAIMER – I wrote most of this on a bumpy airplane, so if some of the points I made seem to be "knee-jerk" comments, blame it on Delta.

Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Discussant Reaction Paper

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By Anthon Slangen
(FAO)

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General Comments

The lead paper of Manfred Zeller is not about which type of financial institution is better or worse for a particular target clientele in a particular environment. Indeed, the author concludes that there does not exist a blueprint for rural finance and he states, in fact, that institutional diversity is desired to enhance competition, outreach and welfare impact. This concurs fully with the views of the rural finance group of the Food and Agriculture Organization of the United Nations, which in its Position Paper on Rural Finance of June 1994 concluded that: ".....there should be a choice of institutions offering financial services competing with each other and the suitability of an institution to prevailing conditions and its acceptability to prospective clients should be the main criteria in promoting different types of financial intermediaries in rural areas".

The importance of the paper lies in the focus it gives to the policy objectives of rural finance policy, which form part of the broader framework of rural development and poverty alleviation as set out in the United Nations Millennium Development Goals. In accordance with the new paradigm of financial market and systems development, the role of public investments is that of supporting the development and testing of new financial products and technologies and institutional innovations (versus the earlier focus in the directed agricultural credit approach on the supply of external credit resources). Donors and governments may decide to follow different financial sector intervention strategies in order to reduce poverty: indirect, by developing an enabling policy environment for economic growth and the operation of viable and sustainable financial institutions (the so-called frame conditions), and/or direct, by supporting financial institutions that are targeted specifically to poor clients. Governments, international development organizations, donors and NGOs in supporting specific types of financial institutions can differ also in the relative emphasis that they give to the objectives of financial sustainability, outreach and impact of financial services (Figure 1 - "Triangle of Micro Finance"). Both trade-offs and synergies may exist between these three objectives.

Specific Comments

1. Renewed interest in rural and agricultural finance

With regard to the three motivations (learning from the lessons of the failed approach of directed and subsidized agricultural credit and the recent changes in the economic environment of developing countries); the continued importance and role of the agricultural sector and rural development in improving food security and reducing poverty; and the success of the micro finance revolution in banking with the poor), it can be remarked that:

- The change in paradigm from directed and subsidized agricultural credit to financial market and system development has not been complete and many policy makers in developing countries and also some donors continue to support supply-led credit, thus undermining financial market development.
- An improved macroeconomic environment and financial sector reform are essential but not sufficient pre-conditions for accelerating agricultural and rural economic growth.
- The innovations and lessons from micro-credit have been important, but micro finance institutions which are expanding their operations to rural areas and agricultural finance face serious limitations and the outstanding challenge to improve and to expand agricultural and rural finance remain large.

FAO and GTZ as part of their rural finance and financial system development work started in 1996 a joint initiative entitled "Agricultural Finance Revisited". Up to now six publications are available in the AFR Series which refer to policies and regulation and supervision, financial institutions (better practices and sources of funds) and client support (enhancing their financial management skills). A seventh publication on agricultural term finance will be completed before the end of this year.

2. Change in Paradigm and Policy Objectives in Rural Finance

The new rural financial market and systems development paradigm does not depart from the assumed needs of beneficiaries (as does the directed, supply-led credit paradigm), but bases itself on the effective demand of prospective clients (i.e. their willingness and ability to pay market prices) for different types of financial services (savings, credit, money transfer, insurance, etc.) both for production (farm, farm-related, and non-farm rural economic activities) and consumption/emergency purposes. While the new paradigm recognizes the possibility of market failures, it does not try to cure all the ills of the small farm and rural households and, instead, it concentrates on improving the financial intermediation. High transaction costs and risks have been identified as the main problems in rural finance and public investments play a crucial role in supporting the development of pro- rural poor financial and institutional innovations which aim at reducing them.

The policy framework for rural and, in particular, agricultural finance is more complicated than micro finance, as the policies which affect agricultural and rural finance belong to three different policy areas: macroeconomic, financial sector and rural/agricultural sector policies. In particular, agricultural and rural sector policies are highly political sensitive, while the three policies are not well integrated and often conflict with each other, rather than being mutually supportive. Policy making is an ongoing responsibility and not a single event that through effective policy dialogue should capture the views of all stakeholders, while monitoring and evaluation of key data will give the necessary feedback to policy makers on the effectiveness and impact of generated policies.

3. Urban-Rural and Farm-Non-Farm Dichotomies

The main reasons for these dichotomies lie in wrong policies (urban bias, cheap food), high transaction costs (density and dispersion of the rural population, poor rural infrastructure, low education and business development skills), high risks (segmented markets, volatile agricultural commodity prices, use of traditional technologies and low profitability of agriculture, covariant weather risks, few risk management mechanisms, inadequate legislation and poor contract enforcement), and poverty and low repayment capacity of targeted clients (small farmers and female-headed households, agricultural seasonality and few income sources, low access to basic needs).

4. Types of Rural Financial Institutions

- Credit projects and development projects with financial services components have had a troubled history in FAO . Main weaknesses have been a lack of assessing of an existing effective demand for financial services, poor project formulation, inadequate administration of financial services and an absence of essential non-financial support services. Due to the use of subsidized interest rates and poor loan recovery most of the so-called project revolving funds have been depleted soon and little has been achieved in continuation of the financial services to the target population after project termination. A main principle has been that credit funds should be administered by interested and qualifying financial institutions (including NGOs) which should be allowed to follow their

standard lending and operational procedures. However, when a bank does not put in also own loan funds, then its commitment will remain minimum. This may change in the case of guarantee funds, but the objectives of additional bank funds (the ratio is often not higher than 1:1) and sustainability are often not attained due to poor design and implementation of the guarantee fund or in case the credit-financed investments are not profitable. Moreover, adequate savings components have rarely been included as a "savings first" approach and this error is often repeated in the new generation of project activities under the FAO Special Programme for Food Security.

- Credit unions, in particular, but also village banks have proven to be important players, although due to the focus on less poor clients and government interventions (the first) and small size (the second), their impact, sustainability and outreach often have been limited. These types of grassroots organizations clearly need horizontal and vertical integration and/or linkages with mainstream financial institutions to resolve their liquidity problems and to reduce high covariant risks by diversifying their loan portfolio. Lack of adequate regulation and supervision and adequate governance and capitalization present other main constraints.
- New types of regulated micro banks are interesting, because they service a neglected middle market of clients who have become too big for micro credit from micro finance institiutions who use solidarity or joint liability group lending technologies but are still too small for commercial banks. The IPC model of micro banks in different parts of the world is intersting, because it is moving also into rural and agricultural finance.
- Agricultural development banks: their options are to reform or to close them. A number of these specialized banks, in particular in Asia, have been succesfully reformed and their advantages lie in large branch networks and well trained staff who are familiar with agricultural and rural finance.
- Trader finance, interlinked credit arrangements and contract farming, which in different forms existed before liberalization e.g. between agricultural state banks and parastatal marketing boards, have taken new and large dimensions in the new market economies in developing countries and is great interest to FAO and publications and studies exist in inventory credit (warehouse receipts), contract farming and trader credit. The main question is what role donors can play.

4. Transferability of Micro Finance Best Practices

Although I recognize the large contributions of the micro-credit revolution, I am less optimistic than Manfred Zeller that the transferability of the micro finance best practices is simply a question of adaptation of current loan contract features to rural and farm households. Main achievements of micro finance institutions have been the reduction of transaction costs through standardization of loan products and lending procedures and increasing the productivity of loan officers (staff incentivesd schemes) and management of credit risks through the selection of clients with business experience and financing initially only the expansion of existing business, delegation of a certain lending authority to field staff, loan appraisal based on cash flow analysis and adjusting of loan repayment schedules to the loan repayment capacity of the borrower, provision of repeat loans and graduation of borrowers, and the use of loan collateral substitutes. Major constraints and outstanding challenges related with agricultural and rural finance are, however, an unmet effective demand for different types of financial services and not only credit, existing frame conditions (unfavourable macroeconomic and business environment, specific sector policy distortions and an inadequate legal and regulatory/supervisory framework), low population density, poor infrastructure (including irrigation), absence of non-financial support services, low economic diversification and availability of non-farm income sources, high covariance of weather risks

and natural calamities, and an incomplete analysis of the comparative advantages between for instance, individual and group lending.

Recommendations and Agenda for Donor Activities

1. Support the provision of different types of financial services (not just only credit) both for production (farm, farm-related, and non-farm activities) and consumption/emergency purposes.

2. Promote the active participation and empowerment of rural people by involving them in the planning and implementation of activities that are meant to improve their living conditions and increase their self-help capabilities.

3. Strengthen the financial sustainability, outreach and impact of a variety of individual financial institutions as well as promote both horizontal vertical integration between them.

4. Enhance dialogue and establish partnerships between international development organizations, donors, governments, NGOs, the private sector, financial institutions, and support organizations to clients for exchange of information, case studies and research, formulation of policies and strategies, and implementation of pilot action plans.

5. Examine the ways of integrate the supply of essential non-financial support services with that of financial services through different provider structures.

6. As a follow-up to main focus of FAO support in the past to agricultural development banks and agricultural credit/rural finance departments of Central Banks and based on the FAO/GTZ Agricultural Finance Revisited series of publications support to member governments and others in the areas of rural finance policies, savings and safeguarding of savings, risk management and insurance mechanisms, new financial products and technologies, different institutional structures, operational procedures, and training.

7. Support better banking in the context of the MicroBanking System training and installation support to bank automation and development of integrated MIS.

8. Support networks of rural financial institutions with development of data basis (Agribank Stat), exchange of information on better practices, research, and capacity building and training activities.

9. Disseminate publications and audio visual materials on rural finance in different languages, convert them in training materials and develop new publications and training materials on identified key themes.

10. Form a partnership with international development organizations, donor agencies and networks on strengthening the capacity building in rural finance (CABFIN) through the development and maintenance of a knowledge management information system on better practices in rural finance and relevant training materials and courses for different target audiences (policy makers, financial institutions and clients).

NOTES

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Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Lead Theme Paper

Innovations in Rural Finance

Innovative Products and Adaptations for Rural Finance

By: Juan Buchenau
(Frontier Finance International)

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I. Executive Summary

The paper is about innovations in rural finance. It presents financial products and innovations which improve the management of these products. It gives some details on products designed to finance farmers, such as agricultural investment loans or loans against warehouse receipts, and on products geared to serve rural households in general that include adapted microenterprise-loans, savings and remittances. It explores innovations in processes based on new technologies like credit scoring or the use of handheld computers in loan analysis and design.

It reviews the characteristics of households and agricultural enterprises as well as the conditions for sustainable development of the financial institutions that serve them. Innovations are evaluated based on their contribution to expanding the frontier of rural finance, either by reducing the transaction or risk costs of the market participants or by increasing the investment capacity of the clients who use them. Based on experiences gained with innovations in different rural settings, suggestions are given to donors, governments and to the providers of financial services on how to decide which innovations to pursue, and on how best to support the process of innovation.

Innovations are exemplified mainly with cases from Latin America and Bangladesh, and to a lesser extent, examples from other countries. Some financial institutions (including microfinance entities) in Latin America and in Bangladesh have been forced to innovate in order to cope with increasing competition. They have been able to innovate successfully and also to undertake failed experiments in part due to the existing support of donors. The conditions for innovation in financial services may differ from those found in rural areas of other continents. Of course, conditions in rural Latin America differ strongly from those in Bangladesh. Most rural areas in Latin America are relatively sparsely populated and depend heavily from agriculture, while rural areas in Bangladesh are more densely populated and thus economically diversified.

In the following chapters, some observations about the usefulness of financial services and about the rural economy are given as an introduction to some innovations which are relevant for rural areas. Examples of innovations are separated into four groups: a) innovations in lending, b) innovations in savings, c) innovations in remittances and d) new technologies which affect several products (such as handheld PCs and Automatic Teller Machines). Some relevant issues on how to design and introduce innovations are then discussed. The paper concludes with a list of suggestions for institutional stakeholders interested in launching or promoting innovations, that is, financial institutions, donors and governments.

To facilitate the reading, references on useful literature and other notes can be found at the end of the document.

II. Innovations in Financial Services

Financial services are useful. They can generate value for the clients who use them. In general terms, their main value is that they make money available for investments or for current expenses at the time and place they are required. Credit, savings and remittances allow the families and enterprises to improve their liquidity management, to finance investments which help them

diversify and or enlarge their income sources, to respond to lifecycle events such as marriage and birth, and also to emergencies which arise from illness, death, natural or economic catastrophes[1]. In rural areas they additionally have an important welfare role as they allow smoothing the funds required for daily consumption in the face of seasonal income.

Financial services are useful to all rural groups regardless of their income. Financial services related to business have an implicit ratio of expense and revenue. Financial services related to consumption are of a more subjective nature, while financial services for emergencies reduce losses and can be a crucial element in survival or avoidance of sustained impoverishment. Families and enterprises making use of financial services benefit if they can generate additional income or reduce their costs by using them. In these cases, the use of financial services generates a gain that arises from the net income generated after the deduction of their total costs of using them.

Innovations create additional value[2] if they reduce households' and enterprises' transaction costs of access to financial services. They also create value if they facilitate larger investments by lengthening term structures or if they create products, primarily loans, improving client's economy by refining the valuation processes. Reducing the cost of access to financial services benefits clients directly; the possibility of making larger investments improves the income and economic capacity of clients; better valuation processes[3] facilitate larger loans to existing clients and engage clients who would not be served otherwise.

The supply of financial services can be sustainable in the long run only if providing them is profitable for the entities which provide them[4]. Profitability allows institutions to invest and grow, supporting their outreach. Profitability is achieved when the total income generated from clients using financial services exceeds the total costs, i.e. financial costs, operational costs and risk costs, by those who provide them.

Innovations in financial products are valuable for the institutions adopting them if they increase their profitability by reducing their costs or increasing revenues. Revenues can be increased by an innovation that improves the institution's competitiveness by serving new segments or by generating additional income in their business with existing clients.

Financial institutions are most likely to develop and provide innovations if they have to compete. In competitive markets institutions have to continuously improve the quality and pricing of their services in order to protect or increase their market share. Competitive institutions are thus always innovative.

However, innovations can be a source of significant costs and risks for their sponsors. Innovations that fail may have significant negative consequences for an institution's reputation and performance if they are large investments that are unproductive or even counterproductive[5]. Innovative institutions will thus not always be competitive.

There are two types of innovations in financial services: 1) completely new products which match the characteristics of the intended users, and 2) improvements or refinements in the procedures used to deliver the services or to design contracts and achieve their enforcement. Innovations can include adoption or adaptation of products already in use in other countries or

regions. Innovations can also be changes to existing products such as supplier loans which are used widely in some countries.

III. The Rural Economy

Rural areas in all countries are immersed in a process of structural change. Agriculture is increasingly losing importance, but is still important for employment and income. This development is caused by the emergence of alternative income sources, both within countries and outside them and by the long-term evolution of international prices. Prices for agricultural products tend to decrease while the costs of inputs tend to increase[6]. Although a large share of the economically active population in developing and transitional countries is still active in agriculture, its importance as an income source shows a steady decrease worldwide, with significant differences between continents, countries and specific areas within countries.

Table 1 Relative importance of the economically active population engaged in agriculture as percentage of the total

	Year			
	1961	1980	1990	2001
Africa	79%	69%	63%	57%
Asia	76%	67%	62%	56%
Eastern Europe	50%	28%	22%	15%
Latin America & Caribbean	48%	34%	25%	19%

Source: FAO; FAOSTAT Database in: http://apps.fao.org/page/collections

These trends show the depth of rural structural change. Together with large migration from rural areas, they translate into significant changes in the economies of rural families, which increasingly make their living from non-agricultural income. As indicated by table 2, which presents data from Nicaragua as an example, families with smaller plots of land depend more on income from wages while those with larger plots make their income mainly from agriculture including livestock.

Table 2 Income sources of Nicaraguan farmers by the size of their plots

	Micro <1.5 ha.	Mini 1.5-3.5 ha.	Small 3.5-15 ha.	Medium 15-35 ha.	Large >35 ha.
Agriculture	32%	57%	68%	57%	39%
Livestock	0%	0%	10%	25%	46%
Wages	50%	22%	13%	6%	4%
Remittances	4%	9%	5%	2%	1%
Commerce, etc.	14%	12%	5%	11%	10%

Source: FAO 1996

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The rural demand for financial services can roughly be divided into two segments, based on different orientation and perspectives:

- The "agricultural segment" is composed of farmers who make most of their living from agricultural activities and who expect to continue to do so in the long run. These farmers have to be able to embrace technological innovations which allow them to stay profitable in an environment in which technological and commercial change improves productivity and influences prices. These farmers, many of whom have larger farms, specialize in a few agricultural enterprises and use financial products suited to the characteristics of their activities in increasingly competitive markets. Within this segment, important differences in access to financial services can be observed: Larger farms usually use services provided by formal financial institutions or by capital markets. In contrast, medium size enterprises usually cannot tap capital markets and in many countries face significant constraints in gaining access to the formal financial sector.

- The "transitional segment" has its main income source outside agriculture or is significantly reducing the importance of agriculture in its overall economy. Most households in this segment, a significant part of the rural population in developing countries, have several income sources, agricultural and non-agricultural, thus diversifying their risks and managing seasonality. "Generic" financial products help this group in their transition out of agriculture. Lower and medium income families included in this segment are usually not served by formal financial institutions, or if served, only to limited extent. Instead, they use the financial services of informal providers like traders, processors of agricultural produce or moneylenders.

IV. Innovative Products

Innovative products can create additional value and expand the frontier of finance if they:

- create access to the formal financial system by groups previously without access;
- reduce transaction and risk costs of the financial services provider or of the clients or both;
- increase the term of loans and of savings, and/or
- provide larger loans to clients by refining valuation processes.

Measures of the contribution of these types of innovations can be considered the main performance indicators in financial progress. These include volume as reflected in number of clients and size of portfolios; reduction of providers' costs or of the transaction costs borne by their clients; and the size and time horizon of loans issued show the extent of their contribution to the expansion of formal finance.

Today, many institutions worldwide are improving their financial services to better serve rural areas. This results in a variety of different approaches which cannot be covered in the frame of this document. In the following some financial innovations will be discussed which are considered to be relevant given that they are promising or that they are being considered by many institutions. After some innovations in lending, innovations in savings and remittances as well as in the area of automation will de described.

V. Innovations in Lending

The usefulness of innovative loan products can be measured by their profitability for providers and for clients.

Clients making use of loans bear direct costs, transactions costs and risk costs. The direct costs are the amounts paid directly to the financial institutions in the form of fees and interest. Transaction costs include transportation costs, the opportunity cost of work foregone on farms and in enterprises, and the costs which arise when gathering the required paperwork or when obtaining somebody's signature as guarantor. Risk costs arise for borrowers if they fail to fulfill their obligations in time as a consequence of unfavorable conditions and when they fail to repay on time and have to deal with the consequences of the lender's collection efforts which harm their reputation. Lending is profitable for them if these costs are perceived to be reasonably less than the expected additional income or the losses incurred, relative to alternative possibilities. Innovations which reduce the total cost of lending for clients increase the demand for loans and expand the frontier of finance.

Providers likewise incur financial costs, transaction or operational costs and risk costs[7]. In competitive markets they are constantly forced to improve the quality of their services in order to protect or increase their market share. Innovations which reduce their overall costs can directly improve their profitability or increase their competitiveness if savings are passed on to clients in form of lower rates and fees. Innovations which increase the debt capacity of clients and provide loans on more favorable terms (e.g., amount, maturity and interest rate) enhance the quality of service while reducing risk costs.

A. Multi-purpose Rural Credit Products

Multi-purpose rural credit products are geared to serving the large portion of the rural population undergoing structural change and diversifying their income sources. This sort of credit is similar to the urban micro-lending products that focus on the household as the core borrowing unit, with a specific subset, which are loans which are granted or rescheduled in emergency situations.

1. Working Capital Loans for Rural Family-Enterprises

The following describes the rural credit products of two regulated microfinance institutions, Caja Los Andes in Bolivia and of Financiera Calpiá in El Salvador.

Both institutions have introduced credit products for rural households, which allow tailoring payment plans to the expected cash flows of individual households[8]. When assessing each client's payment capacity, the future cash income and expenditures of their basket of different economic activities are projected, as are the family's expenditures, to determine payment capacity and to define a payment schedule. In contrast to urban microlending, rural lending

procedures in both institutions take into account that clients may have substantial income from agriculture and that they usually have a larger number of income sources than urban clients[9].

Urban loans are usually repaid in multiple installments, and some rural loans are also of this type. However, rural loans generally have a variety of repayment schedules which include bullet payments (i.e. a single payment of interest and principal at maturity), loans with monthly payments of interest and repayment of principal at maturity, or even loans in which the timing and size of payments are not constant but irregular, based on the borrower's projected seasonal income pattern. These products make it possible for Los Andes and Calpiá to lend to clients with seasonal incomes and to give them larger loans than would have been feasible using the traditional microenterprise lending technology which considers only recurring monthly income when determining payment capacity.

Rural lending requires greater effort to assess and design loans than in urban lending due to the greater complexity of rural households' economies which arises from seasonality and diversified incomes. This and geographic dispersion increases administrative costs. Both entities recover part of these costs through higher disbursement fees on rural loans[10].

Clients value their loans from these institutions. Several surveys confirm their satisfaction with products that are adapted to their cash flows. The value of loan design can be measured by the two main measurements for credit risks which these institutions use and which show that rural risk costs are not significantly higher than in urban lending. The average arrears rates[11] of the urban and rural portfolios of Financiera Calpiá[12] over a period of 5 years are 3.3% for the urban portfolio and of 3.6% for the rural portfolio. Total write-offs during the same period did not show any difference at all, averaging 1% for both rural and urban portfolios[13].

SafeSave has recently pilot-tested in Bangladesh a new rural lending product, which allows flexible repayment of loans: When clients apply for a loan they specify the desired maturity (which may not exceed 12 months) and pay the interest up front. Once disbursed, clients are free to pay whatever amounts they wish to SafeSave's collectors, who visit clients at regular intervals (daily, weekly or monthly). As repayment capacity is apparently not being assessed by SafeSave, loan amounts are very small, but can be increased in subsequent cycles if clients repay as agreed. While risk may be minimized through this approach, it should be noted, that SafeSave may face default when loan sizes grow beyond clients' repayment capacity[14]. So far, one year after the initial introduction of this product, experience seems to be encouraging for future expansion.

These lending products differ strongly from those used by MFI's in other countries. They certainly stand in strong contrast to ASA's standardized loan product which has allowed that institution to reach out to over 1.5 million customers end of year 2002 at a relatively low cost[15].

These institutions do not finance start up businesses, but some clients have used their loans to finance their working capital and that invest their own funds in new enterprises like small shops or to acquire transport vehicles which they use to further diversify their income.

2. Emergency loans

Emergency loans are very highly valued by rural clients. Access to credit in emergencies is an important means of dealing with hardship and stabilizing the household economy of low-income families. Emergency loans are traditionally provided by family members, friends, not to mention

moneylenders. Emergency loans can be used for individual emergencies such as accidents, illnesses or other individual events and disasters caused by natural catastrophes like earthquakes or flooding.

Clients use existing products to cope with emergencies if they have access to short-term all-purpose loans in which the use of funds is not restricted in the lending contract. They may also use their savings. To support their clients in emergencies, some institutions located in areas with frequent natural catastrophes help their clients obtain insurance, and some have also developed specific emergency loans[16].

In Bangladesh, a country frequently affected by floods, microfinance institutions have developed several strategies to cope with such recurring disasters as described in detail by Brown and Nagarajan in 2000. The strategies deal with emergency situations in three different phases: before, during and after the event occurs. Financial arrangements for emergencies are specifically designed for use during these phases: preparedness products and arrangements to be used before the emergency occurs, relief products and arrangements for the phase during the emergency to cope with the immediate effects, and reconstruction products and arrangements to re-establish economic activity and to rebuild housing. The products and arrangements used in Bangladesh in each of the three phases are summarized in the following:

- Preparedness arrangements and products: Floods can be predicted quite accurately, enabling institutions to design their loans so that payments during the flooding season are reduced or avoided. In addition, some entities actively promote investments which may help clients to better deal with floods, such as construction of flood resistant houses and shelters. These investments are financed in Bangladesh by loans from MFIs, some of which draw on subsidies from the state.

- Relief arrangements and products: Most institutions provide grace-periods for loans of clients affected by disasters. In addition, some institutions give small and standardized loans during this critical phase, which help clients cover basic needs. Loans issued during this phase have to be disbursed very fast and may also require a grace period before repayments start. Some lenders have offered this type of loan at reduced interest rates, while others apply commercial rates. So far in Bangladesh, both approaches have created portfolios of a quality similar to the lenders' overall portfolios.

- Loan products for reconstruction: After a disaster occurs, some clients may face the challenge of reconstructing their homes and businesses. Some institutions, especially those which allow clients to have more than one loan outstanding per household or those that offer their client lines of credit, simply offer their regular products. Other institutions with less flexible lending procedures that face a demand for reconstruction loans may have to introduce specific products to finance such investments.

Institutions which have dealt successfully with catastrophic events have done so by determining the impact of the event on each client's situation and by establishing policies to deal with different types of clients. In all cases, successful institutions have considered their clients' repayment capacity in the design of their preparedness, relief or reconstruction products and also in determining whether rescheduling of existing loans is appropriate. They have done this either by generally restricting the amount of loans to small loans within the reach of their target groups

or, as in the following case of Financiera Calpiá, by evaluating each client's individual payment capacity.

Financiera Calpiá in El Salvador dealt with two catastrophes in a short period of time: torrential rainstorms associated with Hurricane Mitch in 1999 and earthquakes in 2001. While arrears rose significantly after these events, Calpiá was able to keep arrears and write-offs in the months and years after these events at a relatively low level[17]. In order to maintain positive credit relationships, clients were divided into four groups:

- The first group were clients who could not repay because their asset base was destroyed. Loans of this group, which was the smallest of the four, were simply written off and clients were referred to external grant programs sponsored by USAID.
- The second group was considered to be able to get back on their feet if support was provided. Their loans were rescheduled and they gained access to additional recovery loans at reduced interest rates. If applicable, families belonging to this group were also referred to grant programs.
- The clients in the third group were not directly hit by the catastrophes but faced a reduced demand for their services. Their loans were rescheduled at a reduced rate of interest and given a grace period to re-establish their business.
- The fourth group was considered not to be affected at all by the catastrophes and was given no special treatment.

At the institutional level, natural disasters have forced many institutions to set up programs to cope with the consequences of such events. Emergency loans for agriculture are common in rich countries. In the USA such loans are made in counties after an emergency declaration by the competent authorities. They are disbursed to finance repair or replacement of damaged or destroyed farm property (real and chattel) and supplies lost or damaged as a direct result of a natural disaster.

While some institutions have developed strategies to deal with natural disasters affecting large groups of clients, only few institutions have set up specific arrangements or loan products to deal with individual emergencies. Most institutions have in fact been reluctant to offer emergency loans for individual emergencies because hardships may reduce the client's payment capacity and thus increase credit risk.

Given the importance of financial mechanisms in dealing with emergencies, it would be desirable if providers of rural financial services could more systematically promote specific arrangements and products that would respond to emergencies. The framework used by Brown and Nagarajan for the phases of preparation, relief and reconstruction can provide valuable guidance in designing such products and arrangements.

B. Products to Finance Agriculture

While generic loans geared to lower income rural households are based on the existence of different income sources, agricultural loans finance production, processing and marketing of enterprises specialized in agriculture. Agricultural loans may be useful to medium-income clients and also for lower-income clients associated in cooperative or other economic organizations.

Lenders financing agriculture have to consider in detail the nature of production and market risks, especially when repayment is closely linked to changes in production and prices of single commodities. Loans for tractors and other farm machinery usually carry lower risk than those financing specific crops on highly specialized farms.

To lock in prices or hedge price risks of tradable commodities, futures contracts or options may be used. Such contracts usually involve minimum quantities of produce that are larger than those produced on a small farm. Hence, they are more suited to large farms. Small farmers may be able to participate through support from private or state entities that bundle their production and contract with brokers at commodity exchanges in London, Chicago or New York, to name the most important. An example of such systems, which are still very incipient, was recently developed in Mexico that allows smaller farmers to access futures markets. It will be interesting to follow this experience and others which may develop[18].

Even if futures contracts are not being used by clients, futures markets may be useful for lenders as they provide information about the probable evolution of prices in the shot term (one to two years, which is usually the scope of futures contracts).

To deal with production risks, lenders financing agriculture may encourage their clients to use index based insurance, which is currently being developed in some countries.[19] Index contracts contain features that make it more feasible than classic all-risk crop insurance, which always requires subsidies that are usually uneconomic. Index insurance gives relief based on climatic factors that affect agricultural production, primarily rainfall. Because index insurance is not linked to the individual production of each farmer, institutions providing index insurance can avoid moral hazard while the costs of verification are significantly reduced, thus reducing premiums.

Futures contracts or index based insurance will in most cases be generated by institutions other than those that provide credit[20]. Promoting their use or selling them to agricultural clients may help to improve the management of specific agricultural risks for both clients and lenders. Some large farm lenders use commodity options and futures as a form of portfolio insurance: if upsets occur, borrowers' repayment capacities are reduced and loan losses may to some extent be offset by gains on options and futures. Lenders are likely to benefit more directly if their agricultural clients use these mechanisms and designate the lender as the beneficiary who will receive the indemnity or gain on futures or options contracts. Lenders may in some cases help their clients to bundle their produce to achieve minimum contract volume or by facilitating insurance contracting.

The required depth of market risk analysis increases with the term of the loans. While short term loans may be designed by projecting seasonal price trends, long term loans have to take into consideration the possible impact of long-term developments.

1. Long Term Loans for Investments

Some important types of investment that improve agricultural production and productivity take several years to recover their costs. Land leveling and irrigation facilities, for example, are quite costly relative to the annual profit they produce. Tree crops may not yield for three and six years after planting. Farm machinery constitutes major expenditures on many farms. Likewise, investments in processing and in marketing infrastructure are important in adding value to raw

materials and in creating rural employment. These sorts of investments are commonly funded by term loans in developed countries, but may be difficult to obtain in poor countries and transition economies. The complexity and the risks of with long-term investments vary accordingly.

In principle, term loans to finance investments face higher risks than short term loans because the probability of an adverse event is more likely as maturity increases. Without suitable collateral and an adequate legal framework, this type of loan poses probably the greatest complexity in agricultural finance. The main risks affecting long-term investments loans are related to the environment in which the investment occurs (i.e. the markets and the conditions for production), as well as to the management capacity of the clients themselves.

The risks associated with long-term loans are also influenced by the purpose of the investment. An investment to increase the volume of existing operations (e.g. by expanding a herd) can be considered as a lower risk than an investment in a new enterprise or for adoption of a new technology. An example for the latter would be an investment in processing facilities to increase the degree of vertical integration of a farm by processing produce, which was hitherto sold unprocessed (e.g. a cheese factory). The experience of the client in managing the investment makes a crucial difference between the two options. The setup and management of a cheese factory by somebody who has never done this before is clearly a higher risk than the management of a larger herd by an experienced owner.

While working capital loans to smaller enterprises are usually based on the borrower's current income, term loans are often based at least in part on the additional income to be generated by the investment itself. This is necessary because the investment can have a profound effect on the structure of costs and output of the farm.

Institutions making long-term investment loans have to deal with the considerations outlined above. Loan appraisal has to assess all aspects of the borrower's business – and often businesses because the household may have several distinct activities underway. What will be the performance and risks of a long-term investment loan? In the following some relevant issues (prices, the conditions for agricultural production, the clients' management capacity and the value of collateral) are discussed.

Future development of prices:

> Long-term investments face a high risk related to future trends in markets and prices. Lenders appraising long-term investments should consider the possible impact of deregulation of markets not yet been liberalized. Technological trends should also be considered as these can affect prices significantly. An example is the introduction of coffee-harvesting machinery in Brazil, which has reduced production costs in that country significantly.

Issues related to agricultural production conditions:

> Agricultural production is affected by problems with climate and the incidence of pests and diseases. Farmers have always searched for ways to manage the adverse effects of these factors, and an important part of investment in agriculture is devoted to managing these risks. Use of improved inputs and investments for instance in irrigation, in

greenhouses or in stables and barns improve the conditions for agricultural and livestock production and stabilize productivity.

While the incidence of pests and diseases can in most cases be managed at some cost, many climatic factors affecting production cannot be controlled. In these situations, long-term investments have to take into consideration the potential effects of climatic variations using historic data. Index insurance may offer a valuable risk management technique that can reduce the risk of default.

The clients' management capacity:

Farm management capacity and skills are decisive determinants of the risk incurred by a lender providing long-term investment loans. Management capacity involves several elements which have to be considered in loan appraisal:

- The first important element is the technical capacity of the client to manage increased production or an investment in vertical integration. The client and the client's employees' technical performance is crucial, especially in the case of loans for enterprises in which he or she has no or only limited experience. If a client does not have the technical capability to manage an investment, the lender may have to impose conditions requiring training or hiring competent personnel.

- A second element is the capacity to deal with new market partners. Lenders should assess where the production will be sold and where the required inputs will be purchased. A long-term investment may result in a significant change in those with whom the investor will have to do business. He or she might have to deal with larger firms or even firms abroad to acquire inputs or to sell produce. Depending on market structure, there may be many or only a few buyers for the produce and/or suppliers for the main inputs. The smaller the number of potential market partners for a certain product or input, the greater the importance that the client undertaking the investment establishes contact with suitable market partners and that he or she even signs contracts which will secure the operation of the investment. This is especially relevant in the case of products which are exported or imported.

- A third element is administrative capacity. Clients making important investments may have to improve their administration and the internal organization of their business. This is especially the case when clients acquire raw materials from other farmers, as in the case of a milk processing facility that cannot be run profitably if it relies only on the client's production. In such cases, records have to be kept on the quantities and quality of milk delivered by other suppliers in order to process payments. The more complex a business becomes, the greater the importance of its internal structure for planning, execution and control, including accounting systems that control costs and revenues and facilitate sound management.

- A forth element is the corporate governance of the client's business. Governance of large firms and cooperative is an important source of risk. When farmers group together to undertake a large investment, issues arise about the distribution of power and the power to borrow. In addition, the performance, stability and soundness of the enterprise have to

be analyzed and the reputations of its representatives have to be verified. Also, the incentives of the different constituencies -- owners, employees and clients – have to be examined.

Value of collateral

The value of collateral for long-term investment loans is an important issue. While enforceable mortgages on land for which there is secure title and a high commercial demand (as for urban plots or easily accessible high quality irrigated land) may be unproblematic, these conditions do not often characterize the situation in rural areas in many countries. Collateral can be problematic. Problematic collateral will have a negative impact on the costs of lending for the borrower, as lenders will have to face higher risk costs and also higher costs in order to properly assess the clients' willingness to pay. The value of collateral in term-lending is mainly affected by two issues: the quality of the legal framework with respect to secured lending and of the institutions participating in the enforcement of applicable laws[21] as well as the value of the good itself.

Constraints in the legal framework may limit enforceability

In developed countries, term loans are usually secured by real estate. For longer terms loans (10 -30 years), the collateral could be the land, a long term lease, or some other land right. However, major problems in the legal framework governing mortgages in developing countries mean that rural land and small plots of land often cannot serve as collateral for loans. In addition, restrictive legal systems that confine collateral to titled land mean that many rural operators cannot use their non-titled land rights as collateral. In developed country rural areas, medium term loans of 4-7 years are often secured by heavy mobile equipment and for fixtures installed on real estate (e.g. grain driers, roasters, silos, refrigeration equipment). However, major problems in the legal framework governing the use of movable property as collateral in most developing countries often makes such property useless as collateral.

Many farmers cannot mortgage their land because land markets are underdeveloped, because lack of title or agrarian reform legislation prevents them from doing so, or because they are renting the land they till. In these cases, only their movable property can serve as collateral. If the legal framework for lending secured by movable property is weak, leasing may be an attractive way of financing farm equipment. The client makes a down payment but the asset remains the property of the lender, who receives a leasing fee. When the contract expires, the equipment usually becomes the property of the client. During the life of the lease, repossession in case of default can be achieved with little or no legal constraints, reducing the lender's costs and risk. As in the case of machinery used as collateral, the usefulness of these arrangements depends strongly on the maintenance of the equipment and on the ability of the lessor to repossess and sell the equipment in the event of default on the lease payments. Tax regulations may increase the cost of leasing significantly, making them more expensive than regular investment loans.

The market value of collateral may diminish in time

Tree crops have limited lives and vineyards, tea stands, machinery, buildings and other fixed assets may deteriorate if not properly maintained. Their market value may also deteriorate as a consequence of adverse developments in product markets, as demonstrated dramatically by

coffee plantations in the wake of the current slump in coffee prices. This effect is less important if an asset can be used for different purposes, as is the case for tractors. This risk may also be reduced by leasing and by service contracts with providers of equipment[22]. Banco del Pichincha in Ecuador has gone even further, establishing a lending scheme for agricultural equipment, in which the bank's loans to clients are co-financed by the equipment suppliers. These types of measures provide strong incentives to reduce the risk of poor maintenance. The riskier is the taking of collateral, the less impact will collateral have on the terms of credit.

The depth of assessment of each of these issues will vary depending on the size of the intended investment and on the expected maturity of the loan. Once loans are granted, lenders have to follow up the performance of such investments, especially of the larger ones or those that are the most complex.

As with other types of loans to farmers, long-term investment loans will bear a lower risk if they are undertaken by enterprises having diversified income sources: The more specialized an enterprise, the higher the effect of adverse events.

Experiences with long-term investment lending[23] show, that the more entrepreneurial clients highly value the opportunity to make investments. In some cases they require additional assistance from external advisory services that can prepare investment plans and help carry them out successfully. Usually, investment loans have to be supported by additional short-term loans for working capital. Interest rates also influence the expected performance of the long-term investment loans. Differences of just a few percentage points can affect the feasibility of loans with maturities above 3 to 5 years. The higher the rate and the longer the term of the loan, the greater is this impact.

2. Warehouse Receipt Loans

Storing grain is one of the oldest forms of savings in rural economies. Families set aside part of their production for later consumption or for later sale in order to achieve a higher price. Storing grains is risky because produce can be harmed by pests and diseases and because prices may fall significantly below the expected levels. Storing produce successfully requires detailed knowledge, which is one reason why specialized, professionally managed grain storage warehouses have been established in many countries. Farmers who deliver their produce to these facilities obtain a warehouse receipt documenting their claim on the goods in storage, and pay a monthly storage fee. Farmers can decide when to sell their produce, and in some countries they can obtain loans backed by the stored grain as collateral.

Lenders making storage loans focus on the technical performance of the warehouse and on projecting realistic future prices[24]. To work properly, this system requires trustworthy warehouses supervised by an independent state or private board which enforces compliance with a set of standards for determining the quality of produce delivered for storage and for assessing the storage management.

Loans backed by warehouse receipts in a well-supervised system require little assessment by lenders and can be issued to all sorts of clients, without further investigation of their repayment capacity. They provide clients easy access to loans which they can use to finance new production cycles before the last harvest has been sold. The relative ease with which loans backed with

warehouse receipts are granted contributes significantly to the deepening of the market in areas in which lending to farmers is considered a high risk proposition.

In spite of these positive considerations, the potential impact of loans backed by warehouse receipt is constrained by:

- Lack of clearly defined standards for storable products.
- Lack of trustworthy warehouses in rural areas.
- The minimum quantity of produce required for the issuance of a warehouse receipt often exceeds the production of small farmers. Small farmers have to form groups to bundle their production, increasing their costs of storing produce.
- Loans against warehouse receipts are short term and may be small relative to the debt capacity of farms or farm households.
- Legal conflict with the more important pledge against the future crop is common and must be avoided in well-designed legal reforms.

Valuable experiences with the use of warehouse receipts include those of ACDI/VOCA in Bulgaria; of CECAM in Madagascar, and of the Natural Resources Institute in Zambia[25].

3. Linking agricultural production loans with traders' services[26]

Rural traders who supply agricultural inputs, grocery stores and firms processing agricultural inputs are the most important providers of credit in rural areas, with the possible exception of moneylenders in some countries. Their financing services are usually related to their trading business, and loans are given mostly to well known clients. Loans by these providers are often provided in kind, in the form of agricultural inputs, and they are repaid with the debtor's produce.

Lenders who also process or market agricultural produce offer these types of arrangements with two objectives: one is to secure the supply of local produce for their trading or processing business. The other is to earn income from lending. Income from lending is often not only from the interest rate charged on the amount lent, but also in the form of higher prices for the inputs purchased or of lower prices for the produce sold. Given that the actual costs of lending are in most cases not transparently disclosed, borrowers using these loans may be paying very high prices for such services. Studies in different countries[27] show that the effective lending rates in such contracts decrease significantly in more developed areas where traders compete for clients. It can be assumed that the effective interest rates will decrease, or that such arrangements may even phase out, if farmers can tap other sources of credit which may allow them to sell their produce freely. Unfortunately, the willingness to supply credit often goes up with monopolistic or monopsonistic positions of traders because they have confidence the farmer will repay because the dealer can cut off supplies or sales if the farmer defaults. [28]

In order to lend to large numbers of farmers and to secure produce, processors and agro-industries use local traders as middlemen. Local traders usually serve a small number of clients with loans, namely those whom they know and about whom they can gain precise references. Given their limited capacity to estimate risks outside of their area, they remain restricted to the

areas and clients they know closely and who represent a lower risk. This results in small portfolios and with few economies of scale.

Debtors in these types of arrangement gain access to loans but often lose their ability to choose where to market their produce or that portion committed when the loan was obtained. This loss can be significant in monetary terms if the prices paid by the lender are significantly lower than those of other buyers. The loans they get are often small and mostly limited to the purchase of agricultural inputs and possibly family expenses.

Given the advantages arising from traders' knowledge of rural clients, some financial institutions have attempted to link their services with those of these traders. In principle, this linkage can occur at two important points of the lending process: 1) at the moment of disbursement, when loans are disbursed in kind or in cash through local traders, and 2) at the moment of collection if loans are collected by deducting the amount due from the payment for the client's produce sold through traders and processors. In the first case, clients benefit as they can obtain loan funds through outlets that are convenient, while the institution gains the benefit of a bigger net of outlets. In the second case, institutions benefit from reduced collection costs, and also reduced default costs because payments are deducted at source. Clients benefit through the time saved from not having to go to the lender's office to repay their loans. Traders or processing industries participating in such tripartite arrangements may benefit, as they do not have to provide production loans to their clients, freeing funds for alternative profitable uses. As before, these systems work better the less competition there is in the dealer market.

Disbursing loans via suppliers of inputs may be feasible if these businesses keep trustworthy records. Financial institutions linking up with traders have to set up suitable controls in order to source out this sensitive part of operations. So far, best practices seem to indicate that these models may work well if electronic point of sale (POS) devices can be set up at the traders shops, like for instance the ones used by Financiera Trisan in Costa Rica which use smartcard technology to store and process information.

Another example worth of further analysis is the Kisan Credit Card Scheme implemented by the National Bank for Agriculture and Rural Development (NABARD) in India. This institution has already issued since its inception in 1998 several million Kisan cards and clients can use them to pay for agricultural inputs and also to access cash by using withdrawal slips. The credit limit is based on operational land holding, cropping pattern and scale of finance. Collateral ranges from the sole credit agreement in the case of small loans to the Hypothecation of crops and mortgage of land (or) third party guarantee in the case of large loans. Drawals have to be repaid within a maximum period of 12 months[29].

Disbursing loans to farmers supplying processing plants and recovering these loans via these enterprises poses a different challenge for financial institutions. In such cases, clients' payments for loans are withheld by traders from the amount they would pay to producers for raw materials delivered by the institution's clients. Such arrangements may work well, if only one suitable specialized marketing channel for agricultural produce exists, like is the case with sugar factories, which require large investments to be set up. They may also be feasible, if borrowers commit themselves for whatever reason to one of several marketing channel (like in the case of marketing channels for organic produce) and if his commitment may be considered to be stable. If borrowers face different options to sell their produce, loan repayment in the described form

may not be feasible at all, as the freedom to choose among different marketing options at the time of harvest may be an important issue for farmers' incomes.

In any case, financial institutions teaming up with processors in collecting loans granted to their suppliers have to assess the soundness of the processors' enterprise. If this is not given, lenders should back from this kind or arrangements, as liquidity problems affecting the processor might lead to a delayed repayment of loans or even to the default of large numbers of borrowers.

In more advanced systems, banks circumvent many of these problems by taking the portfolios of the dealers as collateral for the loan. Dealers, in turn, may sell unsecured or may take the pledge on the future crop of the farmer, the pledge of a warehouse receipt, the equipment of the farmer, and even, in well designed systems, land rights even where the farmer does not have title. In such a system, banks do not depend on the monopoly position of the dealer but, rather, the overall performance of his portfolio. Such a system requires a major overhaul of the legal system[30].

C. Innovations in Lending Procedures: Credit bureaus and Credit Scoring

Innovations in lending procedures can comprise any of the different steps of the lending process. They can affect the way, in which potential clients are detected and in which they are informed about the characteristics of the credit products, which an institution has to offer. They can also improve the process, by which loan applications are evaluated and the loans are designed and they can improve the way, by which loans are disbursed and recovered. Innovations can affect several procedures at a time and allow institutions to reduce their costs while improving the quality of service to clients.

Institutions detect potential clients and promote their services using a wide array of means, ranging from mouth to mouth dissemination to the use of telemarketing and publicity campaigns in the mass media. One main objective of these campaigns is to access those potential clients, who may have interest in using the available lending products and to give them core information about how the advertised lending product may be used profitably.

The significant decrease in lending costs achieved in developed countries with the use of credit bureaus and credit scores has induced donors, practitioners and consultants to assess and promote the use of such instruments to enhance credit processes in developing and transition countries. Some networks of MFIs have engaged in extensive research about credit scoring, while credit bureaus are being established and promoted with donor support in several countries.

As credit scoring is being undertaken in developed countries in many cases by the credit bureaus or with information provided by these, the presentation of both mechanisms includes some references to the synergies which are achieved when using both instruments together.

1. Credit bureaus

Credit bureaus are public or private firms[31] using large databases containing the history of financial transactions of individuals and firms of all economic activities. These histories are used by lenders and insurances in order to assess applications of potential clients in different ways,

depending on the lender's or the insurance's criteria which are usually reflected in scores. Credit bureaus differ with respect to the scope of information they gather and also to the sources they refer to[32].

As for the scope, the main differences are if a bureau only gathers basic information about each client (name, gender, age, address) and about their credit transactions or if it also collects information about employment, income, the use of checking, savings or other deposit accounts. Differences also arise in the extent of information gathered about credit transactions: as some bureaus do report only loans in default while others also include information about loans repaid in time.

As for the sources, some bureaus concentrate only on transactions with the formal financial system, while others include information provided by traders, especially those which sell consumer goods on credit and even by cell phone companies. Public bureaus usually collect information from regulated financial institutions while private bureaus contain information from all type of providers. Entities reporting to credit bureaus are usually also users of the information provided by that specific bureau. To participate, each entity reporting to a credit bureau has to commit to a set of rules, which allow guaranteeing the accuracy and thus the trustworthiness of the credit bureau's database.

Credit bureaus fulfill for lenders two important functions: They allow appreciating the risk which is incurred when lending to a specific individual or firm and they help enforce the repayment of the loans. The more complete the information in a credit bureau with respect to its scope and the number of information sources, the more comprehensive the analysis which can be performed by a lender. Repayment of loans is enforced by credit bureaus by making an even temporary breach of a lending contract become public. When such information becomes public about a client, other lenders may restrict lending to him or her or they may increase the interest rate charged for loans to this individual, who is now perceived as a higher risk. The higher costs of lending or the exclusion from further lending sets for clients a strong incentive to repay loans in time.

2. Credit scoring

Scoring is widely used in developed countries to assess repayment risk. It is based on the assumption, that the past performance of the different client segments is a valuable tool to predict the future repayment patterns and even loyalty to a given institution. As such, credit scoring analyses the past performance of different client segments and tries to predict future repayment based on this information[33]. In the United States, credit scoring, based on the extensive databases with individual credit histories available through the three major credit rating agencies[34] is used as the sole tool to select potential clients and to determine whom to lend and whom to reject. Scoring and additional information on the applicant's income is also used to determine loan size and to determine the interest rate charged to each client.

Credit scoring in a management tool which consists in two basic steps: 1) the statistical assessment of the variables affecting the performance of portfolios with respect to different indicators, and 2) the construction and use of a decision-oriented model to predict the future performance of these indicators for single clients or client segments.

a) Statistical Analysis

The statistical analysis of credit databases is a useful tool to determine the relationship between repayment conduct or customer loyalty on one side and different indicators. Statistical analysis can be performed for a single institution or for a group of institutions.

Statistical analyses performed on data from several institutions allow establishing the relationship between the specific characteristics of clients, like gender, age, marital status, income source or level of income and their repayment conduct or loyalty. This type of data is the one most used to set up the credit scores described further down. While a clear relation between gender, marital status, age, or size of the family on one side and default on the other has been reported in many countries[35], the relationship between income source and default seems to be less clear. Conditions in developing countries and especially in rural areas can be such diverse and instable for different economic sectors, that a general pattern of repayment conduct with respect to income sources cannot be established. Unstable conditions arise from changes in legislations and in state interventions in markets which can affect the profitability of economic sectors as a whole this distorting the results of statistical analyses.

Analyses performed on data from a single institution may also give insight about the performance of portfolios depending on the management of different (regional product related) units within an institution. An example for this, second, use of statistical analyses is the analysis of default by branch or by loan officer, which sheds light into their performance in lending and which allows to set up specific policies and to follow up on their results. Analyses performed on data from a single institution may also help to establish the usefulness of some of the criteria used to assess and design loans. In this sense, it may for instance be useful to break portfolios down by level of indebtedness and to assess, if there is a relation between this indicator and the level of default and to determine policies accordingly.

The statistical analysis of a given portfolio can be distorted strongly by the performance of the units administering it. If, for example, the quality of housing portfolios in a given country were compared with that of agricultural portfolios, it can be expected, that the housing portfolio would show a better quality than the agricultural portfolio. While the risk may indeed be lower in housing, the figures may be strongly distorted as the housing portfolios may have been set up and administered in a proper manner by efficient institutions while the agricultural portfolio may have been administered by politicized public agricultural lenders with deficient procedures for the disbursement and collection of the loans. A similar situation may apply within an institution, as some units may be better structured and have better procedures than others[36].

If used as an assessment tool, the data generated in the statistical analysis of the portfolios can be used to fine-tune credit management; it can help to make situations like the mentioned above evident.

b) Scoring

Setting up a scoring scheme to predict future repayment conduct or loyalty can only be undertaken if accurate information exists for large numbers of clients over several years. Setting up a scoring scheme requires specialized expertise as the existing information has to be assessed

using statistical models and mathematical forecast models have to be set up. Given the shocks and deep changes, which affect the economies in developing countries and especially their rural economies, scoring in such countries can only be used to determine the general trends in repayment behavior. It may not be used, as in developed countries, to give a forecast of the probability of default.

But if credit scoring is used together with credit bureaus having extensive and accurate information, promising results may be achieved in reducing transaction and risk costs, as lending decisions can be automated and as repayment is reinforced. If the databases are not extensive and repayment is not being reinforced by efficient credit bureaus, the potential of scoring is more limited.

To predict repayment performance, the largest possible set of relevant information about each specific client should be used. This imposes an important restriction on the construction of scoring models based on the information of single entities, which usually will not have complete information about single clients.

Given the fact, that credit scores in developing countries and especially in rural have only a limited capacity to predict the future repayment behavior, this tool should not be *yet* used as the sole decision instrument to evaluate loan applications of rural clients[37]. Relying in credit scoring as the sole instrument to assess microcredit borrowers in developing countries can indeed be a significant risk, as demonstrated by the recent bankruptcy of Chilean consumer finance companies in Bolivia which relied mainly on this technique. In spite of this, the use of in depth statistical analyses and credit scoring as a tool to better understand clients and to reduce the costs of lending seems to bear some promise and the results achieved by institutions[38] currently experimenting with this technique should be followed closely.

VI. Innovations in Savings

Saving helps rural clients manage emergencies, prepare investments and smooth consumption. Savings for rural and urban clients is risky: savings in the form of cattle is subject to diseases and accidents, savings in gold invite theft, ROSCAs may be subject to unsound management, and banks may become bankrupt. Therefore, savers give the highest priority to security when deciding where and how to save.

Savers preferences with respect to liquidity and return[39] depend on their current situation and expectations. If they want to accumulate funds to fulfill a long term goal, they will give return priority. If they require funds for emergencies, they will give priority to liquidity. In all cases, clients value convenience of access.

By collecting savings, financial institutions diversify their source of funds and gain access to a potentially large supply while giving clients a valued service. Savers usually outnumber clients taking loans, expanding an institution's client base. Experience gathered about a client's savings pattern provides valuable information which may help to serve him or her other services. Although collecting savings from the public may be expensive, recent analyses suggest these may not be unreasonable expenses[40].

Institutions collecting savings have a high responsibility to ensure the security of their clients' savings. Given the risk to depositors, most countries restrict the business of collecting savings from the public to supervised financial institutions. Supervision and deposit insurance are intended to reduce the risk savers face. NGOs usually are not allowed to collect savings due to the weakness of their corporate structure: in contrast to private financial institutions, NGOs do not have owners whose equity would be at stake if the institution fails or who would be in a position to inject more capital into a faltering institution.

Saving requires clients to make a special effort. Money has to be diverted from consumption, sometimes from basic consumption. Savings is not easy and many savers value institutional ways that help them enforce their decision to set money apart.

Innovations in savings can produce a wide variety of products (for some of them see Branch et Klaehn, 2002) which provide specific incentives for clients. In the following, two important innovations in savings relevant for rural areas are discussed: the outsourcing of savings collection to groups and external entities and SafeSave's flexible savings product.

A. Outsourcing the collection of savings

Different institutions in Africa, Nepal and other countries have initiated experiment in collecting savings in sometimes remote rural areas with support of indigenous local organizations[41]. In these schemes, local groups are set up, which perform locally the administrative task of collecting the savings for the financial services provider, which can be a cooperative or financial institution allowed to mobilize savings. The clear advantage of such schemes, which in many cases are run on a voluntary basis, is that they reduce transaction costs and add convenience for the members of the local group, who are thus enabled to take advantage of this important financial service.

While small local organizations collecting savings may have a simple structure and can be run by relatively low-skilled personnel, requirement to the administrative capacity increase with the size of the groups and, especially, when groups are allowed to lend on funds, i.e. when funds are not simply colleted and delivered to the financial institution. While the operations of smaller groups collecting savings may be supervised and controlled with relative ease, larger and more complex units may pose a significant challenge to the internal control mechanisms of the financial institutions with which they operate. The requirement for additional control of personnel not directly employed by a financial institution may pose a significant risk factor, which may endanger schemes as the one presented. This risk may harm the financial institution's reputation even in such cases, in which it is not directly involved in the supervision of the local scheme, as clients will tend to identify the group with the institution.

B. SafeSave's flexible savings product

A very interesting scheme that combines savings enforcement with flexibility is SafeSave in Bangladesh. This scheme was established in urban areas and is being tested in a rural setting. It was designed to serve people at the lowest income level. Its operation relies on local collectors

who visit their individual clients every day to collect savings and/or repayment of loans and to make withdrawals.

Matin describes the operation of the product as follows:

> "At each daily visit, SafeSave clients may save as much as they like (including nothing) or withdraw as much as they like (up to the limit of their savings balance). Balances which build up over the long term are rewarded with interest at 10% a year, payable after five years. Clients may also take a loan and use it for whatever purpose they choose. The maximum permitted value of the loan is determined by their savings balance and their previous history with *Safe*Save, in that clients may borrow an amount equal to their current savings balance plus a further amount that grows with each loan. Loans do not have to be repaid according to a fixed schedule and there is no fixed maturity term. If they wish, clients may repay any amount during the daily visits, or choose to repay in a lump sum. If they choose to repay in a lump sum they may, if they wish, do so by deducting the sum from their savings balance, provided they repay the loan in full. The only 'compulsory' requirement is that monthly interest charges on loans (at 3% per month calculated on the declining month-end balance) must be paid monthly."

As with lending, savings services provided by financial institutions can be enhanced by new technologies: ATMs add convenience for clients if they can be used to withdraw and deposit funds to savings accounts. Handheld PC's used by collectors in the field may improve the administration of savings collection from groups.

Linking savings and credit can be desirable for lenders and clients by reducing the screening costs of lenders and lowering the financial costs for clients. The trade off is that investments have to be deferred until the savings target is met. At that point credit becomes available. These products have been used successfully in housing.

VII. Remittances

The phenomenon of remittances is closely related to the structural change affecting developing countries, especially rural areas. One or more members of a family migrate abroad and support those staying home by sending small amounts of money every month or in response to emergencies or special opportunities

Remittances involve two types of clients: senders and the recipients. Experience in Latin America[42] shows that senders are more prone to send remittances home in the early years following migration. Once migrants settle in the new environment the links to their home country are weakened, especially if they succeed in bringing their family with them. But, migrants are reported to send larger amount home as their economic situation improves.

On average, Latin American migrants send between US$100 and US$500 per remittance, around 7 to 8 times a year. The number of workers migrating worldwide is estimated by Orozco, 2003 at 200 million per year, and an estimated US$100 billion is remitted per year. A market for remittances has developed in which money transfer organizations compete with formal financial institutions and with informal channels.

The innovations that are emerging bring down the costs of sending remittances and link them to other financial products, for both the senders and their relatives who are the receivers. Studies undertaken by Multilateral Investment Fund show that the cost of remittances decreases as markets mature. These markets become more competitive the longer the traffic from one country to another. In the early stages of a migration stream from one country to another, remittances are usually sent through informal couriers or non-financial money transfer organizations (MTOs) at relatively high cost. With time, as formal financial institutions (in some cases from the senders' home countries) enter this market, competition increases and costs decrease.

This trend is boosted as migrants learn more about their options, and as illegal migrants obtain legal status. Illegal migrants tend to be loyal to informal remitters and to MTOs, which do not require that a remitter identifies himself when sending money, protecting their anonymity.

The relatives receiving remittances are mainly the parents or children of the remitter and are dependent on remittances or on some other relative. They use these funds for consumption, and to lesser extent, to invest in housing or in family owned businesses that may be operated by a migrant who later returns to his or her native land.

Some financial institutions are experimenting in targeting loans and savings products for senders and receivers of remittances. While savings products may be unproblematic from the financial institutions' vantage point, lending products repaid through remittances require special arrangements. Income and the stability of a remitter living abroad can be difficult to assess, especially, if he or she is illegally in the host country and/or if a stable employment contract is not available. Institutions lending on the basis of remittances often require a mortgage lien on suitable property in the country in which they operate.

Banco Solidario in Ecuador[43] has designed a program named "My Family, My Country, My Return" which serves Ecuadorian migrants in Spain. It provides loans to clients migrating legally to Spain who already have employment there. This product pays for the trip and settling in expenses, and also provides savings and loan products for housing and business purposes. One salient feature of the scheme is that it allows clients in Spain to manage their money from there by designating how the amounts remitted should be used, for savings or to repay loans, for example. Relatives receiving remittances are able to collect the funds sent to them using a Smartcard issued by the bank in Ecuador. Similar programs have been set up by private banks in El Salvador and elsewhere.

Experience in different institutions suggest that receivers of remittances through cooperatives in El Salvador save up to 10% of the amounts received, and that about 37% of the families receiving remittances deposit some portion[44]. This figure contrasts sharply with central bank's estimate that only about 1% of remittances are being saved.

Clients receiving money from relatives abroad seem more willing to leave part of their funds in an account with the institution through which funds are received, but only if they have convenient access to the money. This effect occurred in MEB Bank in Kosovo after the introduction of an ATM system and it has also been reported by cooperatives in Latin America.

VIII. Technological Innovations

A. Use of Handheld PCs

While computers are now widely used to manage credit portfolios, some institutions[45] have started to use handheld PCs and Palm Pilots to make their loan officers more productive by improving data gathering and approval of small business loans in urban and rural areas. Information about pending applications as well as about loans in default is downloaded from the main computer of the institution into the device, thus providing the loan officer with an overview of work to be done and allowing her to better organize his day. To improve processing of the loan applications, these devices are programmed to collect information in a structured way considering, as in the case of the Mexican MFI FINCOMUN, the characteristics of different types of businesses. The loan officer using these devices can compare a client's indicators with those of similar clients, permitting a more rapid preliminary assessment of the probability of approval of the loan application. Furthermore, loan officers can track the client's history by downloading this information, permitting consideration of past problems and their implications for potential problems.

Handheld PCs can reduce the costs of lending if they improve productivity as described above, reducing paperwork, performing calculations automatically and eliminating manual copying the client's data into the lenders' computer. They can furthermore improve the quality of the information gathered by inducing loan officers to obtain complete information on the clients' businesses in a structured form.

Introduction of these tools requires careful programming, especially in gathering information on clients. Pre-programmed electronic assessment forms define a structure for the analysis which may prove incomplete or even misleading if programming does not consider the relevant issues that have to be addressed in this step[46]. In contrast to the paper forms used to assess clients' businesses and farms, which can be rather flexibly used and modified to keep record of special situations, the credit assessment programs of PCs are rather inflexible. Using handheld PC's to assess the clients' repayment capacity introduces a new step into the lending process, namely programming, whose performance can affect the quality of portfolios significantly.

SafeSave began a pilot project in 2002 that used Palm Pilots at one branch to manage the collection of savings[47]. Collectors of this institution perform monetary transactions with clients (be it deposits, withdrawals or payments to loans) at their place of residence and register these into the device and into the client's passbook at the moment they occur. At the end of the day, the information is fed into the institution's central information system in order to update all accounts. By doing this, SafeSave has reduced the use of paper and has eliminated about half the amount of time needed to register this information manually. In spite of the fact, that the innovation results in significantly higher costs than the previous system[48], SafeSave has a positive view of it. The main advantages perceived are the possibility of significantly improved internal control (the fieldworker is required to enter the savings account balance from the passbook), the possibility to introduce a greater flexibility in product management in the field.

Institutions introducing this technology seem to have had positive experiences with this tool. While loan officers accustomed to paper forms had some difficulties adjusting to the new tool, newer loan officers who never used paper forms have adjusted easily to it.

B. Automatic Teller Machines

Automatic Teller Machines (ATMs) are used worldwide for financial transactions. ATMs permit clients to withdraw funds with credit or debit cards; they enable them to make deposits to their accounts and in some cases even to transfer funds between accounts. ATMs are very convenient for clients, reducing their transaction costs. They can avoid lines, and can use ATMs at any time. If the provider has a large number of conveniently located ATMs, clients have greater convenience and lower transaction costs. Given the convenience of these devices, some institutions have introduced target group adequate ATMs to better serve their clients and to gain a competitive market advantage.

Introduction of ATM services implies major investments and a major change for institutions engaging in it. They have to use a processing center to process transactions in real time around the clock. A processing center is a system that authorizes and stores card-based transactions initiated at ATM's or at point of sale (POS) terminals. The processing center may be established by the institution itself or may be set up by an external provider that serves several financial institutions.

The complexity of the introduction of ATM services is exemplified by the following excerpt from an internal document of MEB Bank in Kosovo[49]:

> In order to manage the ATM system, the institution has to supply updated information on clients, accounts and cards to the processing center and update their accounts with information provided from the processing center. In addition to this, the introduction of a card-based transaction system requires an interface between the bank's core banking system and the processing center. This interface should at a minimum support the definition of cards and client-account-card relationships, as well as the importing of transactions authorized by the processing center. To enable card-based transactions, a bank needs to issue cards and PINs (personal identification numbers required to access ATM services). Finally, the set up of a card-based transaction system requires a network of devices (ATMs and POS terminals) that accept cards and a Wide Area Network (WAN), which links all financial institutions (in MEB's case decentralized branches) and devices to the centralized processing center.

PRODEM, a regulated microfinance institution operating in urban and rural Bolivia, has introduced Intelligent Teller Machines or ITMs which use smart cards. Unlike traditional automated teller machines, PRODEMs ITMs can recognize the client's fingerprint. Clients can furthermore choose among the three languages in Bolivia (Aymara, Quechua or Spanish) so that instructions are spoken in the one in which they feel most comfortable. Clients who are not skilled in reading or writing do not have to worry about filling out forms or signing their names. In addition to providing a convenient service, PRODEM stresses that this innovation has improved internal control by making fraud more difficult.

Financiera Trisan, a finance company in Costa Rica has introduced a smart card to disburse loans to their clients at POS terminals[50]. As Trisan has traditionally targeted farmers as their main clientele, these are located in the premises of retail suppliers of agricultural inputs and at other merchants' stores. While new clients have to make monthly loan payments on their card, those with an established track record may pay off their balance in a single (balloon) payment at the time they sell their produce. Clients welcome this innovation and convenient access to their funds, as their fast acceptance of this service shows. Rural clients benefit especially because they are sometimes unable to visit their financial institution during its opening hours, increasing their transportation and opportunity costs.

The two institutions do not report significant difficulties once their system was introduced. MEB Bank has an ATM processing center of its own. It made a very smooth introduction of POS terminals at merchants' locations and also added other card products once the core system was in place. In addition, MEB Bank clients have significantly reduced the amounts withdrawn per transaction because access is so convenient, leaving larger amounts in their accounts.

IX. Design and introduction of Innovations in financial products

Innovating in rural finance is, as any form of innovating, a process which is challenging and which may be very rewarding, if success is achieved. Innovating generates always costs and it may, sometimes, also generate revenues. The chance of innovations generating revenues depends on good ideas, a careful design and on a close monitoring of costs.

Design and introduction of innovative financial products is a learning process requiring a series of steps. It is a gradual, process of learning-by-doing in which information and experience is systematically gathered and incorporated into the design of the innovation. It requires successive adjustments and fine-tuning as initial assumptions are reviewed in light of the acceptance by the targeted clientele and the incurred costs. These steps are briefly outlined and conditions for success are listed below.

Design and introduction of a financial innovation usually starts with identification of potential market niches which are not yet served or of improvements which could reduce costs or increase an institution's competitiveness. These observations may be suggested by clients or by employees, who know about the operations of other suppliers (formal and informal) or from knowledge of technological innovations. They may also arise from managers or owners searching for ways to improve outreach and profitability.

Innovations can be larger and quite complex (e.g. when a new product is launched or when institutions open up their services to new segments of the market). They can also consist of smaller improvements (like changes in the procedures used to determine the creditworthiness of clients applying for loans), which are not noticeable to clients or to the institution's administrative staff but which may have a profound impact on an institution's performance. Successful institutions consistently undertake both types of innovations.

The likelihood of success of an innovative process crucially depends on the energy which an institution focuses on it: The better an intended innovation serves the strategic objectives of an institution and the stronger the governing bodies of that institution commit themselves to a

specific innovation, the better the output of the innovative process. Such commitment to a specific innovation produces adequate funding and staffing, and equally important, close monitoring of results against the intended objectives.

In all cases, innovations thrive best in innovative institutions, i.e. in where innovation is highly valued and where successful innovators are rewarded. Innovative institutions give innovators freedom to make mistakes and they also take care that such mistakes do not have fatal consequences. Innovative institutions provide funds for innovating and promote intense communication between those innovating and other stakeholders including clients.

Innovations are more likely to take place in a competitive environment, as competing institutions will search for ways to increase market share. The more institutions have to compete for a specific market, the more they have to innovate. The better an institution's portfolio of financial services matches an existing demand, the greater its competitiveness.

Innovation requires two key elements: inspiration and hard work[51]. Both have to be present throughout the process, which can be subdivided into two major phases: the discovery phase, and the design and development phase.

A. The phases of the innovation process

1. Discovery phase

Innovation usually starts with someone's desire to improve the performance of her or his institution or to better serve clients. This wish and a certain receptiveness or open mindedness regarding new ideas, a kind of acuity, characterizes the discovery phase.

During this phase, inspiration occurs. Although incentives can promote the surge of innovative ideas, it is not feasible to plan or force their emergence. It is easier to find and discuss suitable ideas if the different stakeholders who could benefit or be affected are invited to bring them forward and if they are seriously evaluated. The more people involved in this disorderly process, the likelier it is that coincidences and serendipity may lead to useful paths to explore which may lead to success[52].

2. Design and implementation phase

While the discovery phase is of an inspirational nature, the development and introduction phase should be undertaken in a logically planned form. The main steps which should be undertaken to develop and introduce innovative ideas are as follows[53]:

To begin, current practice should be reviewed, as rural finance innovations are often adaptations to existing products and procedures. Sources of relevant experience are: a) the form in which local, informal providers provide similar products; b) the operations of institutions serving similar or other markets and c) similar innovations serving customers who are different from the

ones to be targeted by the innovating institution. Products and procedures used by local providers and those used to serve other, wealthier or more urban, segments of the population can serve as guidance in assessing the feasibility of an innovation and in preparing its design. Products and procedures already in use in the markets targeted by innovator also provide some guidance on how to design an innovation. Convenient features of existing arrangements should be copied, if possible, while shortcomings and inconvenient features are avoided. In some cases, it may be feasible to team up with existing providers by linking their services to those of the innovating entity.

Another important area of initial exploration is market research, based on questions like: What do clients demand with respect to the intended innovation? Who serves this demand? How are relevant financial services provided? What are the strengths and weaknesses of these schemes? Is it feasible to team up with existing institutions serving the target group to supply the intended services? How can demand be estimated? If an innovation is geared to serve populations hitherto not targeted by the institution, information should be gathered about the information channels (radio, tv, etc.) most likely to reach potential clients and how to contact them. Interviews with knowledgeable persons, including existing providers, and surveys among representative members of the target group can help find answers to these questions and give ideas about factors which should be included in the design of the innovation.

The results of market surveys should be evaluated carefully: potential clients may offer positive responses in order to please the interviewer. The real demand for a product will only be assessed conclusively when the product is available. An exception to this may occur if similar products are already in the market and innovations result in significant improvements from the target group's perspective.

Once this information is systematized and evaluated, a preliminary design should be undertaken. This design has to include how the new services will be offered to and used by the target group, as well as a first estimate of pricing possibilities that may apply to the new service[54]. Pricing should be based first on projections incorporating explicit assumptions about the different factors and productivity indicators which affect costs. If similar products are not yet on the market, institutions should set the initial prices for their services conservatively so that their costs are covered as soon as possible. In the case of long-term loans, these considerations have to be balanced by considering the possible maximum term at a given interest rate: the higher the interest rate, the shorter the time horizon, after which loan sizes increase only marginally with increasing maturity. When setting prices, decisions have to be met about the pricing structure (in the case of loans, about the use of interest charges and additional fees, which may be charged up front or with every payment). In general, pricing for loans will have to consider in the effective interest rates the impact of administrative expenses (to cover the costs of loan appraisal and servicing), of financial expenses and of risk expenses. Risk expenses will in tendency be higher, if loans are not secured. Pricing for savings products on the other side will consider the tradeoff between convenient access to the saved funds and interest rates[55].

At this stage, preliminary survey forms have to be designed to obtain the relevant information to be gathered, along with a preliminary design for the computerized management of this information.

With the initial design in place, a first reality check in the form of a small pilot test may be launched in a specific area or through selection of small groups of clients. As a general orientation, participating clients should be easily accessible for the institution and communication with them should be easy in order to gain information about receptiveness to the innovation. If the innovation relates to lending, it is advisable that the clients invited to participate during the pilot can reasonably be considered as low risk[56]. Those included in this pilot should be advised that they are participating in a test, that their feedback is important and that further changes to the innovation may be necessary. Sometimes, it may be advisable to develop the pilot as an activity carried out with complete independence from the existing institution in order to prevent reluctance or hostility against change. This is advisable especially in those cases in which innovations can negatively affect the status or income of some employees.

Based on performance during the pilot phase, the projections used to determine pricing should carefully be reviewed and adjusted to reflect revised information about the factors and indicators affecting costs in order to determine the prices at which an innovation will be launched.

Experience from the pilot phase should be closely monitored and frequently evaluated to determine the convenience of the innovation for both clients and institution, to adjust relevant aspects of the innovation and to prepare the final design.

After the pilot test is deemed to be successful in that it responds to target group demand and that the expected revenues will cover its expenses, a marketing strategy should be designed. The form in which innovations are communicated to prospective clients is a key element that may determine success or failure. Clients have to have information about the potential benefits and costs of using the innovation. Benefits have to be presented in a way that matches expectations and that addresses constraints clients face.

Experience gathered in the pilot phase nurtures the final design, including the conditions, rules and procedures for providing the new service. These norms have to be designed in such a way that internal costs are reduced as far as possible within the requirements for appropriate internal control. After defining these conditions and establishing the information required to use the innovation, the IT system of the institution has to be adapted to automate procedures far as possible and to produce management reports that track relevant aspects of the innovation from the very start. The lessons from this process should also help to define the organizational setting, in which the innovation will be implemented (is a separate department required for this?) and the profile of the personnel who will be responsible for the innovation and to design training for introduction and administration of the innovation.

In addition to this, experiences gathered during the pilot phase and the initial phase of introductions should allow designing, if appropriate, how to consider the effects of the innovation in existing incentive systems for staff and management of an institution.

Launching an innovation may be undertaken with more or less publicity and with different speed, depending on its nature and the expectations of the institution. The introduction of innovative lending products geared to segments hitherto not served by the institution requires for instance a gradual approach, in which experience is gained first with clients that do not cause

high risk or transaction costs. Progressive introduction may also mean that loan amounts and maturities are initially smaller and shorter than at a later stage when a product is fully in place.

While this listing of steps might imply that they should be performed sequentially, the design and introduction of an innovation is a dynamic process. It is not feasible to set up precise roadmaps for it. Some of these steps may not be carried out in the sequence suggested here, depending on the nature of the innovation and institutional strategy.

B. Organizational Issues

Designing innovations in financial institutions is a process which involves different parts of the organization: A product has to be designed with the general support of management. It has to be tested and fine-tuned with participation of operations staff. Additions and adjustments have to be made to software by the information systems department. Introduction of an innovation later requires participation of these and other internal units in order to a) present the product in the market and to explain it to clients, b) to hire and/or train personnel in charge of its promotion and day to day operation and management, c) to assess its performance. To achieve these results in an orderly fashion, it is advisable to assign the task of design and introduction to a dedicated task force in which at least some high ranking employees involved in the innovation participate. This task force should also monitor closely the reactions of clients to the innovation during the different stages of the process.

C. Reasons for Failure

To finalize this chapter, it is important to remember that innovations may fail. Many reasons can contribute to failure, being the main: a) a lack of commitment of the institution or of those in charge of the innovation, b) lack of control over the process and its outcome, c) faulty communication of the innovation both, within the innovating institution and with clients, d) a wrong assessment of demand, e) internal misunderstanding or resistance to new products[57], f) unrealistic projections of costs and/or revenues, and e) lack of internal control in general[58].

Although there have been many failures, only few have been documented so far. An interesting case is the one of Provident Financial's expansion of its business from the United Kingdom to South Africa[59]. Provident Financial started offering back in 1998 in South Africa's rural areas a product called "Home Credit", which consisted in small, short-term and unsecured loans which were delivered and collected at the client's home. Although this product faced a high demand in spite of the high interest rates charged[60], it failed in consequence of risk (arrears rates went up substantially due to a poor personnel management) and operational costs, which were higher than the interest charged.

Another failed innovation, which has not been as documented, was the introduction of mobile banking offices, which should bring financial services conveniently to remote areas. While the idea was in principle very attractive, the acquisition and operational costs of appropriate vehicles (which had to be equipped and sometimes armored) resulted to be very high. Some of the Cajas

Municipals in Peru, which had been granted such vehicles without cost, stopped their operation after realizing that their pure operational costs generated high losses.

Readers interested in further reading on this subject may find valuable insights in Matin's assessment of three innovations in Bangladesh[61] as well as in the different materials, including some toolkits published on the website of MicroSave-Africa[62] and in the Practical Guide to Mobilizing Savings recently published by WOCCU[63].

X. Recommendations

Concluding remarks and suggestions for innovation by institutions, governments and donors are as follows:

- Innovations take time, are costly and may fail. To manage these risks, innovations requiring large investments should be undertaken only by solid institutions that can bear the financial and public relations costs of failure. Following the inspiration, the design and introduction of innovations is hard work.

- Innovation requires careful research, intimate knowledge about current conditions, competitive alternatives and clients' preferences.

- Innovations in lending should begin with low or limited risk through commitments of small amounts initially to larger amounts as experience develops. When innovations lengthen term structures, the same incremental strategy should be followed in extending the maturities that are offered.

- There is no general recipe for selecting among different options. However, innovations are often most useful when supply is not able to meet demand and when costs can be reduced significantly.

- A precondition for successful introduction of an innovation is institutional commitment based on clearly defined expectations about the expected gains and costs, and outreach. The capacity to price innovations flexibly is critical.

Recommendations to innovating institutions:

- Consider all the issues discussed above and assign responsibility to a coordinating unit that can interact effectively with the relevant internal and external players and stakeholders.

Recommendations for donors:

- When supporting institutions wishing to introduce innovations, make a careful assessment of their sustainability. Innovations may fail, if undertaken by entities which are not sustainable or unable to guarantee the permanence of innovations. Consider that innovations can lead, in extreme cases, to the failure of the complete institution.

- If grants are given to undertake innovations, always request the institutions to bear a significant part of the risk of innovating. By doing this, the clear commitment by the innovating institution can be easily assessed, resulting in a more careful selection, design and implementation of innovations.

- Promote innovation through discussion and provide funding for reasonable concepts presented by credible sponsors.

- Bring financial institutions together with firms, which can provide specialized knowledge suitable for innovations. Provide information which allows assessing the performance of both, the innovating financial institutions and the firms providing technical assistance in order to increase transparency and competition by these.

- Bring diverse actors together.

- Promote the dissemination of best practice but be realistic about the willingness of innovators to share their experience with competitors.

Recommendations for governments:

- Set up a liberal framework for the introduction of innovations in competitive markets which allows experimentation and permits innovators to reap windfall profits from successful attempts at innovation.

- Remove regulations that hinder innovations. In some countries these include rigid collateral or documentation requirements for loans.

- Set incentives for institutions innovating rural financial services in order to increase outreach, sustainability and / or impact. Viable institutions can be rewarded with prices for especially useful innovations, they can be granted partial subsidies of the costs of specific innovations and they can be offered funds to lend for users of newer technologies, if required. In any case, it is advisable that government incentives are accessible to all kinds of institutions and that they are awarded using some form of transparent competitive bidding.

- Support the emergence and consolidation of credit bureaus. Credit bureaus can allow reducing the costs of lending especially, if they are accurate and complete. They are a valuable tool to enforce lending contracts (by making the clients' behavior public) and they can provide, once larger databases become available, valuable information to assess the repayment behavior of different client segments.

- Undertake the legal reforms required to facilitate secured lending.

Endnotes

[1] See Rutherford, 1999; Zeller and Sharma 2000 and Zeller 2001.
[2] von Pischke, J.D, 1991
[3] Valuation processes allow to determine loan sizes by relating them to the value of the collateral (in asset-based lending) or to the expected net income of a client (in cash-flow based lending)
[4] The present paper is written from the standpoint that financial services should be provided in a sustainable way. If subsidies are provided in relation to financial services, they should be given only to strengthen the supply and in such a form, that they do not distort the prices of the financial services. Subsidies should thus be only of temporary nature.
[5] Examples on some failures are provided in chapter 5.
[6] Prices of major agricultural commodities tend to decrease as technological innovations reduce the costs of producing them. Prices of inputs tend to increase as many are non-renewable resources or farmers become more sophisticated users of fertilizers and high yielding seeds. The recent evolution of some internationally relevant prices is presented at: http://www.worldbank.org/prospects/pinksheets/index.htm
[7] These cost components of lending are often interrelated: If transaction costs are reduced, e.g. by diminishing the time and effort required to assess loan applications or follow up debtors, risk costs may increase. If an institution faces high risk costs as a consequence of arrears, financial costs may also rise as the institution may be perceived as a higher risk by private or public depositors.
[8] Calpiá's rural lending technology has been described by Navajas, 2000. Churchill, 2001, gives an excellent description of the individual credit products offered by institution in Indonesia (BRI), the Dominican Republic (ADEMI), El Salvador (Calpiá), Egypt (ABA) and Peru (the Municipal Loan and Savings). Birbuet, 2001, pp 48 – 75 describes specific cases in which different rural lending technologies (individual lending, group lending, and village banking lending) have been used in Bolivia and their evolution in time.
[9] Detailed descriptions of the economic structure of the lower-income rural populations can be found in Meyer et Alicbusan 1984 on Thailand, Gonzalez Vega et al. 2002 on El Salvador, in Buchenau, 1997 and in Buchenau et Hidalgo 2002 on El Salvador, Ecuador and Bolivia.
[10] A recent internal assessment of the direct administrative costs of lending undertaken by Caja Los Andes using the Activity Based Costing (ABC) methodology reports that loans to small farmers generate administrative monthly costs equal to 1.44% of the average portfolio size, while urban micro loans' cost hover around 1.00% per month. The one time disbursement fee for rural loans increases at Caja Los Andes, depending from the distance of the client's farm from the branch, from 1% up to 3%.
[11] Portfolio at risk with a default over 30 days.
[12] About 50% of Calpiá's rural portfolio is placed among households who obtain most of their income from agriculture.
[13] Given the excellent performance of Calpiá's portfolio, a well designed reform of the system of secured transactions could permit this institution to expand in some future day its operations by refinancing their loans in financial markets using their portfolios of loans as collateral.
[14] Information about this product was provided by SafeSave to the author and may become available at its website in future: www.safesave.org.
[15] According to Fernando and Meyer, ASA incurred in administrative costs over average portfolio of only about 0.75% per month, a figure that is significantly lower than the one of Los Andes. The loan product used by ASA has been described in ASA's website at http://www.asabd.org/
[16] Most rural clients in developing countries do not make use of insurance services. In emergencies, savings and credit products which allow coping with the effects of an adverse event are thus especially useful.
[17] See data on Calpiá above in the chapter on the generic credit products.
[18] This program is administered by ASERCA, Apoyos y Servicios a la Comercialización Agropecuaria and a description of its operations can be seen at the web-site of the Mexican Ministry of Agriculture at www.sagarpa.gob.mx
[19] Mexico is also in the process of developing and introducing such an insurance scheme through its state-owned second tier insurance firm, AGROASEMEX at: www.agroasemex.gob.mx
[20] For further information on index based insurance and on the use of futures markets see the document presented by Jerry Skees at this conference (Skees 2003).
[21] These are discussed in detail by Fleisig, 2003 in a document presented at this conference.

[22] An example of leasing in Uganda will be presented by Mr. Juma Kisaame from the Ugandan DCFU Leasing Co in this conference

[23] So far, there are not many successful experiences with long term lending to small and medium farms, reflecting the rather complex nature of this endeavor. The following is based on experiences of Financiera Calpiá, an institution which launched a program to increase its long-term investment loan portfolio with support of the Multilateral Investment Fund. Other examples will be available in an extensive publication which is currently being prepared by FAO and which outlines basic principles and experiences with lending for long-term investments. See hereto the paper presented by Frank Hollinger at this conference

[24] Lenders will face a lower price risk, if clients hedge it using futures markets.

[25] See the papers presented at this conference by Jean-Herve Fraslin about CECAM's experience in Madagascar and of Gideon Onumah from the Natural Resources Institute about the Zambian experience

[26] For further information on this subject see the paper presented by Doug Pearce at this conference.

[27] See Robinson, 2001.

[28] See examples in the paper by Zeller and Fleisig.

[29] Some detail about this scheme can be found in Faruqui, undated.

[30] See paper presented by Fleisig at this conference.

[31] In some countries public bureaus coexist aside of private bureaus.

[32] Campion and Valenzuela provide a good assessment of the usefulness of credit bureaus by analyzing examples from 5 countries (Bolivia, Chile, El Salvador, Peru and Uruguay) in a document published in 2001.

[33] Mark Schreiner, who has worked extensively on credit scoring, provides in his article on credit scoring (Schreiner, 2002), a detailed description on how this technique works, how it can be set up and about its limitations when applied to microfinance.

[34] The web-pages of these bureaus are quite illustrative about their operation and services. They are: www.equifax.com; www.experian.com and www.transunion.com

[35] Women with children are usually said to show a better repayment conduct than unmarried men.

[36] In the 1990's it was for instance reported, that the Unit Desa System within the BRI showed a significantly better performance as a whole than those, traditional, areas of the bank dedicated to finance corporate enterprises and that the different performance was mainly due to the quality of the procedures used (Reference?).

[37] This statement is in concordance with one of the conclusion made by Schreiner, 2002, who states "Scoring, however, is not for most microlenders; it works best for those with a solid individual lending technology and with a large data base of historical loans. Even when scoring works, it is only a marked improvement, not a breakthrough. In particular, scoring will not replace loan officers in microcredit because much of the risk of the self-employed poor is unrelated to the information available for use in scoring."

[38] Several institutions belonging to the ACCION and to the Women's World Banking networks are currently experimenting with the use of credit scoring.

[39] See Branch et al, 2003.

[40] See Richardson, 2002.

[41] See Hirschland, forthcoming, and Johnson et al, 2002.

[42] These issues have been analyzed in depth by the Multilateral Investment Fund, http://www.iadb.org/mif/website/default.asp?C=1&L=1

[43] References on their products for migrants can be seen at: http://www.solidario.com.ec/migrantes.html

[44] See Grace, 2002.

[45] The *Microenterprise Americas* autumn 2002 issue reported that these technologies were being adopted by several institutions belonging to the ACCION and to the Women's World Banking networks. See also: Ketley and Duminy, undated.

[46] An example of such a failure would be, if programming would not consider information about some account, e.g. accounts receivable, and would thus lead to an incomplete or distorted appreciation of the client's economy.

[47] The author wants to thank SafeSave for sharing information about its innovations. Further information about this innovation may become available at SafeSave's website in the future.

[48] An initial calculation by SafeSave results in a cost of US $ 0.037 per client per month for the previous system, versus a cost of US $ 0.087 per client per month using the Palm Pilot. This cost structure is highly influenced by the very low costs of labor in Bangladesh and can thus not be transferred to other countries.

[49] Sajet, 2002

[50] When a farmer, who is client of Trisan, purchases agricultural inputs at one of the affiliated stores, the corresponding balance can be charged to the credit account using the POS device. The POS device registers the corresponding transaction on the smartcard chip and in its own memory. The information stored in the POS device is

transferred once a day by the affiliated store via telephone to Trisan and accounts are updated. While clients benefit from easier access to their loans, the affiliated store benefit in that they do not have to keep records on accounts receivable (at least for those clients using Trisan's services) and that they can, as a matter of fact, completely outsource the management of their accounts receivables. A more detailed description can be found in Wenner, 2000

[51] See Drucker, 1985.

[52] Some very interesting cases of how to promote inspiration can be found in: Peebles, 2003.

[53] Wright et al. have listed some questions, which should be contemplated when undertaking a product development process (undated document). MicroSave Africa has developed toolkits which may be useful to prepare and to carry out these phases of the product development cycle. Brand, 1999; Robinson, 2001 (pp 265 – 261); and Campion and Halpern, 2001 give valuable insights into some concrete experiences into the process and results of financial innovation.

[54] Christen, 1997, pp 95 – 126 gives an introduction into how to determine cost-covering interest rates. Churchill, 1999 presents the main issues considered in the pricing strategies of 5 institutions in different continents. Richardson and Oliva, 2002, provide some examples on how costs of savings mobilization can be determined and Branch, 2002 gives a general orientation about how to determine prices for savings products.

[55] See Branch, 2002.

[56] If an urban institution expands its services into lending to farmers, it is advisable that during the pilot phase such farmers are addressed, who derive only part of their income from agriculture or who produce and market their output under favorable conditions.

[57] See the case of the introduction of voluntary savings by ASA in Bangladesh described by Matin, 2002.

[58] Valenzuela provided in 1998 a useful listing of 14 worldwide cases of fraud in microfinance as an introduction to a panel on internal control in which detailed cases from Indonesia (BRI), Kenya (K-Rep) and Bolivia (PRODEM) were presented. Campion, 2000, provides a guide to improve internal control in MFIs.

[59] See Cadogan, 2002.

[60] Interest rates fluctuated, depending on the loan amount, between 7.5% and 14.5% per month while inflation in South Africa hovered, according to the Worldbank, around 7% per annum.

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NOTES

NOTES

Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Case Studies and Breakout Sessions

The case studies provide a closer look at best practices and recurring challenges in rural finance project implementation. They have been categorized according to major theme. Each case study highlights innovative ways in which rural finance practitioners have overcome challenges faced in various regions around the world.

Breakout 8 **Gender Targeting of Rural Financial Services: Is This Appropriate?** **Location: Polaris C**

Moderator: Diana Fletschner (UW-Seattle)

Case Studies: *Best Practices by Women's Bank of Sri Lanka*
Presented by Justin Keppetiyagama (Women's Bank)

Case Study of FINCA Uganda
Presented by Fabian Kasi (FINCA Uganda)

Breakout 9 **Agribusiness: Vendor Financing in Input Markets** **Location: Polaris A**

Moderator: Bob Barnes (USAID-Philippines)

Case Studies: *A Comparative Study of Fertilizer Credit in Bangladesh*
Presented by Robert Wieland (Main Street Economics)

The Evolution of Commercial Finance in Russian Agriculture
Presented by Glenn Pederson (U of Minnesota)

Case Study of DFCU Leasing Company
Presented by Juma Kissame (DFCU Leasing Co-Uganda)

Improving Access to Rural Finance through Regulated Warehouse Receipt Systems in Africa Presented by Gideon Onumah (NRI)

Breakout 10 **Agricultural Lending Practices: Methodologies and Programs** **Location: Polaris B**

Moderator: Henri Dommel (IFAD)

Case Studies: *CLUSA Zambia Rural Group Business Program*
Presented by Susan Parker (CLUSA Zambia)

CECAM: A Cooperative Agricultural Financial Institution Providing Credit Adapted to Farmers' Demand in Madagascar
Presented by Jean-Hervé Fraslin, (ICAR-Madagascar)

Financing Term Investments in Agriculture: A Review of International Experiences
Presented by Frank Hollinger (FAO)

Breakout 11 **Rural Financial Institutions: Start-ups** **Location: Continental C**

Moderator: Chris Barltrop (USAID)

Case Studies: *Agrocapital and Bai Tashun: Lessons from 2 Rural Financial Service Foundations*
Presented by Robert Fries (ACDI/VOCA)

PT Ukabima Case Study
Presented by Maria Stephens (Catholic Relief Services)

Case Study of ACLEDA Bank
Presented by In Channy (ACLEDA Bank-Cambodia)

Breakout 12 **Rural Financial Institutions: Restructuring and Post Restructure Results** **Location: Continental B**

Moderator: Curtis Slover (WOCCU)

Case Studies: *The Agricultural Bank of Mongolia: From Insolvent State Bank to Thriving Private Bank*
Presented by James Boomgard (DAI)

Credit Union Empowerment and Strengthening (CUES)–Philippines
Presented by Luis Sasuman (WOCCU)

Rediscovering Rural Finance by Retooling the Existing Institutions
Presented by Pillarisetti Satish (NABARD-India)

Los Andes F.F.P.
Presented by Pablo Gonzalez (Los Andes F.F.P.-Bolivia)

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Breakout 13 **Risk Management: Information Technology** **Location: Oceanic B**

Moderator: John Caan (DAI)

Case Studies: *Market Based Credit Policies for Increased Access to Rural Finance*
Presented by Ma. Piedad Geron (CPIP-Philippines)

Rural Lending in Sierra Norte-Ecuador
Presented by Susana Barton (ACCION)

How M-CRIL Supports the Provision of Financial Services to Low Income Clients
Presented by Tanmay Chetan (M-CRIL-India)

Breakout 14 **Rural Financial Institutions: Savings Mobilization** **Location: Oceanic A**

Moderator: Mohamed Nazirwan (BRI-Indonesia)

Case Studies: *A.S.A. Experience*
Presented by Mostaq Ahmmed (ASA-Bangladesh)

Adapting to the Challenges of Changing Financial Paradigms: WOCCU's Savings Mobilization Programs in Latin America
Presented by Janette Klaehn (WOCCU)

Centenary Rural Development Bank
Presented by Richard Nalela (CRB, Ltd.-Uganda)

The Bolivian Experience of the Prodem Private Financial Fund S.A.
Presented by Eduardo Bazoberry (PRODEM-Bolivia)

Rural Finance Innovation Case Study

Remittances, the Rural Sector, and Policy options in Latin America

By Manuel Orozco
(Inter-American Dialogue)

This case study was made possible by support provided in part by the US Agency for International Development (USAID) Agreement No. LAG-A-00-96-90016-00 through Broadening Access and Strengthening Input Market Systems Collaborative Research Support Program (BASIS-CRSP) and the World Council of Credit Unions, Inc. (WOCCU).

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Introduction

Development economics has long considered foreign savings as key to increasing a country's capital-output ratio.[1] Within that context, four factors were considered: foreign direct investment, official development assistance, foreign trade and the transfer of technology. However, in the past thirty years, significant changes in the global economy spurring migration flows have influenced economic growth and development thought. The relationship between development and migration or movement of people, and the resulting effects of economic ties between diasporas and home country economies (household and business sectors) are becoming more relevant for development policy.

Specifically, the effect of the movement of people is gradually being considered a key factor in enabling economic growth. Labor and migration have become indicators of economic development. First, the share of local labor working in the global economy (maquila, nontraditional exports, other agricultural and industrial exports, technology), is one of the most significant sectors of a country's economy. Second, the networks resulting from the prevailing ties of labor migration have contributed significantly to the integration of countries into the global economy. This latter point is important on various levels, including donations, investment [small and large], trade, tourism and unilateral transfers. For example, the mobilization of migrant (and their relatives') savings and investments at home (in the acquisition of land, property, or small businesses) are spurring economic growth in areas traditionally neglected by the private and public sectors, such as rural parts. Moreover, unilateral transfers, reflected primarily through family or worker remittances, and to a lesser extent through donations made by migrant associations, constitute key building blocks of economic growth and subsistence in many countries.

The current effects of migration through family remittances and other forms of migrant capital pose an important policy option linking financial opportunities in rural Latin America. Specifically, the demand for financial services by remittance receiving households represents the intersection between the role of micro-finance institutions, such as credit unions, and rural sector development.

This paper addresses the policy opportunities that remittances bring to rural areas where migration has taken place. The first and second part addresses the relationship between migration and remittances at global and Latin American scales. The third part looks at rural Latin America as it relates to poverty and inequality. The fourth section examines the intersection between remittances and the rural sector in the developing world, specifically in the cases of Mexico, El Salvador, and Nicaragua. The last part identifies the range of policy opportunities and their feasibility for rural sector development.

[1] Tarp, Finn, *Foreign Aid and Development*, London: Routledge, 1999.

1. The trend of migration and remittances in international scale

In most developing countries, international migration has emerged as a significant trend. Within the context of globalization humans have become more mobile, nomadic, and transient, both physically and technologically. The flows of international tourists from various countries have increased into millions of travelers. People working for transnational corporations have moved into different regions of the world where companies are expanding or intensifying their activities. Refugees escape from natural disasters, wars and conflicts that cause or exacerbate famines, leaving countries and continents. Van Hear calls these refugees 'new diasporas'; these immigrant groups become diasporas as a result of major contemporary economic and political transitions generating transnational changes and migration crises.[2]

At the labor levels, workers continue relocating because of labor demands, usually in northern countries, economic distress in their home countries, or a combination of both. Families are increasingly becoming transnational with relatives living in more than one country, reuniting, visiting regularly and maintaining a transnational network of communication.[3] Migration has become not only transnational but also transatlantic as in the case for example, of Indian, Pakistani and Bangladeshis going to Europe and the United States, or Dominicans, Jamaicans, Guyanese and Ecuadorians traveling to the United States and Europe.

Of the many moving across borders, conservative estimates indicate that every year there are about 200 million people migrating around the world.[4] This number of foreign workers going abroad is significant and indicative of broader changes in the global context. Because of globalization people are able to travel longer distances and reach more countries. A greater number of countries have also increased or expanded their demand for foreign labor. Moreover, the migration flows are not unidirectional, that is from the South to the North. For example, Greeks migrate to Germany and the United States, while Albanians migrate to Greece. South Africans move to Australia and England, while Malawians, Mozambicans, and Zimbabweans travel to work in the South African mines and the service industry as domestic workers.

Global migration flows may be greater than those estimates. Many migrant receiving countries are expanding the number and type of migrants they receive. Moreover, migration is taking place at both levels, skilled and unskilled workers going abroad. As Held, McGrew, Goldblatt and Perraton stress "there has been a steady movement of highly skilled, highly trained professionals, that is, elite migration".[5] These migrations are not only going northward, but have also gone into Southern areas of the world like the Oil producing countries where a demand of skilled labor has emerged since the 1970s.

THE GLOBAL FLOW OF REMITTANCES

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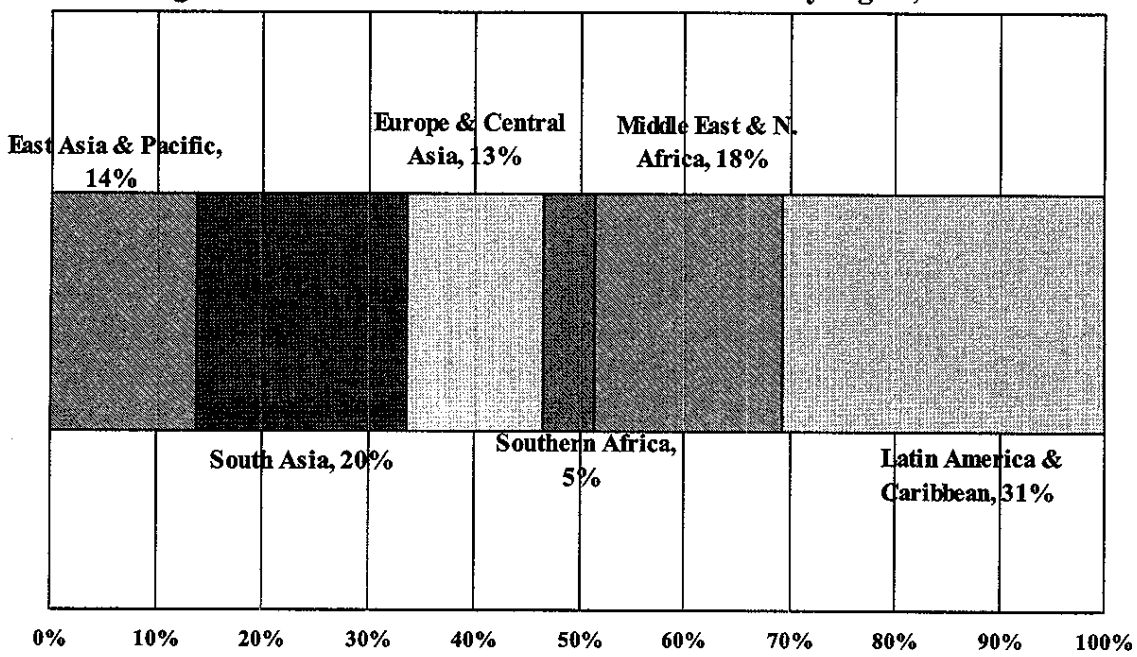
[2] Van Hear, Nicholas. *New Diasporas: The Mass Exodus, Dispersal and Regrouping of Migrant Communities.* Seattle: University of Washington Press, 1998.
[3] Faist, Thomas. *The Volume and Dynamics of International Migration and Transnational Social Spaces.* New York: Oxford University Press, 2000.
[4] Harris, Nigel. *Thinking the Unthinkable: The Immigration Myth Exposed.* New York: I.B. Tauris & Co., 2002.
[5] Held, David; McGrew, Anthony; Goldblatt, David; and Perraton, Jonathan. *Global Transformations: Politics, Economics and Culture.* Oxford: Polity Press, 2000.

One of the manifestations of the effects of international migration is remittances. Total remittance flows continue to increase over time "with an annual average in the previous decade of US$700-1000 per worker"[6], and possibly reaching more than one hundred billion dollars.[7] Estimates of remittances vary significantly. The IMF and World Bank, for example, only reports on eighty countries receiving a total of nearly eighty billion dollars. Despite the lack of significant data, these figures offer a preliminary map of remittances (see Figure 1).

Figure 1. Worldwide flows of worker remittances by region, 2002



As Figure 1 shows, Latin America is the main remittance recipient area in the world, receiving about 31% of the flows. Following Latin America are South Asia, Europe & Central Asia, and East Asia & Pacific with twenty, twenty-one and eighteen percent of the flow, respectively. One interesting feature of the data is that one or two countries comprise over 50% of the total flow in each region. For example, India, the world's largest remittance recipient country, accounts for 73% of the flow to South Asia. Mexico represents 34% of Latin America and the Philippines 43% of East Asia and the Pacific. (see Table 1).

Table 1: Remittances to Major Remittance Recipient Countries (2000)

Country in region	Share	
	Region	Worldwide
India [a]	73%	15%

[6] Harris, Nigel, p. 87.

[7] Orozco, Manuel. *Worker Remittances in an International Scope* Washington, DC: Inter-American Dialogue, March 2003.

Mexico [a]	34%	8%
Philippines [a]	43%	8%
China [b]	43%	8%
Turkey [a]	27%	6%
Egypt [a]	35%	5%
Spain [a]	20%	4%
Portugal [a]	19%	4%
Morocco [a]	20%	3%
Bangladesh [b]	12%	2%
Jordan [b]	17%	2%
El Salvador [a]	9%	2%
Dominican Rep. [a]	9%	2%
Greece [a]	10%	2%
Nigeria [b]	65%	2%
Yemen [b]	12%	2%
Main countries		75.00%

Source: [a] Central banks of each country. [b] World bank, *World Development Indicators 2002*

2. Remittances to Latin America

Within the Latin American context, worker remittances are becoming increasingly relevant to the economies of many countries. In 2002, Latin America received more than $30 billion in remittances from the United States, Japan, Europe, Canada and Latin America itself. The table below shows the total amounts sent to selected Latin American and Caribbean countries in 2002. The table also shows remittances as a percentage of GDP and exports in selected countries. Especially for the smaller economies of Central America and the Caribbean, remittances represent a significant percentage of these macroeconomic indicators.

Remittances to El Salvador have, on occasion, exceeded the total value of exports, and are over half the value of exports in the Dominican Republic and Nicaragua.[8] Even in countries like Mexico, which has a strong export-oriented market, remittances equal 10 percent of the total value of exports, almost as much as the income from tourism, and about 80 percent of the value of foreign direct investment.

The overwhelming majority of remittances received in Latin America are sent from the United States. The Central Bank of Mexico, for example, estimates that 95 percent of the total remittances originate in the United States. In the case of Jamaica, the United States accounts for 80 percent of the remittances received.

Table 2: Remittances to Latin America and the Caribbean, 2002

Year	Total Remittances (thousands)	IADB remittance estimates	As % of GDP (2000)	As % of Exports (2000)	Average transfer sent per immigrant	Cost to send average amount (%)

[8] Orozco, Manuel, Globalization and Migration: the Impact of Family Remittances to Latin America in *Latin American Politics and Society*, (Summer 2002), V. 44, n.2, pp 41-66.

		(thousands)			($)	
Mexico	$9,815	$10,502	1.7	6.5	378	5
Brazil [a]	$4,000	$4,600	0.4	4	376	
Colombia	$2,272	$2,431	2.1	2.4	256	6
Dominican Rep.	$1,939	$2,206	10	27	199	9
El Salvador	$1,935	$2,111	17	60	287	4
Guatemala	$1,579	$1,689	3.1	16	269	6
Ecuador	$1,432	$1,575	9	20	295	4
Jamaica	$1,200	$1,288	15	30	263	8
Cuba [a]	$1,100	$1,265	5	40		17
Peru	$1,100	$1,138	1.7	10.6	191	
Haiti [a]	$810	$931	24.5	150	162	10
Honduras	$720	$770	7.5	17	257	6
Nicaragua [a]	$660	$759	22	80	146	10
Venezuela	$220	$235	.28	1	228	14
Costa Rica	$200		1.3	3	350	
Guyana [a]	$100	$119	14	14		
Bolivia	$90	$104	1.25	6.71	276	9
Trinidad and Tobago	$50	$59	.76	1		
Eighteen countries	$29,223	$32,044				

Source: Central Banks of each country. [a]Author's estimates, World Bank "World Development Indicators 2002" CD-ROM, and National Money Transmitters Association.

SENDERS AND RECEIVING HOUSEHOLDS

According to the U.S. 2000 Census, over 40 percent of Latinos earn less than $20,000 a year and over 70 percent earn less than $35,000 a year .[9] On average, immigrants in the United States send $260 in remittances at least seven times a year, but these amounts vary depending on the country of origin. Among Latin Americans, Mexicans, Brazilians, and Costa Ricans send the most, while Peruvians, Haitians, and Nicaraguans send the least.

Even considering variations in amounts sent and income levels, remittances represent at least 10 percent of the migrant's income. This proportion can reach as high as 22 percent, as in the case of Mexican immigrants; Mexicans represent the largest share of Latinos in the United States and send more money than other Latino groups (nearly $400 a month).

Income variations may explain the differences in amounts sent. For example, 48 percent of Nicaraguan households in Miami had incomes below $25,000 a year, with an average of $1,821 a month.[10] Because Nicaraguans send an average of $146 a month, remittances represent just fewer than 10 percent of their income. Moreover, according to the U.S. Census, per capita household income among Dominicans in New York and the United States is $9,069 and $11,013 respectively.[11]

[9] U.S. Census Bureau, http://www.census.gov/population/socdemo/hispanic/p20-535/tab12-3.txt

[10] Fernandez- Kelly, Patricia and Curran 2001 Ethnicities : children of immigrants in America edited by Ruben G. Rumbaut and Alejandro Portes, p. 136.

[11] Rivera-Batiz, Francisco, *The Socioeconomic Status of Hispanic New Yorkers: Current Trends and Future Prospects*, Washington, Pew Hispanic Center, January 2002. Table 8.

Demographically, most remittance receiving persons go to the rural sector and many of their recipients are women. According to the *Consejo Nacional de Población*, the Mexican office of the census, approximately 70 percent of remittance recipients are women.[12] On average, 50 percent of the recipients form part of the economically inactive population. Furthermore, half of the individuals receiving remittances have no other source of income. In Honduras, about one third of the remittance receiving households go to rural areas and at least 80% are poor. [13]

THE MARKET AND THE COSTS TO SEND MONEY

How much does it cost to remit? Intermediation is relevant in the transfer of remittances.

Most immigrants use some form of intermediation, whether formal or informal. They send money through small businesses, large corporations, or even individual entrepreneurs. To a lesser extent, the individual carries money directly to relatives. The formal money transfer costs range from 4 to 20 percent of the value sent to the home country (see Table 2).[14] Such price variation depends on the presence of informal networks, aggregate volume, market concentration and competition, the presence of banking institutions, and technology.

Currently one of the major costs associated with transfers is the exchange rate which is set by the distributing agents in Latin America, which most of the time can be a traditional banking institution. The exchange rate commission applied (the differential between the interbank exchange rate and the one set by the business) averages 3% and is higher than other foreign currency transactions. As the table below shows, over 40% of costs are related to the commission in the foreign exchange. These costs directly affect remittance receiving households because they receive less than what the relative sends.

Table 4. Costs of sending $400 to Mexico by main money transfer business

Company	Fee %	FX Spread %	Fx as percent of total cost	Total Cost %
Western Union	5.00%	2.55%	33.79%	7.55%
MoneyGram	3.75%	1.78%	32.17%	5.53%
USPS Dinero Seguro	5.00%	2.36%	32.05%	7.36%
OrlandiValuta	4.75%	2.17%	31.31%	6.92%
Ria Envia	4.00%	3.13%	43.92%	7.13%
Girosol	3.00%	2.55%	45.97%	5.55%
Dolex	0.75%	5.26%	87.52%	6.01%
Average	3.59%	2.8%	43.8%	6.6%

Source: Data compiled by the author.

[12] Conapo....

[13] Impacto Socioeconómico de las Remesas: Perspectiva Global Para Una Orientación Productiva De Las Remesas En Honduras. Mexico: Eclac, 1999.

[14] Orozco, Manuel, *Changes in the Atmosphere? Increase in Remittances, Price Decline and New Challenges.* Washington, DC: Inter-American Dialogue, March 2003.

Cuba, Nicaragua, and Haiti are among the most expensive countries for remittance transfers. In these three countries, there is a high level of informality, no regulatory environment supporting competition or low cost transfers, and no innovative technologies. In other countries, such as Jamaica and the Dominican Republic, the presence of monopolies or oligopolies explains the prices. El Salvador, Ecuador and Mexico have the lowest transfer costs. For El Salvador and Ecuador, both dollarized economies, costs are lower because receiving households do not face foreign exchange penalties. Overall, fees, rather than exchanges rates, account for more of the cost variation.

More importantly, competition in these countries also affects costs. Mexico experiences a high level of competitiveness among large and small businesses. At least six corporations (*Western Union, Dolex, Vigo Corporation, Ria Envia, MoneyGram* and *Raza Express*) compete and may hold about 80 percent of the remittance market share. A second group of businesses competes to clear the remaining share. Competition is also present in El Salvador and Guatemala. In both countries, most of the remittance flows are handled by fewer than ten companies. In El Salvador, for example, four Salvadoran banks compete with *Western Union* and *Gigante Express*. In Guatemala, three banks compete with King Express and Western Union, but informal transfer is still more common than in Mexico or El Salvador.

Key to the flow of remittances is the destination of the money and its effects on the local economies. Despite the difficulties in costs associated with their transfers, remittances in rural Latin America have had a positive effect. Considering the problems in rural Latin America, remittances have emerged as an alternative form of financial relief for households and productivity.

3. Latin American and the rural context

The rural sector in Latin America continues to represent an important challenge to development players and policy makers. A significant percentage of the Latin American population is rural, sometimes as high as 50%. Rural Latin Americans face significant constraints due to the lack of social and economic modernization, the limited productive activities outside agricultural subsistence, and the reduced value that agriculture represents for a country's economy.[15] Infrastructure and services in the rural sector are relatively scarce and, when available, are costly. Moreover, partly because of underdevelopment levels and deep inequality, poverty rates are higher than in urban areas. While nearly 40 percent of Latin Americans live in rural areas, agriculture—the main source of income in the rural sector—comprised only 12% of GDP on average.

In large part the slow modernization and development of these countries' economies has been unsuccessful in increasing per capita incomes and absorbing rural workers into the industrial and service workforce in urban settings. Thus, large segments of the population remain in significantly undeveloped regions.

Table 5. Economic and Social Indicators of Rural Latin America, 2000

Country Name	Sanitation in rural areas	Water in rural areas	Rural poverty	Rural population	Agriculture as % of GDP	GDPpc
Antigua and Barbuda	94	88		63.2	3.9	9138
Argentina	48	30		10.6	4.8	7933
Barbados	100	100		50	6.3	8282
Belize	21	69		53.5	21.4	3141
Bolivia	38	55	79.1	35.2	22.0	952
Brazil	40	54	32.6	18.7	7.4	4624
Chile	93	66		15.4	10.5	5354
Colombia	51	73	31.2	25.1	13.8	2290
Costa Rica	96	98	25.5	48.1	9.4	3912
Dominican Republic	64	70	29.8	35	11.1	2062
Ecuador	37	51	47	37.6	10.0	1425
El Salvador	78	61	55.7	53.4	10.1	1752
Guatemala	76	88	72	59.6	22.8	1558
Guyana	81	91		61.8	..	941
Haiti	16	45	66	64.3	28.4	367
Honduras	57	82	51	53.1	17.7	711
Jamaica	65	59		43.9	6.5	1785
Mexico	32	63		25.6	4.4	3819
Nicaragua	68	59	76.1	35.3	32.3	466
Panama	87	86	64.7	42.3	6.7	3279

[15] Valdés, Alberto and Johan A. Mistiaen, "Rural poverty in latin america: recent trends and new challenges" in *Food, agriculture, and rural development : current and emerging issues for economic analysis and policy research* Kostas G. Stamoulis, editor. Rome: Food and Agriculture Organization of the United Nations (Food, agriculture and rural development), 2001.

Paraguay	95	58	28.5	44	20.6	1700
Peru	40	51	64.9	27.2	7.9	2368
Uruguay	89	93		8.7	6.0	6115
Venezuela, RB	69	58		12.6	5.0	3300
Latin America	63.96	68.67	51.72	38.51	12.57	3219

Source: World Bank Development Indicators. The years reported on rural poverty data vary from country to country, but all report figures in the 1990s.

Despite these constraints, domestic and international migration has become a mechanism to cope with poverty and the advancing modernization of urban sectors. Many Central American and Mexican migrants come from rural Latin America to the United States. The U.S. Census reports that there are nearly seventeen million Latin American immigrants, fifty percent of whom are Mexicans (US Census CPS 2002 data).

4. Remittances and the rural sector

Moreover, effects of emigration from Latin America to the United States are varied. Some analysts argue that it has adverse impacts, while others claim that family remittances are a positive outcome. The answer, however, varies depending on the specific conditions in each country and area of migration. One important issue is that emigration from rural areas represents to some extent an adversity in so far as those migrating are people with more skills and abilities.

In many towns in Mexico and Central America, emigrants are young males with agricultural skills and the ability to borrow in order to achieve the goal of working abroad. Taylor stresses, for example, that emigration affects agricultural production in various ways. First, there is a decline in the available labor force. But, second, the influx of remittances helps to compensate for the adverse effect on agricultural productivity because the currency generates a demand of goods which in turns has a multiplier effect on the local economy.[16] It is also worth considering that although the decline in the labor force affects agriculture, most of the migration occurs because of a depressed rural economy unable to absorb the local labor force.

Another important relationship between migration and the rural sector refers to the linkages established between immigrants and their hometowns. Partly inspired by the dynamics of family remittances and increasing transnational networks, immigrants have formed community groups to maintain relationships with the country or with local communities. These organizations, known as hometown associations, are part of a growing trend in transnational social movements, influenced by both migration patterns and globalization.

REMITTANCES IN RURAL LATIN AMERICA

A significant flow of remittances go to rural areas. Examples of these cases are Mexico, El Salvador, Dominican Republic, Haiti, and Nicaragua. In the Mexican case, 10 Mexican states

[16] Taylor, Edward. "Migration: new dimensions and characteristics, causes, consequences and implications for rural poverty" *Food, agriculture, and rural development : current and emerging issues for economic analysis and policy research* Kostas G. Stamoulis, editor. Rome: Food and Agriculture Organization of the United Nations (Food, agriculture and rural development), 2001, p. 167-201.

account for the majority of emigration. The *Encuesta sobre Migración en la Frontera Norte de México* (EMIF), published in 1994, showed that over 75% of all migrants leaving Mexico originated in 10 states.[17]

Similarly, the top ten remittance receiving states also come from those states.—Guanajuato, Jalisco, Michoacán, San Luis Potosí, Guerrero, Zacatecas, el Distrito Federal, el Estado de México, Chihauhua and Durango—and receive over two-thirds of all remittances sent to Mexico.[18] See Table 6.

Table 6: Top Ten Migrant Sending States and Top Ten Remittance Receiving States in Mexico

State	Percentage of Total Migrants[a]	Percentage of Remittances[b]
Guanajuato	17.9	13.7
Michoacan	10.9	11.2
Distrito Federal	7.5	4.5
San Luis Potosi	7.4	5.8
Jalisco	6.9	11.4
Coahuila	6.3	..
Durango	5.7	3.4
Chihuahua	5.2	3.6
Zacatecas	4.5	4.5
Guerrero	3.5	4.9
Estado de Mexico	..	3.8
Total	75.8	66.8

Sources: El Colegio de la Frontera Norte. "Problemas y Perspectivas de las Remesas de los Mexicanos y Centroamericanos en Estados Unidos," *Unpublished Manuscript*, El Colegio de la Frontera Norte: Departamento de Estudios Económicos. Mexico: 2002, p. 30; Torres, Federico. "Las Remesas y el Desarrollo Rural en las Zonas de Alta Intensidad Migratoria en México," Naciones Unidas: Comisión Económica para América Latina y El Caribe (CEPAL). Mexico: 2001, pp. 3, 27-28.
[a] 1993-1994; [b] 2000

Except for the Federal District of Mexico, the places of emigration are a combination of rural and urban areas.[19] According to EMIF, 56% of international emigrants are from urban areas while 42.1% came from rural areas. However, remittances play a larger role in rural Mexican economies than in urban ones. In 1996, 10% of all rural households reported receiving remittances while less than 4% of urban households reported receiving remittances.[20]

In El Salvador, the departments which lose the highest percentages of their populations to migration—San Vicente, Cabañas, Chalatenango, Morazán, La Unión and Sonsonante—share

[17] El Colegio de la Frontera Norte. "Problemas y Perspectivas de las Remesas de los Mexicanos y Centroamericanos en Estados Unidos," *Unpublished Manuscript*, El Colegio de la Frontera Norte: Departamento de Estudios Económicos. Mexico: 2002, p. 30.
[18] Torres, Federico. "Las Remesas y el Desarrollo Rural en las Zonas de Alta Intensidad Migratoria en México," Naciones Unidas: Comisión Económica para América Latina y El Caribe (CEPAL). Mexico: 2001, p. 3.
[19] Torres, Federico, p. 4.
[20] [20] El Colegio de la Frontera Norte, pp. 33-37.

characteristics with their Mexican counterparts. Notably, they are the most ecologically deteriorated states, they have the lowest standards of living, and they lack significant infrastructure. In absolute numbers, on the other hand, the urban center of San Salvador sends the largest numbers of migrants abroad, with approximately 22% of Salvadorans in the United States originating in San Salvador.[21] It is thus interesting to note that the geographic distribution of the remittance receiving households in each country is similar. While rural households in each country make up a significant percentage of all remittance recipients, the majority are located in urban areas. See Table 7.

Table 7: Percentage of Remittance Receiving Households in Rural and Urban Areas, 1996

	Mexico	El Salvador
Urban	54.3%	60.5%
Rural	45.7%	39.5%

Sources: El Colegio de la Frontera Norte. "Problemas y Perspectivas de las Remesas de los Mexicanos y Centroamericanos en Estados Unidos," *Unpublished Manuscript*, El Colegio de la Frontera Norte: Departamento de Estudios Económicos. Mexico: 2002, p. 36; García, Juan José. "Las Tendencias de la Migración en El Salvador," FUSADES-PNUD, 1998, p. 10.

Migration and remittances patterns in Nicaragua are also worth noting. Migration from Nicaragua goes predominantly to the United States and Costa Rica. In a nationwide study conducted in June 2001, 42% of those living in Managua reported having a relative abroad, against 35% in the Pacific region and 29% from North-Central Nicaragua. The majority of those reporting outside Managua had relatives working in Costa Rica, whereas those living in Managua had relatives predominantly migrating to the United States.[22]

Receiving households use the vast majority of remittances for everyday expenditures and consumption in both urban and rural areas. For example, Mexican families receiving remittances from abroad typically spend over 75% of that money on their daily needs such as food and clothing. This applies to those that live in extremely small areas of under 2,500 inhabitants and those who populate larger areas.

Nicaraguan and El Salvadoran families also exhibit similar spending patterns. In surveys conducted in each of these countries over three-quarters of the population spent their remittances on food alone. See Table 9.

Table 8: Distribution of expenditures by remittance-receiving households by size of locality, Mexico.

		Population	
Type of expenditure	Total	> 2,500	< 2,500
	%	%	%
Current monetary expenditures	77.1	77.6	76.1
Housing and land	4.0	2.9	6.2
Savings	14.1	14.8	12.6

[21] García, Juan José. "Las Tendencias de la Migración en El Salvador," FUSADES-PNUD, 1998, pp. 7-8.
[22] Orozco, Manuel. "Family Remittances to Nicaragua: Opportunities to increase the economic contributions of Nicaraguans living abroad," Inter-American Dialogue. Washington, D.C.: 2003, pp. 7-8, 20.

Debt	2.0	2.2	1.6
Machinery, equipment & animals	0.2	0.1	0.3
Other	2.6	2.4	3.1

Source: Consejo Nacional de Población. "Migración México-Estados Unidos: Presente y Futuro," Consejo Nacional de Población. Mexico: 2000, p. 176.

Table 9: Remittances and expenditures in Nicaragua and El Salvador.

Expenditures	Nicaragua (%)	El Salvador (%)
Food	75.5	79.4
Clothing	5.8	
School	6.7	
Housing	2.9	
Business	1.8	
Savings	1.4	
Savings and Productive Agricultural Inputs		2.6
Other	3.8	

Source: ENCUESTA NACIONAL SOBRE GOBERNABILIDAD Y ELECCIONES: MODULO SOBRE MIGRACIÓN, USO DE REMESAS FAMILIARES Y AHORRO, Managua 05 de julio de 2001, INSTITUTO DE ESTUDIOS NICARAGUENSES; García, Juan José. "Las Tendencias de la Migración en El Salvador," FUSADES-PNUD, 1998, p. 10.

In the rural sector, a portion of remittances are utilized to purchase land. For example, Table 8 above highlights the higher percentage of remittances spent on land in rural areas. In addition, a survey in Mexico found that remittance recipients in low density populations (mostly rural areas) typically spent more money on machinery and other equipment than did their counterparts in higher density populations.[23] This same study of rural Mexican areas concluded that remittances spent on the purchase of such inputs as land, cattle, and other agricultural equipment allowed rural households to continue these agricultural activities despite no apparent earnings from the agricultural production itself.[24]

SAVINGS MOBILIZATION AND REMITTANCES

Remittances are an alternative source of funding for household survival and for financial activities among small businesses and entrepreneurs. As a form of foreign savings, remittances are influencing not only spending but also investment behavior. As mentioned above, a portion of remittances is saved or invested on education, health or wealth generation.

Therefore remittances are already connected to savings mobilization in many Latin American countries. Remittance receiving households not only save a portion of their money, but they play an investment and insurance function. In the case of investment, immigrants send money back home with the specific purpose of acquiring some investment opportunity. Immigrants buy land, materials to work the land or seed to plant. A recent study on micro-enterprises to Mexico showed that remittances were responsible for 27% of the capital invested in micro enterprises in

[23] El Colegio de la Frontera Norte, pp. 39-40.
[24] El Colegio de la Frontera Norte, p. 127.

Mexico, and 40% of the capital in the major remittance receiving areas of the country.[25] In the insurance case, other studies have also shown that immigrant remittances also operate as a form of insurance to protect before future uncertainties. Specifically, Pozo[26] argues that when remittances continue an incremental trend although immigrants face income risks, the money is sent home "to purchase assets" as a form of precautionary savings (4). She stresses that "older migrants, female migrants, migrants with greater fraction of family members working for pay, migrants who came accompanied by friends/family to the United States, and migrants with greater educational attainment are more likely to remit for asset accumulation" (26). Taylor has also maintained that remittances have a positive effect in the rural sector when they alleviate the restrictions that limit local production due to the creation of employment and its multiplying effects on the local economy.[27]

These, connections, however are spontaneous and often occur under conditions of incomplete information for the entrepreneur about affordable lending opportunities. Within this context, micro-finance institutions and credit unions are poised to play a key role in bringing financial services to an already existing demand of economic transactions.

HOMETOWN ASSOCIATIONS AND DEVELOPMENT

Another important relationship between rural sectors and immigrants are hometown associations. These groups are increasingly taking advantage of the upsurge of family remittances and the need for economic aid in their homelands.[28] HTAs have sought to retain cultural ties and improve their home country communities.[29] They are primarily philanthropic groups whose work sometimes overlaps with economic development. These associations raise somewhere around $20,000 a year to help their communities. Their philanthropic work is instrumental to solidifying relationships with the community and promoting well-being. Moreover, those projects that generate wealth and employment contribute to the economic growth of a community and serve as models.

Infrastructural activities, such as paving roads, electrifying neighborhoods or supporting community areas, can be both philanthropic and developmental. The nature of the development contribution depends primarily on the immediate economic needs of a given town, and the

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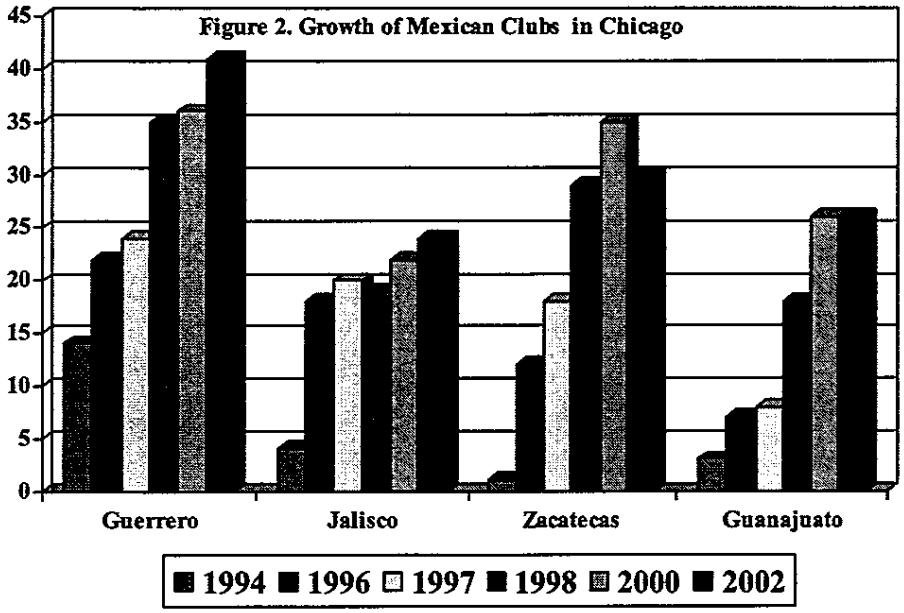
[25] Woodruf, Christopher, and Rene Zenteno, Remittances and Micro-enterprises in Mexico, unpublished manuscript.
[26] Pozo Susan and Catalina Amuedo-Dorantes, "Remittances as Insurance: Evidence from Mexican Migrants", July 24th, 2002. Paper presented at the Norteast Universities Development Consortium Conference, Williams College.
[27] Taylor, Edward, p.219
[28] Orozco, Manuel, "Latino Hometown Associations as Agents of Development" in *Sending Money Home: Hispanic Remittances and Community Development*, ed, Rodolfo de la Garza and Lyndsey Lowell, Boulder, Rowman and Littlefield, 2002.
[29] Alarcon, Rafael, 2000, *The Development of Home Town Associations in the United States and the Use of Social Remittances in Mexico*, Washington, DC. Inter-American Dialogue and Tomas Rivera Policy Institute; Eeckoff, Katharine 1997, "Las asociaciones salvadoreñas en Los Angeles y su rol para el desarollo nacional" in Migración Internacional y Desarrollo, Mario Lungo. FUNDE ed. El Salvador: Fundacion Nacional para el Desarrollo, 1997; Mahler, Sarah, 2000, *Migration and Transnational Issues: recent trends and prospects for 2020* in CA2020 Working Paper #4. Hamburg: Institut fur Iberoamerika-Kunde; Orozco, Manuel, 2000, *Latino Hometown Associations as Agents of Development in Latin America*, Washington, DC. Inter-American Dialogue and Tomas Rivera Policy Institute. Popkin, Eric, "Transnational Migration and Development in Post-War Peripheral States: An Examination of Guatemalan and Salvadoran State Linkages With Their Migrant Populations in Los Angeles" *Current Sociology*, Winter/Spring, 2003.

support of an HTA may improve the economic health of that community. The experiences in rural Mexico and El Salvador show that construction in rural areas where there is no basic infrastructure has been important to communities. In many parts of Mexico, for example, infrastructural development precedes any investment strategy, and the donations by hometown associations play a key role. In fact, the large majority of hometown associations from these two countries operate in the countryside, the same places where immigrants send their money. The figure below shows the increase in hometown associations based in Chicago over the past six years.



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5. Exploring policy options

Within the context of the changing dynamics and realities in Latin America and the Caribbean, alternative policies need to be addressed. In order to be effective, they should have a direct impact on issues relating to reducing transaction costs, leveraging the capital potential of remittances through banking and financing, promoting tourism and nostalgic trade, and establishing a state policy that tends to a country's diasporas. Remittances pose a very important financial stream in rural areas of Latin America. Mexico, Haiti, the Dominican Republic, Nicaragua, El Salvador, Guyana and Guatemala are all countries where at least one quarter of remittances go to their rural areas. If adequately addressed, remittances can become a major form of foreign savings energizing the rural sector into a process of modernization.

i) Cost Reduction

Although remittances are regarded as an important source of income by recipient countries, transmission charges, particularly exchange rate commissions in Latin America, continue to be a concern to development agencies, immigrants, and other interested parties. Increasing competition is key to reducing costs. With prevailing advanced technology in which money transfers can (and do) cost very little or nothing to the most savvy senders and recipients, it is worth asking how these advantages can be extended to common remitting immigrants and recipients. Four options to reducing costs are: the formation of strategic alliances between money transfer companies and banks, and between banks in Latin America and in North America (both employing debit card technologies that rely on automated teller machines), the use of software platforms designed for money transfers, or transfers from credit union to credit union using the international remittance network.

ii) Financial democracy

Only six out of ten Latin American immigrants use, or consider themselves to have meaningful access to, bank accounts. Moreover, in Central America and the Caribbean, only two in ten have access to savings accounts. The effects of being unbanked (either in a commercial bank, a community bank or a credit union) are significant. People are not only susceptible to higher costs and difficulties on a daily basis, but they also lack the ability to establish credit records and obtain other benefits from financial institutions. Assisting senders and recipients to participate in affordable savings and credit markets would help ensure lower transfer fees, and more importantly mobilize savings. Some government and private institutions are already engaged in that effort and could target a strategy linking remittance transfers with banking and credit union options as a way to attract migrants into the financial system.

Of significant importance for savings mobilization are credit union operations in the rural sector. One of the major constraints in development has been the lack of adequate credit to individuals in rural areas.[30] The end result has been that the average citizen, and especially lower income cohorts, have not had access to financial services, nor banks have relied on them to draw assets.

[30] Ray, Debray, Development economics, Princeton: Princeton University Press, 1998.

A recent study on Latin America's income inequality points to the deficiencies of banking institutions as a major source of inequality. "Financial markets are underdeveloped in Latin America and the blame goes beyond the region's history of inflation and financial instability. Weak institutions to support credit market are also at fault".[31] In fact, the study points out that less than 5% of established small business entrepreneurs receive loans from commercial banks, and even small credit unions and micro-finance institutions that emerge to supply a demand of financial services by those outside the preference of commercial banks don't have a large loan portfolio, below 1% of what commercial banks hold in Latin America (164-165).
Financial institutions have traditionally placed a high risk in lending and investing in agriculture and the rural sector. With a recurrent flow of remittances, households have posed a demand for financial services that is not supplied by commercial banks. However, local savings mobilization is placed in the intersection between remittances and local development.

In most places in the rural sector remittances not only take longer to arrive, but recipient households spend time picking up the money in more commercial cities, which sometimes, if not often, are one hour from the hometown. As a result, costs increase for the receiving households. One solution to this situation is the use of finance institutions already operating in the areas, such as micro-finance institutions and credit unions.

The participation of alternative financial institutions throughout remittance receiving areas, such as community banks, savings and credit cooperatives and micro-finance businesses, is critical and becomes a form of financial democracy. These institutions provide access and outreach to lower income communities and isolated rural areas that large commercial banks have traditionally ignored.

Three cases that illustrate the link between remittances, the rural sector and micro-finance intuitions take place in Mexico, El Salvador and the Dominican Republic. One major advantage of the cooperative system in the Dominican Republic is that many of its branches operate in rural areas and sectors less frequented by banks. Moreover, cooperatives also offer a more welcoming environment and approach for remittance recipients, as they seem to be less 'formal' than banks. In places where remittances are transferred through cooperatives, the community also benefits from the association. One such cooperative, San Jose de las Matas, transferred half a million dollars in remittances during a 12-month period. Since cashing money through the cooperative, many remittance recipients have themselves become members. Because of the success in this and other cooperatives, and the existence of remittances going to the rural sector, the Association of Cooperatives in the D.R. is seeking to expand its services by providing ATMs to the cooperative network and by setting up a more effective and inexpensive money transfer system than the one currently offered by remittance agencies.[32]

In Mexico, a successful case refers to the micro bank in the Mixteca region in Oaxaca, *Xuu Ñuu Ndavi* (Money of the Poor People). The residents in this indigenous town have relatives living abroad and remitting money home. Of the $170,000 received in remittances after the first year of operation, the micro bank's 168 members (83 of whom are women) accumulated $160,000 in

[31] IPES 1998/1999: *Facing Up to Inequality in Latin America* Washington: IADB, 1999. p. 6.
[32] Orozco, Manuel, *Attracting Remittances: Market, Money and Reduced Costs* Washington, DC: Inter-American Dialogue, January 2002.

savings. The experience of this bank demonstrated that remittance receiving households have a propensity to save, and when such propensity is motivated, individuals resort to financial institutions, in this case, micro-finance banks. Key to the success of this and similar micro banks is the fact that it operates in the town and has established a level of trust with the local population.[33]

El Salvador's federation of credit unions, FEDECACES, is a well-established and extensive network for low income Salvadorans particularly from rural areas. An estimated 80 percent of credit unions affiliated with FEDECACES are located outside of San Salvador. Once the cooperatives became involved in money transfers from the U.S. the flow of money rose to $22 million in 2002 from less than 2 million in 2001, with a corresponding significant increase in membership that incorporated recipients into formerly inaccessible financial services.

iii) Investment and Micro-enterprise incentives

Studies have shown that on average, around ten percent of the remittance received is saved or invested, and a percentage of people are in a position to use their money for an enterprising activity. Both private sector and development players can insert themselves as credit partners of these potential investors. The effect is the provision of credit, supported with remittances in local communities that lack the presence of active markets and production networks. Tying remittances to micro lending has a development potential to enable the enhancement of local markets.

iv) Hometown associations as agents of development

The philanthropic activities of HTAs also have a development potential. Some of the infrastructure and economic development work performed by these associations represents a momentum for development agents to partner in local development. Governments in Central America and the Caribbean must work with international organizations and HTAs to jointly figure income generation schemes to their local communities. The Mexican and Salvadoran experiences offer important lessons of joint partnership in development.

v) Enabling regulatory environments

Expanding sending methods as well as competition (or levelling the playing field) are factors that help reduce money transfers. Moreover, educating customers about costs and charges is another important method. In Latin America there is a need for the greater facilitation of money transfers of any kind, be they remittance, savings, investment, or consumption. A comprehensive effort to support senders and recipients should foster an environment in which remittances are less costly and can also have a developmental leverage. To that effect, it is important to review prevailing legislation that hinders opportunities in Latin America for savings mobilization in rural areas where there is a demand for financial services.

[33] Interview with Isabel Cruz, head of AMUCSS.

Rural Finance Innovation Case Study

Buyer and Supplier Credit to Farmers: Do Donors have a Role to Play?

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This paper builds on CGAP research to better understand the financial services accessed by agriculture-dependent households, and to identify those providers that have the potential to be sustainable without long-term subsidies. Andrew Goodland (World Bank), Juan Buchenau (Frontier Finance), and Kristin Hunter (CGAP) provided significant review inputs to this paper, and Andrew Shepherd (FAO) and Amitabh Brar (CGAP) offered valuable comments.

Introduction

Traders, processors, input suppliers, and exporters are the primary source (alongside moneylenders) of credit to poor agriculture-dependent households. These buyers and suppliers provide credit to farmers as part of input supply and product purchase transactions. They overcome key constraints to lending to farmers—for example, high operating costs, lack of client information, and risk associated with agricultural activities—by linking credit to the provision of other services, such as input supply (fertilizer, seeds etc) and technical advice. In many cases, they also tie credit to subsequent sale of produce. Even in those rural areas where financial markets are shallow and poorly developed, product-market credit may be widespread.

Yet the range of financial products provided in product-markets by buyers and suppliers is narrow. It primarily consists of seasonal credit and short-term advances. Smaller or more remote farmers may have limited market options, may be dependent on a few traders with less favorable credit terms, or may not have access to product-market credit at all. Increased trader activity can lead to credit being provided on better terms. If financial service providers also enter the picture, then the range of financial services available to agriculture-dependent households will also be increased. For small farmers to be good credit risks, they need the technical services, inputs, and sales agreements that form part of the relationships of product market credit, however. If credit is offered by financial institutions rather than through the product-market, then those financial service providers will need to be sure their farmer clients still have access to those non-financial inputs and services.

There is a case for donors to help address product and financial market failures that limit the access of the agriculture-dependent poor to the financial services that they need. Yet any donor intervention in product and financial markets risks distorting or damaging those markets. A complementary, and critical, area for donor support is improving the enabling environment for rural financial service provision.

Buyer and Supplier Credit in Product-Market Systems

Product-market credit is at least as important to farmers as loans from formal or informal financial institutions, but instead is provided by input suppliers, retail traders, itinerant traders, wholesalers, processors, and exporters. Four out of every five rice mills surveyed by the Food and Agriculture Organization (FAO) in India offer advance payments to farmers to cover input costs, with around one half of the total value of the crop covered by such arrangements. Of the fruit and vegetable traders in India surveyed, more than half give credit (in cash or in kind) to farmers. Total amounts outstanding ranged from $200 to $1,000 for each trader (Shepherd, 2003). CGAP mapped agricultural markets in Mozambique and found lending arrangements between farmers and commodity-trading companies to be widespread and a critical source of commercialization advances (de Vletter, 2003). In Zimbabwe the number of smallholders who receive input loans from Cottco, a large cotton ginner, exceeds the number of clients of any microfinance institution in the country (Gordon and Goodland, 2000).

Buyers use credit to help secure produce of sufficient quality and quantity. The credit from buyers enables farmers to purchase required inputs. Traders also often tie the credit to sales

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agreements.[1] Offering credit as part of trading relationships helps build client loyalty and (mutual) dependence, and reduces the cost of client selection and monitoring over time. Buyers for supermarket chains use input credit to increase their influence over production processes and to ensure quality and food safety standards are met. Local retail stores make advances to farmers during the growing season on the basis of income from future harvests, in the form of goods on credit, or loans for consumption and other household needs.

Product-market credit may be in cash or in kind (mostly in the form of agricultural inputs such as seeds and fertilizer). Credit in the product-market system is closely linked to transactions, and this is evident in the length of typical credit arrangements. They range from just a few days (for stocks from suppliers to traders) to the entire growing season (for input credit to producers). There is often no explicit rate of interest, although rates as high as 5% per month are quoted for input loans from rice traders to farmers in the Philippines (Shepherd, 2003). The average monthly interest rate for in-kind credit to farmers, from traders in the Sindh region of Pakistan, is 5%, charged over six months (the growing season) (Smith et al, 1999).

In lieu of an interest rate, farmers may instead be expected to accept a discount on the price paid for the produce. Traders may also require farmers to extend credit, in return, by accepting delayed payments on purchase. This can result in farmers receiving credit from traders at the start of the season, and then providing credit to traders in turn at the end of the season. In the case of rice farmers in India, loans "from farmers" account for about 30% of the financing requirements of small traders, and involve an implicit interest rate of between 2% and 4% a month (although typical periods are only 15 to 30 days) (Shepherd, 2003).

"Side-selling" (breaking a purchase agreement with a credit provider to sell to another buyer) is common where there are a large number of buyers in a product-market. The existence of many buyers also means that farmers may have alternative sources of credit for the next year, thus making default on credit arrangements less onerous for farmers. In some cases side-selling is so widespread that traders have even stopped providing production credit for certain crops, for example the case of widely-grown and traded crops such as wheat, maize and beans in parts of Chile (Conning, 2000). Where farmers rely on fewer sources of credit and inputs, such as in less accessible rural areas, or for crops with only a few principal buyers, side-selling is less common.

Product-market financial arrangements can be characterized as follows:

Contract farming and outgrower schemes. Contract farming is where a processor or other buyer provides inputs on credit (cash or in kind), linked to a purchase agreement. Repayment of the initial input credit is deducted when the farmer sells the produce. Outgrower schemes are a more integrated form of contract farming, whereby agribusiness has greater control over smallholder production: smallholder producers basically offer their land and labor in return for a package of inputs and extension services.

A key to the success of input credit is how well the credit provider can ensure the repayment of the loan—often through agreed purchase of the output. Contract farming and outgrower schemes reduce the risk of side-selling to other producers by building formal contractual relationships

[1] Also referred to as 'interlocking' - providing inputs on credit on the basis of the borrower's expected harvest.

with the farmers. Similar techniques to those used by microfinance institutions to promote client repayment are also used by some contract farming schemes, such as group liability, close monitoring, and developing strong company-farmer trust.

Box 1. Contract Farming by Supermarket Chains: Hortifruti and CSU

Hortifruti is a wholesaler that supplies the majority of fresh fruit and vegetables to a supermarket chain, Corporacion de Supermercados Unidos (CSU), in Costa Rica. Hortifruti has a pool of about 500 growers in Costa Rica, Honduras, and other countries where the supermarket operates. It works closely with those growers, providing financing, technical assistance in production, post-harvest handling, and packing materials. In return, the farmers sign contracts guaranteeing to sell to Hortifruti. The contract specifies the production calendar, the volume required, and the quality of the produce.

Source: Alvarado and Charmel, 2002

Trader credit. Trader credit can be in the form of inputs provided to farmers or as cash or in-kind advances, based either on repayment at harvest or on agreed purchase. About 75% of trader lending in the Sindh region of Pakistan is in kind, primarily seeds, fertilizer, and pesticide (Smith et al., 1999). Most rice traders in the Philippines offer inputs for production on credit, and sometimes rice as well for family consumption (Shepherd, 2003).

Traders use personal contacts and existing trading relationships as a substitute for collateral, and to reduce the risk of side-selling. Traders may insist on a year of largely cash-based transactions (often funded by moneylenders in the absence of product market credit) before offering credit to farmers, based on their observed performance. In rural Pakistan generally lend to farmers (landowners) under several conditions, and these conditions are also more widely applicable to trader finance (with the exception that explicit interest rates are not always charged):

- Credit should be linked with both input supply (lending in kind) and output (tied to the sale of produce)
- The farmer has to reliably produce a marketable crop surplus
- The farmer must be prepared to pay interest
- Mechanisms must exist that establish the creditworthiness of the farmer, such as personal knowledge of the farmer, and/or having guarantees from trusted third parties. (Smith et al., 1999)

Processors may also channel credit through traders, rather than directly to farmers. Two-thirds of Indian rice traders surveyed by the FAO traded on a commission basis, with funding from millers. Processors may also make use of interlocking credit arrangements with traders to secure farmer produce. Marketing agents (*padhys*) in the Sindh receive credit from cotton gins, on the basis of agreed later sale to those gins (these are known as *cabaro* contracts). The agents provide credit to farmers for inputs, and recover the loans when they purchase seed cotton from the farmers for onward sale to the cotton gins (Dorward et al., 1998).

Is There a Role for Donors?

A role for donors may be justified if there are market failures that result in the poor being excluded from financial services or dependent on a narrow range of credit products and too few

providers. This is the case for many poorer or more remote farmers, who have restricted or unfavorable access to credit from product-market actors and/or financial service providers.

Supplier and buyer credit arrangements facilitate the functioning of product markets, stimulate increased farm productivity through access to inputs, and are accompanied by other "embedded" market services,[2] such as extension advice. Farmers can also benefit from the market access that credit-based relationships with buyers brings. Yet the volume of credit provided by buyers and suppliers is limited by their own access to funds, and in the case of processors by their processing capacity.

Product-market credit is short-term and transaction-related, and lacks transparency. It is not designed for financing longer-term investments in equipment or property to expand operations, improve quality standards, or start-up new activities. It also does not match well with the range of financial services needed by rural households, which require deposit facilities, access to transfer payments, and credit products for household and emergency needs as well. Donors could fill this critical need by helping build a stronger rural financial sector, with expanded outreach by financial service providers. Financial institutions are also more likely to have the capacity (in terms of reporting systems, financial knowledge, and so on) to be able to scale-up credit provision.

The true cost of credit is difficult for farmers to ascertain, with discounted prices, delayed payments, and other mechanisms used by credit providers instead of or in addition to interest rates. Credit provided by financial institutions is more transparently priced, and can be "unbundled" from an overall package of inputs provided to farmers. Donors can play a role in helping create the conditions for financial service providers to play a more active role in agricultural finance.

Weak or difficult-to-enforce financial and commercial contracts, and lack of available information on potential clients, mean that market players have to rely on trust and/or geographical proximity. This restricts the scale at which market system participants can operate, and concomitantly the range of financing options open to farmers. Donor-supported measures to improve the operating environment for financial service providers and for agricultural product-market participants, seem justified.

There is therefore a potential role for donors in addressing deficiencies in product market credit, if market distortions can be avoided, and also in promoting financial-systems development. Work by CGAP, the International Fund for Agricultural Development (IFAD), the Inter-American Development Bank (IDB), the FAO, GTZ, and others has resulted in relevant lessons learned and emerging approaches that can guide donor responses. Direct intervention in markets is still risky though. An important complement or alternative for donors—that would avoid the risk of damaging markets—is improving the enabling environment for financial services and product-market transactions.

[2] Embedded services are those provided as part of wider market transactions. In addition to credit, other important embedded services are technical advice and information provision (e.g., on market quality requirements or prices).

Programming and Policy Options

Improved Access to Buyer and Supplier Credit

Intermediaries can develop or broker links between small farmers and buyers and suppliers. An intermediary could facilitate credit transactions and other embedded technical and advisory services. It could also help farmers organize themselves into market-oriented producer associations or cooperatives. The intermediary might even offer temporary financial guarantees to help providers overcome any perceived risk of dealing with small farmers.

The starting point for any credit arrangement between participants in product-markets is the development of a business relationship. These can take some time—and cost—to foster. It also requires initial networks or contacts, which can exclude many smaller and more marginal farmers from access to buyer and supplier credit. The successful experiences of local NGOs (such as FAIDA in Tanzania, supported by Dutch SNV), agribusiness development centers (e.g., ZATAC in Zambia, supported by USAID), and consultancy firms (such as Fintrac in Honduras), point to a legitimate role for a third party to broker business relationships for small farmers.

By forming associations or cooperatives, small farmers can improve their market position. If they together improve the scale—and quality—of their production, they may be able to access better market channels with higher returns and volume, and associated credit arrangements, and they can also present a more attractive credit risk. Producer associations help lower transactions costs for processors and other buyers because they can deal with one party rather than many scattered, individual farmers. Similarly, the cost and complexity of distributing inputs to, collecting crops from, and keeping records on an association is much lower. Extension and technical support services to increase or enhance small farmer production to meet buyers' requirements, can be provided more efficiently to one entity rather than to individuals. The association itself can help hold its members to quality and production standards. Formalized associations and cooperatives also allow for more effective contracts and contract enforcement, which can decrease the risk of side-selling.

Many private processors and exporters have recognized the potential offered by producer associations. Outgrower associations are widely promoted by agribusiness companies in Mozambique, for example, as described in Box 2.

Box 2. Producer Associations Linked to Processors and Exporters

Outgrower associations have been promoted by processors and buyers in the cotton sector in Mozambique since about 1998. The creation of associations is stimulated by 5% premiums paid on prices. (Although when cotton prices slumped last year, premiums were not always paid.) Association sizes generally range from 20–40 members. Lomaco, a cotton gin company, and Mocotex, which has now taken it over, have initiated hundreds of producer associations in recent years in the districts of Montepuez, Balama, and Namuno. Other companies have followed this lead, including a US tobacco company, Stancom, which works with 50 farmers' "clubs."

V&M Grain Company is a leading domestic agribusiness company in Mozambique. V&M offers interest-free advances to small and large traders, as well as to umbrella groups of producer associations (such as fora or unions). An overall repayment rate of 98% is reported. Advances to producer associations are based on 50% of the crop value at an agreed price, with no other collateral arrangements, and are provided for up to 20 days. The umbrella groups use a portion of the advance to collectively transport their produce to a warehouse, and the rest of the advance is distributed to producer associations who further distribute it to their producer members. Loans average between $5,000 to $10,000. Approximately 10% of the overall value of trade is reportedly lost in side-sales, where the advance is taken from V&M, but goods are sold to someone else.

Sources: de Vletter (2003); CGAP Agricultural Microfinance Provider Profile: V&M (forthcoming, 2003).

Producer associations in Mozambique noted several disadvantages with processor and trader credit, however. Advances can lock associations into an agreement that may not be optimal in terms of the prevailing market situation. Funds may not be available in the early part of the trading cycle, resulting in missed opportunities either in terms of prices or supply availability. Only short-term loans are provided. Often traders arrive late for produce that they know has already been purchased, but farmers are still held responsible for any deterioration in produce as a result of the delay (associations often do not have adequate storage facilities). One-off donor subsidies to associations towards the cost of constructing warehouses, or basic processing facilities, can help small farmer associations add value to their produce, secure better prices, and cope with such buyer practices.

Smaller and more marginal (i.e. less attractive) farmers may also need technical services and training in order to set-up effective associations. These higher up-front costs may well be more than private sector actors are prepared to pay. Donor-funded support to cover these costs can therefore have beneficial impact. Donors should contract specialist intermediaries, such as the Cooperative League of the USA (CLUSA) and ACDI/VOCA to give just two examples, to provide training, systems support, and other initial assistance to farmers wishing to create producer associations. CLUSA's approach to helping create and strengthen producer associations in southern Africa, and linking them to credit and markets, uses decentralized field staff who give on-site training, consultation services, and support to producer associations. They also use participatory training that teaches the skills necessary to operate market-oriented associations, such as managing budgets and contracts.

Box 3. Linking Small Farmers to Export Markets: Agriflora in Zambia

Agriflora in Zambia is an example of small farmers being linked to export markets through farmer associations and focused donor support. Agriflora is a private exporter of flowers, fruits, and vegetables to the European and Australian markets. The company runs its own farms in Zambia and also buys produce from nearby farmers, both small and large. In 2001, Agriflora had annual sales of $30 million and extended input credit to 7,000 Zambian small and large farmers.

CLUSA helped set-up the farmer cooperatives to make small farmers more attractive to Agriflora. Three hundred smallholders in eight cooperatives now have supply contracts with Agriflora. Funding from NORAD helped cover the initial costs of forming the cooperatives and establishing collection centers with a refrigerated container and input store for each cooperative. Agriflora extends input credit, using the group-guarantee methodology, to the cooperatives. Access to irrigation credit totaling $600,000 has been facilitated by Agriflora in conjunction with USAID and the Zambia Agribusiness Technical Assistance Center (ZATAC).

Source: Interview with Jacob Mwale, Agriflora (2002); CGAP Agricultural Microfinance Provider Profile: Agriflora (forthcoming, 2003).

Supporting increased levels of buyer and supplier activity and competition can result in improved access to credit, at better terms for farmers. Traders who operate in remote regions or who deal with poorer clients may not be seen as attractive clients by wholesalers and input suppliers due to their low trading volumes. As a result, they may not be offered inventory on short-term credit. Access to inputs for farmers, and to credit arrangements for those inputs, is dependent, to a large degree, on the level of trader activity in their area.

CARE developed its AGENT program in Zimbabwe to stimulate trader activity in less-favored rural areas; and this program has since been copied both by other NGOs and by the private sector. The AGENT program compensates for market failure and demonstrates that small traders (and indirectly the small farmers that they trade with, too) can be viable market-system participants. Small-scale traders were viewed as unattractive and risky by input distributors and wholesalers, and this lack of supplier credit available to small traders restricted their viability. The resulting low density of traders led to unfavorable prices for farmers, who had to pay double the prices for inputs, even for distances as low as 100 km from supply sources. The AGENT program built up a network of rural traders that gives access for smallholder farmers to input and output markets on improved terms, with credit as the vital market lubricant.

Box 4. Building Trader Networks: AGENT in Zimbabwe

A temporary *guarantee scheme* is used initially to attract wholesalers/distributors and convince them to give traders inventory on credit, which is backed by this guarantee. AGENT also works with traders to advance their business skills. Assistance and guarantees are then reduced and gradually eliminated, and traders are expected to develop independent commercial relationships with suppliers after one agricultural season of trading.

Since 1995, a total of 580 traders have been set-up and linked to the private sector, and 60% were fully absorbed into the private sector distribution network. Farmers have also benefited from the increased product range offered through the program, such as a wider variety of seed and fertilizer, basic processing and irrigation equipment, and general construction materials. Zimbabwe Fertilizer Company (ZFC), the largest fertilizer manufacturer in Zimbabwe, has since launched its own input distribution system modeled on the AGENT program. Eleven private-sector companies have worked with the program and have subsequently continued to work with the AGENT traders. Other NGOs have also adopted and adapted the AGENT model and developed their own schemes for the benefit of smallholder farmers.

Sources: Pearce D, 2002, AGENT Case Study, Market Access Elective Case Study, BDS 2002 Training Course; Sharma D, 2002, 'AGENT, CARE Zimbabwe. Overview', Note to Author.

The Rural Enterprise Agribusiness Promotion Project (REAP) is a CARE program in Kenya that helps small farmers gain access to markets through a range of services and interventions, including the use of credit guarantees. Smallholder farmers are organized into legally registered production units with their own management capacity. The donor-supported REAP program provides resources to help the farmers establish irrigation infrastructure, and offers input supply and technical assistance to enable them to deliver produce that meets export market standards. A Central Management Unit (CMU), created by the REAP project, provides services to the production units for a management fee. These services include technical production assistance, negotiating input and output market links (farmer units sell through the market system, not through the project), and facilitating access to credit. The CMU runs a loan fund (the "Input Supply Loan Fund"), which either directly provides loans to farmer units or guarantees credit from private-sector buyers and processors. The private sector is eventually expected to deal directly with the production units without this guarantee. The loan fund enables farmers to get more flexible and diverse loans in addition to standard seasonal input credit (for example, longer-term irrigation infrastructure loans).

The REAP example further illustrates the potential of grouping small farmers into cohesive units or associations, and also serves to emphasize the close relationship between financial and non-financial services in agriculture. Non-financial technical and advisory services are needed to improve the attractiveness of small farmers to credit providers. While non-financial and financial services are both necessary for agricultural lending to be viable, they should be operationally separated in order to improve efficiency, transparency, scale, and the range of financial services available to small farmers.

Promoting Financial Service Provider Involvement in Agricultural Microfinance

Financial institutions are specialized in providing financial services, whereas traders and processors lack the expertise and systems to do so as effectively. By unbundling credit from input-supply transactions, credit products can be made more transparent and efficient, with explicit interest rates and terms. This encourages more competition to improve credit product design and farmers get more choice. Buyers and suppliers may be able to set-up specialized financial service entities to conduct credit operations. More active involvement of financial service providers (such as credit unions, banks, or microfinance NGOs) develops and deepens rural financial markets, making a more diverse range of financial products available to agriculture-dependent households.

Increased financial institution activity in rural areas could also benefit farmers indirectly through traders and processors being able to borrow larger amounts at better terms. Eased liquidity constraints for traders and processors could translate into increased competition for farmer supply, and therefore to improved credit access and terms.

It can be difficult to completely separate financial and non-financial services to farmers. Financial institutions may, as a result, lose access to the non-financial components of buyer and supplier relationships that improve the farmers' creditworthiness and make lending feasible (such as access to technical and production advice, sales agreements, and client information held by buyers). Product-market actors, on the other hand, may lose a key mechanism used to "guarantee" a supply of produce from farmers.

Links between financial and product-market actors offer a way to harness the respective advantages of both. Such arrangements can lower the selection and monitoring costs for the financial service provider, and also reduce lending risk. Through the involvement of buyers, processors, and/or input suppliers, financial institutions can help ensure that clients have a sales outlet, timely access to the required inputs, and appropriate product-related advice. These linkage arrangements open up support options for donors—either through intermediaries, agencies specialized in market development, or directly to financial institutions. Linkages can take various forms, including:

- A specialized NGO or consulting firm developing embedded services and stimulating market linkages through a temporary donor contract
- Brokers that either provide or facilitate access to non-financial inputs (including marketing) to small farmers, and negotiate access to credit on behalf of those farmers
- Agents that select and monitor clients on behalf of a financial institution through a contractual or ownership arrangement, and either directly provide or facilitate non-financial inputs to the selected client farmers.
- Partnership arrangements between processors and financial institutions
- Producer associations as clients of financial service providers.

Specialized firms or NGOs can stimulate embedded services in product markets, link-up farmers to sources of finance, and improve their attractiveness to both financial and product-market credit providers. Short-term contracts from donors to specialized intermediaries can have positive impacts on long-term access to credit for farmers. But for this to occur, the intermediary

should not take the easier short-term route of providing its own services directly to farmers. Rather, they should develop the capacity of existing market actors to provide enhanced embedded services, and create linkages for small farmers to new (financial and non-financial) service providers.

Fintrac is a consulting firm that has specialized capacity in market linkages and supporting embedded services. USAID subcontracted Fintrac in Honduras to develop market linkages and embedded service providers in the watermelon-market system, for the benefit of small farmers. Fintrac linked farmers to commercial bank financing and to improved product-market opportunities. A domestic bank now lends to these farmers for inputs and labor, on the condition that the farmers join Fintrac's technical assistance program (which increases yields and quality). Fintrac negotiates fixed-price contracts with processors and foreign buyers, and the farmers purchase crop insurance (which is facilitated by Fintrac). The long-term sustainability of these linkages will depend on whether actors in the watermelon market system (input suppliers, transporters, and buyers) continue to provide higher quality inputs and technical advice. If the improved yields, profitability, and sales contracts are sustained, then the farmers should continue to be attractive to financial service providers.

Intermediaries can also play a more sustainable broker role within the market system, by linking small farmers to markets, inputs, and credit. An example of a product-market service provider that works directly with farmers, and facilitates access to financial institution credit, is Critecnia in Peru:

Box 5. Interlinked Financing Arrangement: Critecnia in Peru

Critecnia is a firm that works with small cotton farmers. The farmers sign a management contract with Critecnia, which buys and markets their produce, and provides inputs relatively cheaply. Critecnia also links them to financing sources. Prior to its involvement, poor repayment by farmers was endemic, and financial institutions were wary of financing farmers. Critecnia now negotiates loans on behalf of the farmers, with the farmers providing loan guarantees in the form of land.

Critecnia subtracts loan payments and fees for technical assistance and management at point of sale, and then splits net profits equally. Interest on loans is 24% from the bank, with a balloon payment at harvest. Total costs, including Critecnia services, raise the loan cost to an effective interest rate of 30%. Critecnia is reportedly profitable, with very high repayment rates in most years.

Sources: Alvarado, et al (2000); Wenner (2001).

Financial institutions can use contractual or ownership arrangements with providers of product-related technical assistance, to ensure that small farmer clients receive the inputs and advice needed to be good credit risks, and to lower their costs of selecting and monitoring them. Banco Wiese in Peru had such an arrangement with a technical assistance provider, CES Solidaridad. CES Solidaridad (an NGO) acted as an agent, or broker, for Banco Wiese since 1994 (although a recent takeover of Banco Wiese has stopped this scheme). CES Solidaridad selected and provided technical assistance to groups of two or three farmers located close to each other (to reduce supervision costs), and Banco Wiese provided the loans. CES Solidaridad gave the bank confidence in the clients and compensated for its lack of skill (and high cost) in identifying and assessing small farmer clients. CES Solidaridad took a 2.5% commission for each loan, and an

additional 1.5% after successful loan repayment. Banco Wiese charged a 26% interest rate. The bank took the primary risk, and asked clients for collateral/hipoteca as a guarantee. This scheme had excellent repayment performance, and by 1998 had an outstanding loan portfolio of more than $3 million (Alvarado et al., 2000).

A similar example is Sogebank in Haiti, which has over 5,600 active clients after three years and is still expanding.

Box 6. Specialized Loan Service Company: Sogesol in Haiti

Sogebank created a specialized loan-service company, Sogesol, in order to move into micro-lending in a viable manner (i.e. flexible and low cost, compared to the bank's conventional operations). Sogesol's staff originates and manages loans that are booked by Sogebank. Sogesol's revenue is a variable fee equal to credit revenues minus funding cost, transaction fee, loan provisions, and support service fee. In order to adapt this model for agricultural microlending, an agricultural loan-service company could also provide (directly or indirectly) extension services to farmer clients, in addition to client selection and monitoring.

The IDB gave a $300,000 grant to fund feasibility studies, staff training, and the design of Sogesol. A consulting firm, Bannock, wrote the business plan, and Accion International, an NGO, developed the information systems, procedures, and lending methodology for Sogesol, as well as hiring and training staff. Accion International is also an investor in Sogesol through its Gateway investment fund.

Source: Boisson (2001).

Agricultural processors and financial service providers can also act in partnership. A newly emerging partner arrangement between a financial service provider and a processor firm is the one between PRIDE AFRICA and Monsanto, in Kenya. This pilot scheme has focused on maize, and to date has only worked with a very small number of farmers (20). Monsanto identifies farmers and organizes them into small groups—almost like solidarity lending groups. Monsanto's demonstration/field workers then provide training and technical assistance to those groups. Farmers are required to make a savings deposit (loan collateral) of 25% of the loan requirement (approximately US $25), with PRIDE AFRICA. The interest on in-kind input loans—disbursed through selected traders/stockists—is a flat rate of 25%, with a balloon repayment of consolidated principal and interest after harvest (generally a four-to-six month period). Disbursements are made in two tranches, in line with when farmers need inputs (Ayee, 2002).

Donor support for this pilot program has been a small start-up grant of $45,000. Scaling-up the program this year (to 500 farmers) may require more donor support, as may the additional plans to introduce savings deposits and to introduce an electronic information system linking farmers to price information and market opportunities. The scheme will also diversify from maize to horticultural crops.

Allocating lending risk between financial and non-financial service providers can be a challenge for linkages. If the financial institution takes all the lending risk, without a mechanism (whether contractual, or through fees based on repayment) to ensure that its partner or agent is in some way also held responsible, then such linkages and partnerships may fail. Banco Wiese, for

example, took the lending risk, but made CES Solidaridad's fees partly contingent on full client repayment. In the case of Critecnia, the client farmers offer their own land as collateral to the bank, and the agent, Critecnia, uses its good reputation, based on effective technical services and marketing, to help facilitate access of farmers to bank loans.

Donors can also promote linkages through producer associations, which can have the additional advantage of an enhanced negotiating position, compared to individual small farmers, in market or financial transactions. Offering financial services to producer associations can lower costs (one large client rather than many small ones), and associations may also have more acceptable collateral. This approach is used by ACDI/VOCA throughout the former Soviet Union, with partner financial institutions providing retail lending to farmer cooperatives, and also wholesale lending to credit cooperatives with farmer members. A further example is GAPI, a financial institution in Mozambique that has initiated lending to farmer associations supported by CLUSA.

Box 7. Producer Associations as Clients of a Financial Institution: GAPI and CLUSA in Mozambique

GAPI offers investment and working capital loans to fora (federations of associations) of small farmers and small and micro-enterprises. There are approximately 300 farmers in each forum (30 per association; 10 associations in each forum). GAPI collaborates with CLUSA to set-up and register these fora, with registration costs covered by donor funding. Loans are secured through a solidarity group-like guarantee between the participating fora. The fora can borrow any amount, sanctioned by the group, based on their needs. Loan monitoring is done through credit-management committees formed at the forum level and CLUSA/GAPI representatives.

Each fora on-lends to its member associations, who collect the produce from their individual members and other area farmers and deliver it to the forum in return for the loan. About 80% of the profits from the sale of produce are handed back to the associations–the remaining 20% of the profits are kept by the forum as interest payments and to cover expenses. An interest rate of 3% per month is charged for these loans on a declining balance. The length of the loans is between three and four months. Repayment is flexible–interest is due monthly, and the principal can be repaid anytime. A total of $93,600 was disbursed to 24 fora during the first trading season in 2002, and $34,000 was disbursed to 13 fora in the second trading season that year.

Sources: de Vletter (2003); CGAP Agricultural Microfinance Provider Profile: GAPI (forthcoming, 2003).

Lending by GAPI to producer associations in Mozambique supported by CLUSA has opened up other, longer-term forms of commercialization credit that allow associations to choose their markets. Compared to trader and processor credit, GAPI loans are not tied to a sales agreement, loan amounts are flexible, and loan terms are longer.

An alternative to financial institutions providing production credit to small farmers is processors and wholesalers creating financial entities in order to secure efficiency, specialization, and scale advantages in providing finance. Some processors in Mexico are transforming their lending operations into non-deposit taking financial institutions ("SOFOLES") dedicated to agricultural finance, with support from FIRA, the Bank of Mexico-coordinated Agro-Fishing and Rural Infrastructure Fund (Buchenau, pers. comm.). Trisan S.A., a wholesaler of agrochemicals in

Costa Rica, formed Financiera Trisan as a finance company in 1987, in order to provide quicker and lower cost access to finance for farmers and retailers:

Box 8. A Supplier setting-up a Finance Company: Financiera Trisan, Costa Rica

Financiera Trisan developed a credit card for those retailers of agricultural inputs and individual agricultural producers that it supplied that had predictable cash flows. The credit card was intended to lower transaction costs and increase credit sales volumes. This scheme has allowed Trisan S.A. to evolve from providing supplier credit to providing a wider range of finance through a credit card that can be used with a range of rural merchants (including input stores, petrol stations, auto repair shops). Financiera Trisan developed two types of cards: *Agrimax*, for input retailers and farmers with regular income (30 day billing cycles are offered), and *Maxicuenta*, for farmers who have good credit and seasonal cash flows (allows balloon repayments after harvest)

This credit card scheme was successful: by 1999, Trisan had over 3,600 credit cards in the field, and the Agrimax card had loans outstanding of $4.7 million. However, two factors have caused Trisan to rethink its credit card business: a government debt pardon scheme hit repayment severely, and the Superintendency for Banks (SUGEF) deemed that Trisan's administrative costs and delinquency rates too high for banking industry standards, and needed lowered. Repayment levels have plummeted after the introduction of the debt pardon scheme; delinquency rates reached as high as 25%, and are still around 15%. Since 1999 over 2,200 accounts have been written-off.

As a result, the company has been gradually shifting the Agrimax card into a smart card based system. The smart card product is more flexible with regard to interest rates, loan term, and repayment schedule, enabling Trisan to provide different models of credit (unlike the standardized Visa model followed earlier) and better manage lending risk. The volume of smart-card based credit has risen from 8.5% in 2001 to 13.7% by September 2002 and the delinquency rates on these accounts are reported to be less than a third of the traditional card.

Sources: Wenner (2001), CGAP Agricultural Microfinance Provider Profile: Financiera Trisan (forthcoming, 2003), and Communication with Trisan Director.

While the necessary communications and electricity infrastructure for introducing credit card schemes may not exist in less favored rural areas, pre-approved credit lines can still offer easier and quicker access for short-term finance than individually-approved loans. By establishing finance companies or other such specialized financial service entities, processors and wholesalers can offer credit more efficiently and transparently, and their knowledge of the product-market and links to non-financial inputs and services may give them an advantage over other financial service institutions.

Improved Operating Environment for Financial Services

While targeted support for individual models and linkages can be effective, a more systematic response is to improve the operating environment for financial and product-market operations. Donors can work with governments, the private sector, NGOs, and communities to build an enabling environment for product-market credit providers and for formal and informal financial institutions. Government interference in agricultural markets has been reduced by the elimination of parastatals and a reduction in direct subsidies, but political influence over agricultural credit is still a threat and inhibits involvement of financial service providers in agricultural lending. Weak

legal and judiciary systems make enforcement of financial and commercial contracts difficult or expensive, client information is not easily available, and infrastructure and services in many rural areas are deficient. These factors have inhibited financial institutions from entering the field, have forced farmers to overly rely on transaction-related credit through product-market relationships, and have also contributed to problems with strategic default on tied credit arrangements.

More streamlined and affordable collateral registration procedures, with functioning pledge and property registries, would make increased lending outside of tied credit arrangements and existing trade relationships more feasible. The risk of side-selling within such arrangements could also be reduced, with crop liens easier to enforce, and a more credible threat of executing any collateral. The capacity of courts to process claims, and any bias towards the debtor rather than the creditor, would need to be addressed in parallel though.

Mechanisms for sharing client information can enable providers to lower their default risk. A credit bureau could be designed to facilitate the exchange of negative client lists between both financial and non-financial credit providers, for example. If credit providers can find out if clients have defaulted in previous years, they can better prevent side-selling, and clients have more incentive to honor contracts in situations where there are many competing buyers.

An improved framework for agreements between buyers and small farmers can lead to more favorable credit arrangements for small farmers. For example, standard contracts, mechanisms for conflict resolution, regulations for collective bargaining, and legislative amendments to existing contracts, can all be effective.[3] One way of achieving better terms for market relationships is by supporting organizations that represent farmers, such as NASFAM (see Box 9).

Box 9. Improved Market Position for Small Farmers: NASFAM in Malawi

NASFAM, the National Smallholder Farmers' Association of Malawi, is an umbrella association for farmers' clubs and associations (with over 90,000 members in total). Through advocacy and negotiation for institutional reforms to promote market access, NASFAM has been able to renegotiate the terms of market involvement for small farmers in crops such as tobacco and vegetables.

Small farmers now have standard contracts with buyers and transporters. Fair entry onto the tobacco-auction floor was negotiated on their behalf by NASFAM. Small farmers are now represented in the tobacco-industry associations, which gave them a voice in formulating the liberalization policies and new commercial deals. NASFAM also taught the small farmers how to negotiate with buyers.

Source: Pearce D, 2002, NASFAM Case Study, Market Access Elective Case Study, BDS 2002 Training Course (unpublished).

Price and yield risk are structural constraints to lending to farmers without diversified income sources. The World Bank's Commodity Risk Management Group is working to make risk

[3] These measures were also recommended in the Norwegian Agency for Development Cooperation's *Private Sector Development in Zambia, 2002.*

management instruments for price and weather risk that are available mainly through international markets, more accessible. Pilots have been established with farmer cooperatives, and negotiations are underway with trading companies. Hedging options that reduce a credit provider's exposure to loss from default caused by bad weather or price fluctuations could allow financial institutions to extend the proportion and scale of their lending to agriculture-dependent households.

Better transport and communications infrastructure leads to easier access to information and lower transport and operating costs. In addition to requesting donor support for cooperative development and to longer-term credit, Agriflora in Zambia also suggests that donors helping fund the construction and repair of infrastructure (irrigation, roads, etc.) would lower their costs of working with small farmers in many areas. At present, Agriflora is limited to buying from farmers in easily accessible areas.

Guidelines for Avoiding Market Distortion and Limits to Donor Involvement

A central dilemma for donors seeking to enhance small farmer access to product-market credit is how to avoid distorting markets with their interventions. Supporting specific companies or private individuals to enable them to establish or extend credit can be beneficial to smallholders in the short-term, but it may give that company or individual an unfair market advantage and hurt competition. Guidelines to reduce or avoid market distortion in donor support include:

- Focus on farmers that are poorly integrated into product-markets, but which could be viable market participants if underlying constraints or market failures are removed. This can develop and/or extend markets, rather than risking distortion to existing markets.
- Use subsidies (grant, technical assistance, training etc) to build provider capacity, not to subsidize the cost of services or loans to farmers. Any benefits from subsidies that distort prices tend to be captured by those with more resources and influence and are not sustainable over the long term.
- Reduce (and end) subsidies over time. There has to be a clear end to any financial support, and that support should be contingent upon measurable and achievable objectives.
- Make support available through transparent selection criteria. Financial support should be open to more than one entity, and future support should be dependent on reaching agreed performance objectives.

While linkage arrangements between financial and product-market actors can capture the respective advantages of the services provided by each, donors should be careful not to support linkages in which the terms of credit provided are not transparent, or that lock farmers into unfavorable credit and purchase arrangements. Restrictive linkage arrangements can result in the potential for increased transparency and competition being lost. Farmers benefit from buyers having to compete for their supply on the basis of non-credit factors such as price, efficiency, and on-time payment. Financial institutions could "pre-qualify" a number of input and technical assistance suppliers that it views provide sufficient quality services to farmers to reduce the risk of lending them to an acceptable level, rather than insisting that farmers deal with a specified provider.

Measures to improve the enabling environment for credit provision are less likely to cause market distortion than direct engagement with product and financial market actors. By improving infrastructure, services, information availability, and the functioning of collateral and property registries, the overall conditions for financial intermediation can be improved, and competition stimulated.

Donors need to be creative in finding ways to engage with private sector actors in product markets. Private companies have shown flexibility in including poorer farmers in credit-based transactions, as illustrated by Critecnia, Agriflora, and V&M. Yet donors may face restrictions on directly supporting companies, due in part to the issue of benefits from public money potentially being captured by individual companies through improved profits and market position. An alternative if so, is to fund specialized providers that have proven their availability to support market development. CLUSA, CARE (through the AGENT and REAP programs), and others profiled in this paper demonstrate the effective role that such providers can play.

Conclusions

Buyer and supplier credit is the primary source of finance for agricultural production in many countries. Yet the range of financial services offered within product-markets is very narrow, and poorer and remoter farmers may be excluded. Donors can support the extension of buyer and supplier credit to such farmers by promoting embedded services in product-markets, brokers and intermediaries, and the development of market-oriented associations of small farmers.

Product-market credit is not a substitute for financial markets. Financial service providers offer more transparent credit than do most buyers and suppliers, can offer loans to a larger number of clients due to having more appropriate systems and procedures, and can also offer a more diverse range of financial services. Yet in order to overcome the risk, operating cost, and informational constraints that have limited their involvement in agricultural lending to-date, financial service providers may need to establish linkages with suppliers and buyers; either directly or through intermediaries. Processors or suppliers that are able to set-up finance companies that offer credit to farmers may have an advantage over financial institutions as a result.

Donor funding to market actors and to intermediaries risks distorting competition and incentives. Patient and longer-term support to improving the operating environment for financial service provision in areas dependent on agriculture can avoid such distortion, and moreover can have systematic and far-reaching impacts. A more positive enabling environment can enable the extension of financial services to poorer and more marginal farmers through both product-market and financial market providers.

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Paving the Way Forward for Rural Finance:
An International Conference on Best Practices

Conference Agenda

DAY 3: Wednesday June 4, 2003

7:30 a.m. - 8:20 a.m.	Information and Coffee/Continental Breakfast
8:30 a.m. - 8:45 a.m.	*Opening Remarks* Introduction: •Lucy Ito (WOCCU) Speaker: •Kate McKee (Office of Microenterprise Development-USAID)
8:45 a.m. - 10:15 a.m.	*General Session: Rural Finance Outreach & Sustainability* Moderator: •Lucy Ito (WOCCU) Presenter: •J.D. Von Pischke (Frontier Finance) *The Evolution of Institutional Issues in Rural Finance Outreach, Risk Management and Sustainability* Discussants: •Richard Rosenberg (CGAP) •Richard Meyer (Professor Emeritus, Ohio State University)
10:15 a.m. - 10:45 a.m.	Coffee Break
10:45 a.m. - 12:30 p.m.	*General Session: Framework for Rural Finance Development* Moderator: •Michael Carter (BASIS CRSP, UW-Madison) Speaker: •Emmy Simmons (Assistant Administrator-USAID) *The Value and Challenges of Donor Programming Principles* Presenter: •Brian Branch (WOCCU) *Rural Finance Programming Principles: Towards a Public Dialogue*
12:30 p.m. - 1:45 p.m.	*Luncheon: General Discussion*
2:00 p.m. - 3:15 p.m.	*General Session: Donor Perspectives on Rural Finance Programming* Moderator: •Michael Carter (BASIS CRSP, UW-Madison) Panel Members: •David Stanton (DFID) •Mark Wenner (IDB) •Thorsten Giehler (GTZ) •Henri Dommel (IFAD) •Kevin Cleaver (World Bank) •Jock Conly (USAID) •Ross Croulet (African Development Bank) •Brigit Helms (CGAP) •Gisela Strand (SIDA)
3:15 p.m. - 3:30 p.m.	*Closing Remarks* •Emmy Simmons (Assistant Administrator-USAID)

Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Lead Theme Paper

Theme 6: Rural Finance Outreach and Sustainability

The Evolution of Institutional Issues in Rural Finance Outreach, Risk Management and Sustainability

By J.D. Von Pischke
(Frontier Finance)

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

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Introduction

A revival of rural finance seems to be getting underway. This paper provides a generalized overview[1] of the opportunities that have evolved in donor-funded rural finance which are presented in institutional terms. Institution as used here refers to organizations and also to practices, standards and other structures that organize behavior. The five parts in this paper attempt to put the renewed challenge in perspective:

The Past reviews the costs of inappropriate technical efforts in a hostile political environment. The Past provides cautionary lessons.

The Continuing confronts possible areas of residual weakness that remain from The Past and the risk management challenges they may pose.

The Recent discusses how institutional changes that gained momentum around 1990 enlarged the role of financial markets and created more opportunity to move the frontier of formal finance down market so that more poor people could be served. It also draws some hypotheses about how important institutions of microfinance might relate to the rural finance revival, and notes the rise of commercial providers.

The Open addresses some of the possibilities that lie ahead and outlines new institutional forms and responses that could help more poor people through rural finance. These suggestions include possibilities for funding institutions that are not commercially viable but that could be sustained by strong donor commitment. These speculative proposals are intended to pave the way forward in project design, donor etiquette, public responsibility and empowerment.

An Annex lists institutional features or attributes that may be helpful to donors in their searches for entities that would implement their interventions in rural finance.

The paper's progression is chronological because rural finance project history since the 1960s is an important check and guide for constructing viable institutions that are capable of meeting the tests of the microfinance triangle devised by Manfred Zeller and Richard L. Meyer.[2] The triangle consists of financial sustainability, outreach to the poor, and impact.

The triangle provides a very useful framework that can be expanded. An historical perspective produces transparency as a fourth element that is essential for risk management. The *finance project pyramid* includes transparency because the rural finance revival will not occur without taxpayer funding. In this framework, transparency is required. Without it the other three fundamentals are less likely to be achieved, or if achieved, at higher costs than necessary due to rent seeking or other defects in governance. Transparency is especially important in endeavors that are funded by taxes and face soft budget constraints, and that are not subject to competition based on consumer choice. Low levels of choice are characteristic of remote areas, and also define poverty. Rural finance as used here refers to savings, credit, insurance and payment services in areas where agriculture is a significant part of the local economy and where population is sparse, remote and often poor. Target group is used to denote actual and potential clients served by a financial institution that has created a market niche that attracts such clients.

The Past: Institutions Based on National Economic Management

For about 25 years beginning in the 1960s the quest for food self-sufficiency in poor countries was an important policy goal. A large proportion of the labor force lived and worked in rural areas in developing countries. Import substitution was a development objective, all the more so with decolonization. It appeared that a number of positive impacts could be achieved simultaneously if more food were produced: smaller food deficits and increased food security, a more productive rural economy, and saving foreign exchange by reducing food imports.

It was also clear that the majority of farmers were poor and that the profitability of agriculture was problematic. How could they be enlisted to help meet national economic goals in such a way that they would also prosper? Many things might have been done to help, but credit was selected as the solution of choice. Finance was considered a binding constraint by the policy elites. And, just about every farmer who was ever asked wanted credit or more credit, especially when the questioner looked more prosperous than the peasant being queried and worked for a foreign aid organization or the government. No minister of agriculture ever declined a credit project.

Many types of agriculture, such as basic grains required for food security, are not very profitable in poor countries while production is subsidized in rich countries. It seemed only logical that subsidy would be appropriate and productive in poor countries, and that this could be delivered easily through low interest rates. The returns to the economy as increased food security and rural prosperity ricocheted through the economy would surely swamp the amount of subsidy that would be required to get the process underway.

Projects for the Poor

An early focus on large scale agriculture occurred because these operations were in some cases the most progressive, adoption of improved husbandry would be rapid, and large farmers had political weight. Transaction costs would simply be lower and results would be reasonably predictable. In the 1970s, however, smallholder agriculture emerged as a major focus. Peasants were often food insecure and constituted the majority of the population. Poverty alleviation required more attention on humanitarian grounds and also to build democratic states. Robert McNamara's 1972 speech to the Board of Governors of the World Bank and the IMF in Nairobi focused on poverty, providing a platform for action. In 1964 Theodore W. Schultz, from the University of Chicago, wrote *Transforming Traditional Agriculture*[3] which made a convincing case that peasants are rational. No longer were they ignorant, misinformed and lazy.[4] Their rationality provided a basis for constructive interaction with modernity and technology.

USAID was instrumental in promoting farm credit. In 1973 it published the Spring Review of Small Farmer Credit. This study produced a number of volumes on farm credit in a number of countries, which took up about two feet of shelf space. An impartial sampling of this incredible documentation would have led to caution, in that so many schemes were defective in sustainability, outreach or both. But, AID used the Spring Review as a mandate for massive expansion of farm credit projects, unleashing the herd instincts of other donors.

The Planning of Change

Lending was targeted at specific groups of farmers, specific areas or regions, and specific crops. In some cases governments specified lending quotas for different targets to be met by banks. This was known as "directed credit." Commercial banks were also often required to place large reserves (as a percentage of deposits) with central banks, which in turn used these funds to

finance the national budget. High reserve requirements and directed credit reduced the role of banks in allocating credit. This task was performed by the ministries of finance or planning.

Agricultural lending often focused on modern inputs, such as improved seeds and fertilizers that would more than cover their cost through bigger harvests. Donors provided an analytical tool kit of farm models based on agricultural economics. This made it possible to determine which crops would be the most appropriate, based on expected costs and returns. Many farm credit agencies in developed countries used this type of analysis and similar decision making structures based on future rather than current productivity. Lots of research, academic instruction and training were provided by donors to help ministries and financial institutions master and apply this approach.

The analytical tool kit would currently be called lending technology. Loans were made against income expected from the investment purpose for which the loan was issued. Current or without-the-project income, from which repayment would have to come if the investment failed, was usually much smaller than projected income, based on the promise of improved husbandry and the new seed varieties that became available with the Green Revolution. A high percentage of incremental costs were covered by the loan, usually between 80% and 100%, or even more in some cases where the loan financed family living expenses between planting and harvest. In sum, loan obligations were large relative to farm income before or without the loan, making the risk of nonrepayment quite high. Farmers in favorable environments often reported that one year in five was a bad year, while those in less favorable circumstances reported a higher incidence.

Beyond the farm level, justification of recommendations was achieved by aggregation of financial models. Further analysis calculated a return to the economy, using adjustments to compensate for financial prices that did not indicate true scarcity because of taxes, monopolies and subsidies. The economic returns were subjected to sensitivity tests by assuming that costs increased by 10% (or any other percent), while income decreased by some other arbitrary percentage. These subsector models could even fit into national economic planning as represented by the five-year plans then in vogue.

Risk Denial

The sensitivity tests of economic prices were mechanistic, not based on patterns of actual historical risk. The analysis using financial prices was not even subjected to these tests, and more importantly, was not burdened with the common sense question: "What is most likely to go wrong here?" Farmers have a keen sense of what can go wrong, yet farm budgets or plans that were used to determine input use and loan size were based exclusively on the normal year, often tweaked by optimism rather than realism, which helped keep donors' money moving. Donors were not very attentive to risk and had few incentives to explore and manage it. Risk never made a project look better. Development economics trumped development finance, which made it impossible to create good financial institutions in many countries. Without effective institutions to interact with, small farmers never had a chance.

Fast disbursements were appealing. An array of state-owned financial institutions (SOFIs) awaited, and donor money flowed to these convenient wholesale or retail recipients for lending to farmers. Cooperatives also participated through cooperative banking systems, savings and credit cooperatives, and agricultural supply and purchasing coops that made production or storage loans to their members.

Most SOFIs and many of the cooperative finance institutions were inefficient. Costs were high, procedures were ponderous, loan approvals were slow and often late relative to the agricultural calendar, donors demanded lots of information, and low interest rates guaranteed that the banks could not make much money on these deals. Low ceilings imposed on interest rates reflected "financial repression" or the direction of financial flows based on state institutions and policy rather than on market forces. Some donors believed that financial institutions could cross-subsidize agricultural credit, using profits from more lucrative business to support strategic business that lost money. This usually failed. Many institutions had little lucrative business.

Bad agricultural years made farmers much less likely to repay, but even in normal years formal agricultural lenders were often not very good at collecting loan repayments.[5] Loan recovery rates of 75% or 80% were often considered "satisfactory" by donors. Some cooperatives were greatly weakened by subsidies when members and leaders concluded that the "cold money" provided by outsiders could of course be treated differently from the precious "warm money" deposited by members.

Continued donor support kept some programs alive. It was widely assumed that as state-sector entities, the banks would enjoy perpetual access to additional funding for strategic ventures such as agricultural finance. Since these banks were in the political arena, certain people had to be taken care of, too. Politicians helped, some of the most notable being candidates for public office in India who "promised" that no farm loans would have to be repaid if they were elected. Low interest rates gave the relatively rich and well connected incentives to colonize small farm credit programs. Bankers often went along because the costs of loan processing do not vary much in proportion to loan size. Larger farmers seeking large loans were cheaper and easier to serve than numerous small farmers seeking small loans, encouraging banks to take the easy way out.

In many countries donor money and encouragement set the pace for agricultural or rural finance. This led to a separation between aspirations and results, while incentives were lacking for financially responsible behavior. However, donors' influence was not very strong in large countries such as India, Mexico, Brazil and China, which had domestic programs that were much larger in money terms than the funds provided by donors. These large domestic programs were highly politicized and often turned out to be unsustainable, although some achieved considerable outreach.

The Changing of Plans

Very little data was routinely available on the financial performance of credit projects launched by donors. In the mid-1970s the World Bank had an agricultural credit division with global reach that maintained summary data on the financial performance of the farm credit institutions it funded. A reorganization led to regionalization of agricultural credit operations and these data were no longer compiled. Not having data routinely gathered and organized made lending easier in an atmosphere in which there was little responsibility for project outcomes. Assistance was widely regarded as a good thing in itself and the locals could always be blamed for the poor implementation, however elegantly designed were the donor-funded projects.

Money doubtless has an impact, and credit surely helped rural households in some ways. However, impact on agriculture was usually less than the projected rates of returns that donors used to justify intervention in rural finance. The projections based on farm models often varied greatly from observed farmer behavior, which might be expected when the farm is only one component of the rural household economy. By the early 1990s abundantly clear evidence had accumulated regarding agricultural credit, and the paradigm endured withering criticism. Donors exited. Rural credit projects were simply discontinued. No attempt was made to design a better farm credit project.

The scope of the demise is illustrated by data from the Inter-American Development Bank. IDB's rural finance operations that provided direct support for rural credit began in 1961. From 1976 to 1980, total funding was $626 million. During the period 1981-1985, the total was $1.7 billion, and in 1986-1990 the amount was $1.6 billion. From 1991 to 1998 the total was $61 million.[6]

Two anomalies that received little attention could have provided clues about the role of credit in smallholder agricultural development. The first was that production did not seem to decline in any general or measurable way when subsidized credit was discontinued. Second, the role of credit in the Green Revolution was not rigorously explored, although Richard L. Meyer and Geetha Nagarajan indicate that credit officially allocated for specific agricultural purposes did not achieve its desired impact on the Green Revolution.[7] These observations challenged the credit paradigm: that is, a) peasants too poor to be able to buy modern inputs, when given b) cheap credit to buy modern inputs, which with c) better husbandry would achieve d) larger harvests.

An additional hallmark of The Past was that the role of savings in development and in household welfare was largely neglected.[8] This raises an interesting problem: in many countries rapid inflation has outpaced interest rates paid on deposits over a period of 10 to 20 years, often because of economic crises. Should poor people in such countries be encouraged to build nest eggs in formal financial institutions?

The Continuing: Institutions Based on Donor Grants and Loans

Poverty remains widespread and disgusting,[9] and the bulk of the poor live in rural areas.[10] Greater efforts to do something about it produce a tug of war between two approaches. One consists of charitable efforts to provide immediate relief. These lighten burdens but are not sustainable activities on their own. These may reach target groups consisting of millions, with different levels of intensity. They are limited by the extent of foreign assistance, government budgets and private contributions. The second approach consists of efforts to create institutions that will bring very large numbers (billions) out of poverty in the longer run in a way that is self-reinforcing. No silver bullet has been discovered.[11]

Finance clearly has a role to play in each approach through credit or more broadly through financial institution or sector projects, as discussed later in this paper. Interest remains focused on those beyond the frontier of formal finance: small farmers, microentrepreneurs, small and

medium enterprises, the very poor and those in remote areas. And there is room for expansion in areas where some services are already available.

One now somewhat diminished legacy of The Past is an instrumentalist view of finance. Instrumentalist refers to the use of finance for some specific purpose, for specific changes in behavior over a relatively short period of time, which are thought by their sponsors to be helpful. An example was credit for cultivating high yielding varieties of grain. The contrasting view is that finance is a positive social end in itself in that more efficient financial markets provide a richer array of benefits to many more people in the long run.

The instrumentalist view is *dirigiste* and concerned about impact measurement, while each view can benefit from market research. The financial markets view is liberal in the classical sense of promoting freedom of choice. This view is endorsed by those trusting in a certain rationality by users of financial services that results in better choices and results overall than those available within a more restricted set that is designed to change clients' behavior in specific ways. Market research is favored more than impact analysis by those holding the financial markets view. But, impact analysis and market research are closely related, and market research is increasingly included in impact studies.

The role of the financial sector from the financial markets perspective is to encourage productive use of resources and to enforce contracts. Each requires effective institutions. An important element in productive use of loans and contract enforcement was highlighted by Sayre Schatz's work in Nigeria in the 1960s. He made the distinction between true and false demand for credit.[12] False demand consists of poor projects that have problematic sponsors and poorly structured financing. True demand consists of good projects with credible sponsors properly financed. Sorting out these differences is the task of institutions that want to achieve sustainable outreach.

More importantly, some of the incentives of donors that provide grants or loans (as opposed to equity investment) have not fundamentally altered very much, although their behavior has improved. In the realm of credit projects and guarantees, these donors' progress in designing and selecting better interventions is difficult to evaluate because of insufficient transparency. However, these donors have encouraged some of those who implement their projects to become more transparent, with very positive results incorporated in "best practice" standards.[13] There is a broad range of donor behavior. Virtually all public sector donors offering grants and loans have at least a few good finance projects, and some are exemplary promoters of productivity.

The herd instinct remains. It may result in the more rapid spread of effective interventions, or it may simply lead to more unproductive efforts. Actions may be driven by disbursement targets, the natural bureaucratic or nonmarket quest for expansion regardless of efficiency, and internal political and foreign policy imperatives that have little to do with finance or poverty alleviation. Will new, politically selected quests by donors giving grants and loans methodically factor in lessons from the past? This is unlikely to occur where there is little or no punishment for designing and implementing projects that fail the tests of sustainability, outreach, impactand transparency.

CGAP's recent synthesis report on donor peer reviews[14] suggests that at a certain level little has changed in the way that donors conduct their financial sector operations: imperatives to move money override technical concerns, lack of clarity of goals, a narrow view based on objectives that resonate with citizens of the country providing the assistance rather than in response to local

concerns in recipient countries, staff who are not well versed in institution building or microfinance, etc

The largest continuing threat posed by donors' efforts to create a better world through credit projects and provision of other financial services is inconsistency in creating or selecting institutions that are capable of implementing donors' visions within any given public policy milieu. This has to do with their herd instinct as well as with the tremendous market power that some donors have in some places. Where donors set the pace in a new venture, they in effect determine the outcome, but without necessarily bearing any responsibility for it. This was the case with the abandonment of farm credit around 1990 without further efforts to design better projects.

The Recent: Institutions Accommodating Markets and Incentives

Financial reforms swept the free world in the 1980s and were part of the transition from socialism to productivity in the 1990s. Policy changes that promoted financial liberalization were based in part on the experiences of the Gang of Four (Taiwan,[15] South Korea, Hong Kong and Singapore) in the 1950s and 60s. These economies experienced unprecedented growth after moving toward market-based policies governing trade, foreign exchange, interest rates, commercial bank reserve requirements, credit controls and restrictions on entry into the finance industry. Scholarly work by Gurley, Shaw, McKinnon, Goldsmith, Fry (see bibliography) and others was instrumental in explaining how this bit of progress occurred. Many donors promoted liberalization.[16]

The transition from state to market was not easy in many countries as the economic distortions produced by state control and ownership were exposed while new risks were created.[17] The immediate results included instability in many nations, but liberalization offered a framework for much more productive financial sectors. Structural adjustment programs funded by donors were intended to accomplish the task while providing a cushion to government budgets. As the positive results of liberalization began to accumulate in financial markets, a consensus emerged that the proponents of financial liberalization were correct: financial sectors "repressed" by controls were too small, relative to the rest of the economy, limiting overall growth and efficiency.

Liberalization Has Expanded Sustainability and Outreach through Microfinance

Two enormous changes created by liberalization provided the possibility for sustainable expansion of outreach at the bottom end of financial markets dedicated to serving the poor. The first major change was greater freedom of entry into finance, including closing and privatization of SOFIs, which increased the number and competitiveness of banks. At the same time, liberalization reduced the required reserves that commercial banks had to maintain at the central bank along with directed credit quotas imposed on banks. This new liquidity encouraged banks to expand, which could include entry into micro and rural finance.

However, in most countries commercial banks did not view microfinance or rural finance as attractive propositions, especially in competition with the new opportunities in other sectors that

were created by liberalization. Some critics viewed this as market failure, but government failures also destroyed bankers' incentives to move down market, primarily lack of secure title to assets, lack of effective recourse to defaulters who would have pledged assets as collateral, and regulations that restricted the range of acceptable collateral. Lax enforcement of rural loan contracts by official lenders in the past had also destroyed social capital, creating bad traditions that imposed costs on lenders who might enter this area.

Greater freedom of entry offered an alternative to banks by permitting the development of different types of financial institutions such as microfinance NGOs and a range of institutions with different levels of banking powers based on their required capital. Probably the best known example is a corporate form established in Bolivia, the "private financial fund," that enabled microfinance institutions to make loans and accept certain kinds of deposits.[18] Some of these nonbank institutions later became commercial banks. These institutions created market niches based on a target group orientation.

The second big change was decontrol of interest rates. Microfinance institutions could charge interest rates and fees that would cover their costs, which at times were greater than 50% of average loan amounts, after adjustment for inflation. Of course, these rates also often covered operating inefficiencies, but these could be exorcised over time by the invisible hand of competition and to some extent through donor vigilance since, de facto, donors set the pace and terms of microfinance operations in many countries.

At the same time, directed credit greatly diminished. This term refers to special allocations of credit by government plans, policies and institutions, usually at subsidized interest rates. Directed credit was intended to assist very specific groups or activities. Liberalization gave this job increasingly to the market.

Target group orientation by subsidized microlenders is not the same as directed credit provided by the state because the subsidy goes to the microfinance institution, not the transaction. The subsidy is defended as ranging from assistance to the poor to covering the start-up costs of commercial microfinance institutions that are intended to become sustainable without continued injections of subsidy. Another important difference is that the subsidy is selective and therefore flexible, as opposed to The Past when every borrower was subsidized, almost as an entitlement. Subsidy can be phased out after a start-up period, and its withdrawal in other circumstances disciplines institutions that do not meet donors' expectations. In other words, subsidy is now more likely to be used to build effective institutions.

Whatever its rationale, subsidy has made institution building possible at the small end of the market. Recipient institutions following best practice[19] price their services aggressively at the start of their operations, at levels that are likely to cover their costs when they obtain the scale necessary to operate efficiently. That is, the microfinance institution adopting best practice charges rates and fees that would lead to sustainability as its operations grow. This creates room for competition, which increases incentives for efficiency, which helps drive interest rates down and attract a broader clientele while expanding the range of services offered.

Focus on Incentives

Another development beginning in the 1980s was the New Institutional Economics, which views behavior as a function of information and incentives, rather than only of costs and benefits as in Neoclassical Economics. From this, New Development Finance emerged in the late 1990s. The New Development Finance[20] views institution building as essential in creating structures that will serve the poor and others at the small end of financial markets, where transaction size is modest. Institution building is considered a function of information and incentives. Governance forms incentives and information into strategies and actions that determine results, and therefore governance is an important area of exploration by the New Development Finance. (Governance is defined as "the efficient and effective management of public institutions and private firms," and as "the range of institutions and practices by which authority is exercised."[21]

Good institutions have three characteristics according to Reinhard H. Schmidt, one of the founders of the New Development Finance:[22] 1) they provide services which are desired and paid for by the relevant target group, 2) their activities and services have identifiable impacts on the lives of their clients, which are valued by their clients, and 3) they are strong -- financially sound and stable in the sense of being able to pursue business opportunities with confidence.

Donor support has helped create between 50 and 100 microfinance institutions that appear to have the potential to achieve sustainable outreach without continued injections of subsidy, and many more that do not. While representing only a small minority of the number of specialized microfinance providers, these institutions command a disproportionately large market share. In addition, some nonspecialized microfinance providers such as commercial banks have ventured into microfinance as a product line, which also implies a strategy of covering costs, and credit unions have long served the small end of the market.[23] Savings services are increasingly included in outreach to the poor.

The opportunities and discipline provided by liberalization had institutional consequences. As it became clear that agricultural credit was experiencing difficulty, donors became interested in microfinance. There was evidence that microentrepreneurs, like peasants, were rational decision makers. Many of them were women, and the feminist agenda could be advanced along with help to the poor, a two-for-one for donors that certainly improved the welfare of many households. The microcredit target group were entrepreneurs, which was attractive to many policymakers in and following the Reagan/Thatcher era.

Funding target group oriented financial institutions that can cover their costs from revenue earned is a tremendous step forward in donors' efforts to develop financial markets. First, cost recovery is the only viable way of doing business in the long run, especially in poor countries where perpetual subsidy is difficult and unlikely because the tax base is small and revenue collection is not dependable. Second, donor-funded farm credit programs and guarantees have traditionally failed to create sustainable institutions, as demonstrated during the heyday of credit projects between 1970 and 1990. Money-losing financial institutions supported by donors have generally not had incentives that empowered them to create real economic progress in a sustainable manner. SOFIs and coops lost favor as channels for development assistance.

Power Diffusion and Transparency

Another extremely important development was that the focus on the poor that legitimized microfinance did not include any specific approach, in contrast to the analytical toolkit that drove

farm credit. Grameen Bank developed a credit technology that fascinated many people and became a standard for replication, but at the same time other approaches such as village banking were also underway along with individual lending.

Devolution of power from donors to implementing agencies in the field, mostly NGOs, made things much easier while creating space for experimentation. The goals were also more diffuse – alleviating poverty rather than producing a specified number of tons of grain – and therefore more difficult to measure. This ambiguity allowed money to flow easily, as had occurred earlier in farm credit but for different reasons. In both cases, hindsight would focus on incentive structures.

Donors took more responsibility by launching impact analysis, particularly to ascertain how microfinance helped poor households, given the goal of escaping poverty. USAID has been a leader in developing impact analysis.[24] Methodological issues abounded, but norms have been developed and greater interest in market research has emerged.

At the same time donors were becoming more interested in promoting transparency on the part of their clients. This was probably due in part to the large number of microfinance providers and their NGO pedigrees: a new breed that were interesting to track. Their number required that donors do some sorting, and in this process much more information emerged. Donors ended up promoting the measurement of results, with *The MicroBanking Bulletin* (www.mixmbb.org) launched by Bob Christen being the best example. However, the degree of transparency available today remains limited, and microfinance should not be considered a panacea. In addition, donors and practitioners have worked to identify best practice,[25] and the serious NGOs and commercial microfinance providers have an interest in getting involved in this search in order to remain competitive in the scramble for grants.

Other positive developments quickly followed. Efforts were made to commercialize microfinance by "upgrading" NGOs to become banks and by "downscaling" commercial banks, each with varying degrees of success or failure. Other financial services are increasingly offered by microfinance institutions (MFIs), based on the realization that target groups want safe places to save money and also to send and receive money transfers or have access to other payment services. Finally, risk is no longer a four-letter word (except possibly when it actually happens). MFIs do not have the luxury of continued, unquestioned losses that seemed to be a source of comfort for SOFIs. Hence, many of the objectives that were distant hopes or dreams in the heyday of agricultural credit have been realized in microfinance. In sum, more attention is focused on institutions and on their performance in increasingly competitive markets. Sustainability is possible.

Why Insist on Sustainability?

But why should commercial sustainability be an objective in rural finance where risks are high and many households are poor, in microfinance which is designed to serve the poor, or even in small and medium scale lending which can build a productive middle class and create employment? A short answer is that poor countries already have too many failed and failing institutions that do not behave in a manner that permits them to become sustainable. That is why they remain "stubbornly poor."[26] Should donors increase the number and size of such entities?

A better answer to the question of why commercial sustainability is important is that stable and efficient institutions help make financial markets function better. Better performing markets are an essential ingredient for improving welfare generally in the long run. Financial markets play an especially important role in development because they link all markets.[27]

Of greater importance, clients want commercially sustainable financial institutions. In the early days of farm credit in the 1960s and 70s and also to a lesser extent in the early days of microfinance, some advocates had a booster rocket theory. This belief is that a loan will increase the productivity and wealth of a household, boosting them to an improved level, which they can then maintain or enhance without the benefit of further credit. This theory is no longer accepted. The target group wants continued access to credit – not necessarily being indebted for long periods of time, but on occasions when shocks occur and when opportunities arise for the productive use of a loan. Hence, sustainability of credit sources is of extreme importance to the people, households and firms at the small end of financial markets. The case for sustainability becomes even stronger when the objective is to promote use of financial services rather than merely provide credit. Poor people want to be able to save in a safe place.[28] Losses of their savings through the failure of deposit-taking institutions are especially tragic. Not to create sustainable financial institutions is a disservice to the people we seek to help.

Institutions Serving the Small End: Two Examples

As donor focus moves back to agricultural finance, efforts will be made to adapt existing institutions that might be enlisted at the new frontier. Two examples of adaptation that are part of The Recent may be instructive in highlighting the types of problems that are likely to arise and what might be done to alleviate them. The first is the type of lending technology to employ. The second example consists of efforts to downscale commercial banks so that they serve smaller enterprises and poorer clients.

The group credit lending methodology has for long been considered by many as the best way to reach the poorest who qualify for microfinance, and the evidence indicates that group credit procedures are indeed easier to target at clients taking very small loans. In many cases the rural poor may be poorer in general than the urban poor, who are the main clients of microfinance institutions. So, it would appear to be a logical step to roll out group credit to serve the rural poor and other hard-to-reach clients in remote areas. However, the appeal of group credit has come under criticism from several angles.

Group and individual credit

Group credit may be defined as arrangements in which women of similar social and economic status form groups, usually ranging in size from five to thirty, to receive credit. Loans are often issued at the same time and the length of the repayment cycle may be identical for all members of the group. In some cases everyone receives the same loan amount, while in others, or as experience is gained over several loan cycles, different members of the group receive different size loans. Groups assemble at fixed intervals, such as weekly, bi-weekly or monthly, when repayment installments are due.

The group may share joint liability so that any member's inability to repay is supposed to be covered by the others in the group. If the others fail to cover the unpaid amount, all members of

the group are barred from receiving further credit. In contrast, there are also mentoring and monitoring group credit arrangements under which only the defaulting member is barred from further credit. The purpose of the group is to help everyone cope and follow the rules, with assistance from the stronger members to help the weaker ones.

Group lending programs are typically managed by NGOs or by microfinance banks that have evolved out of NGOs. In many cases a loan officer would deal with a number of groups each week, serving up to 300 borrowers. Group credit is popular with donors because of its rapid outreach: the number of borrowers rises quickly. One group credit program in Uganda funded by USAID, for example, used groups of 30, and expanded its outreach district by district. Eighty percent of the new groups in one district were formed spontaneously. Thirty women meeting the program's requirements would show up and ask to join. This type of rapid growth encourages donors to provide more funding for such schemes. Scale economies are quickly realized.

Individual lending is more flexible, but minimum loan sizes are almost always larger than those received by members of credit groups. Within broad limits, loan sizes and tenors are negotiable, tailored to the borrower's activity. Loan amounts and maturities increase as the borrower demonstrates prompt repayment and acceptable loan use. In one popular individual credit methodology, loan officers are responsible for the relationships with their clients (excluding handling cash and accounting transactions). Loan officers receive a base salary and become eligible for bonuses based on the number of clients they serve and on the size of the portfolio they create and its quality. The overall portfolio of the institution grows slowly, one loan at a time. Scale economies are realized more slowly and loan officer training takes longer than in group credit arrangements.

One argument against group credit technologies has to do with the economies of group and individual lending technologies. Reinhard H. Schmidt and Claus-Peter Zeitinger[29] argue that group credit arrangements tend to deteriorate over time, while individual lending can go from strength to strength if good institutions can be built to provide incentives for repayment. They argue that individual lending is the superior methodology when based on loan officer information and incentives. The interaction between loan officers serving groups is less intensive than those serving individuals, and both the group and the loan officer require supervision. A lot of information that has a bearing on loan use, client creditworthiness and economic context remains within the group and is not communicated to the loan officer. In individual lending, the loan officer has financial incentives to obtain lots of information from each client, and in the process learns a lot about different types of entrepreneurial activities and commercial behavior. Organization and use of this knowledge throughout individual lending institutions leads to better performance in the long run.

In addition, groups tend to become unstable over time. If some borrowers take loans that are large relative to the average loan size, the social control by other group members over these borrowers declines, weakening solidarity. At the same time, the opportunity cost of group participation is large because periodic meetings at fixed times take several hours that might otherwise have been devoted to the borrowers' businesses, activities at group meetings may not be directly related to credit and its use, and other rigidities or transaction costs arise from the collective nature of the activity. Schmidt and Zeitinger argue that within some intermediate time period, possibly three to seven years after establishment, the information economies of individual lending overwhelm the scale economies of group lending.

Elisabeth Rhyne has concluded that the flexibility of individual credit attracts many members of group credit arrangements who do not want to bear the risk or transaction costs of default by others, prefer loans tailored to their cash flows rather than fixed in amount and with uniform issue dates and maturities for all group members. Several microfinance organizations and institutions based on group credit have modified their credit technology or abandoned it altogether, as predicted by Schmidt and Zeitinger and Rhyne. Robert Christen and Deborah Drake likewise note that microfinance generally is moving toward individual loans.[30]

What are the implications of these realizations for application to agriculture or to other rural activities that have marked seasonality? Could group discipline be maintained if members did not assemble at frequent intervals to repay loans, instead paying larger lump sums after harvest? Would group members find it useful to assemble periodically before harvests to repay token amounts? Possibly they would, largely for social purposes, but would this be a durable arrangement?

In addition to the dynamics explored above, systemic risks intrude. How can a group cope when all members are hit with the consequences of drought, floods or other hazards? Can any form of insurance be obtained on a sustainable basis? It appears that group lending would be less successful in rural and agricultural areas than in urban areas. With regard to individual lending, the higher costs of service would tend to direct lenders to larger smallholders and those with diversified income-earning enterprises.

What role for existing financial institutions?

Some banks have moved down market spontaneously, providing microfinance and other services that serve a clientele that is poorer or harder to reach than those they had served previously. Many more banks have not done so, and donors have encouraged some of these to serve microentrepreneurs and small businesses.

Commercial bank downscaling as used here refers to donor initiatives to get bankers to do what they would otherwise not do in the absence of donor support. Downscaling so defined consists of voluntary efforts by commercial banks to move down market, facilitated by donors. Downscaling is a temporary intervention intended to establish systems that will serve the small end of financial markets. The observations provided here are based on two sources of instructive experience: transition economies and Latin America.

Downscaling has been attempted most aggressively in transition economies. New, usually privatized, banks were formed out of the old state banks, new private local banks appeared, and foreign banks entered directly or indirectly in partnership with local interests. The European Bank for Reconstruction and Development (EBRD) has sponsored several downscaling activities beginning in Russia in 1994, in Kazakstan in 1998, and elsewhere.[31] The Inter-American Development Bank (IDB) has promoted commercial bank downscaling though its Microenterprise Global Loan Program which began in 1990.[32]

Lessons from downscaling identify the barriers or potential barriers that have to be overcome to move a bank down market, which makes these experiences relevant to the rural finance revival. Those noted below illustrate information and incentive problems that can arise when donors engage new players from the commercial portion of the financial sector.

Different objectives: The donor wants outreach, relatively rapidly. The banker is concerned about profits, which may lead to cautious exploration before large commitments are undertaken. Paradoxically, if bankers are skeptical, quick results may be especially important in overcoming their reticence. Quick results may be difficult, however, when banks' procedures are highly bureaucratic. Also, plants and animals take time to grow, and their seasonality may provide only a few opportunities each year to make new agricultural loans, slowing ascent along the learning curve.

Christmas trees, bells and whistles. Some donors impose restrictions that have little to do with creating more efficient financial markets. These include loan eligibility specifications, loan terms and conditions, limitations on the nationalities of technical assistance providers, requirements regarding the source and importation of project goods, impact studies, reporting requirements that the banker does not consider useful in establishing creditworthiness, and other impositions that bankers find onerous or foreign to their view of business. In short, these restrictions raise bankers' costs, which diminishes their enthusiasm. While subsidies last, bankers may play along.

Competing opportunities: Bankers who believe they can capture untapped high yield business are likely to devote attention and resources to this possibility rather than to rural business that is considered costly. For example, if credit cards for the urban middle class look promising, micro and rural finance may be given low priority and assigned low expectations and less than stellar staff. With some notable exceptions, banks that downscaled are often not the largest ones in any given country. Many big banks have a market presence that permits them to compete effectively in the most profitable parts of the local market, usually the large corporate sector. Smaller banks may not have the financial muscle, political or other connections, or possibly the analytical capacity to compete in this arena. Therefore, they seek alternatives in which they can create a market niche. This is often difficult because it involves the new and the unknown, and because governance in these institutions may not be attuned to change.

Discomfort with unconventional collateral: Usually by regulation and often by habit, bankers are wary of collateral that to them is unconventional but common in microfinance. This may require a learning period or even the advent of an economic downturn which tests the value of such collateral before a banker will be comfortable making microloans. Banks' internal audit committees may require lots of persuading about the soundness of a portfolio backed by unusual collateral.

Skepticism about microfinance loan analysis: Bankers may be skeptical about micro or rural finance loan analysis techniques, which have to be quick and cheap because loans are so small. The microfinance lending technology mentioned above that is centered on the loan officer uses frequent, ad hoc, relatively informal loan committee meetings of just two or three people. Bankers and their internal auditors may feel more comfortable with deeper analysis and greater formal oversight, which raises costs without necessarily lowering risks, and hence diminishes enthusiasm.

Public relations issues: Micro and rural finance is costly to provide, especially at the outset, and consequently it can be sustainable only when its relatively high costs are covered. Bankers may not be comfortable charging high interest rates for the poor and low interest rates for the rich. (Are bankers paranoid? Well, if everyone hated you, you would be paranoid, too.)

Inefficiency: Many banks in developing countries and transition economies are dreadfully inefficient. Their procedures are unduly costly and their administrative costs remain high because hierarchical lending and decision procedures involve lots of staff without adding lots of value. This complexity may lead to lines and limits of responsibility and authority that are blurred, ambiguous and contestable. Inefficient banks can be hard to work with and they may not be able to move rapidly in introducing new products and training staff in their promotion and implementation. Staff unaccustomed to change may resist new initiatives.

Possible solutions to these problems

Donors promoting downscaling attempt to address these problems. Many concerns boil down to costs that bankers rightly or wrongly believe they would incur. Subsidy is therefore offered in three forms: cheap money to fund a down market portfolio, risk sharing between donor and banker, and consultants who provide technical assistance that will enable bankers to reduce their costs over the medium term. For downscaling as defined here to occur at all, initial subsidy is required in many markets.

The EBRD approach sets up a special unit within a bank or in selected branches to concentrate on downscaling as a new business. Technical assistance (TA) is provided to introduce the new lending technology and to ensure that MIS (management information systems) can handle the new activity efficiently. The TA consultants hire local staff and train them using project funds. After some time on the job (e.g., six months), they are hired by the bank at a higher wage. Good people without the qualifications many banks require of new credit department staff can be effective microlenders, but they may make others in the organization uncomfortable because of their status and their bonuses (assuming the bank adopts this practice from the EBRD model).

Several strategic lessons for donors that seek to enlist existing commercial institutions in rural finance downscaling can be derived from microfinance downscaling:

- Results must be visible relatively quickly to capture bankers' interest.

- Downscaling is unlikely to work well if it is considered an extension of a bank's existing business rather than as an entirely new business. A new business requires its own structures, logic, procedures and lending technology in order to become profitable. This requires internal changes and efforts to deal with reluctance, doubt or hostility.

- Staff who are trained by technical assistance providers to become loan officers or back office support may be the only people in the bank who have received formal instruction or formalized on-the-job training. This may make them attractive candidates for other positions, especially if downscaling is successful. This leads to continual staff turnover in the downscaling unit, increasing its costs and reducing its relative performance. Better appointments may also be a source of contention if promotion is normally based on academic qualifications and seniority.

- Some technical assistance is problematic. Poor communication and failure to engage can impair effectiveness.

- Downscaling has often not worked well when it is just a tiny piece of a bank's operations. Even if it turns out to be quite profitable, its asset base may simply be too

small to make an impact or inspire attention within the bank. At some point it may be discontinued when larger, competing opportunities appear that require staff and resources. For these reasons, downscaling is often most enthusiastically embraced by small banks and by struggling banks.

• Downscaling has rarely worked when it is considered a social venture or a public relations activity. It seems to have worked best when 1) it is regarded as a new business and a new way of doing business, and 2) the effort is headed by a "champion" with sufficient seniority, respect and credibility within the bank to be given the benefit of the doubt. To succeed, this person requires "space": a sufficiently long time slot (two years as a minimum) in which to produce results, budget and staff that cannot be hijacked by other managers, and keen bureaucratic self-defense skills.

Prospects for sustainability

EBRD is not yet convinced that its client banks will continue to give priority to downscaling when it no longer provides subsidized funds for lending, risk sharing and technical assistance. The Inter-American Development Bank's experience was also less than hoped for. With the exception of a program in El Salvador,[33] very few commercial banks in Latin America downscaled until the late 1990s, when more than a dozen did so. In some cases, however, downscaling has been fragile – easily reduced or abandoned when a crisis occurs, when more attractive opportunities arose in recent boom years or when new managers with little interest in microfinance came on board as bank consolidation accelerated with globalization in Latin America. TA may be required for more than the usual two to four years under a typical project, and a champion is absolutely essential, backed up with good MIS, an appropriate lending methodology and often a slightly subsidized line of credit.

However, by 2002 more than 100 banks worldwide were involved in microfinance. Liza Valenzuela of USAID and others made two surveys of these institutions.[34] The first, published in 1997, reviewed 15 banks and three nonbanks. Revisiting these institutions in 2001, the researchers found that the microcredit operations of five had grown by more than 100% (most beginning with a small base), five grew at a slower rate, two served fewer borrowers, three closed, and one discontinued microlending but invested in a specialized microfinance institution. The 2001 survey had 42 respondents, almost half of which started microfinance operations during or before 1996. Thirty-three of these were banks. The large commercial banks in the sample reported that they were attracted to microfinance as a commercial opportunity. Small banks agreed but added social responsibility as a motive, while four state banks listed social responsibility as their primary motivation in microfinance.

The researchers noted that outreach by banks was relatively modest, with about 225,000 active loans in their portfolios and average numbers of active loans ranging from 4,280 for small banks to 19,800 for state-owned banks. Large corporate banks appeared to have the greatest difficulty in making downscaling work because of difficulties integrating microfinance into their corporate structures.

The conclusion that may be offered based on exploration of group and individual lending technologies and downscaling as vehicles for outreach is that currently there are no easy ways to transplant these features of microfinance into rural finance on a massive scale at low cost. Innovation is required.

Specialized Commercial Microfinance Institutions

An important element in The Recent is the formation of networks of specialized microfinance institutions (MFIs) that provide a variety of services to the target group. BancoSol in Bolivia was a pioneer,[35] but commercialization got underway aggressively after an MFI of this type was established in Bosnia in 1996.[36] What sets these initiatives apart is their ownership and funding. Owners are currently "patient investors" such as EBRD, IFC of The World Bank Group, the KfW Group, FMO and DOEN Foundation of the Netherlands, other similar entities and foundations, and several commercial banks.

Initial capital is provided through equity investments by these owners. Operations are launched with start-up grants from USAID or others. Funding may come from credit lines offered by these investors, and increasingly over time, from deposit mobilization. The combination of owners who put funds at risk and managers responsible for commercial success are viewed as being more likely to provide good governance of financial institutions than less formalized approaches with diverse objectives.

Many of these urban-based MFIs are also active in rural areas. They may not move aggressively into rural areas for sustainability reasons: those on the land cannot offer acceptable collateral, and systemic risk problems and cost considerations. Some commercial lenders may be tempted by subsidies, others may wish to avoid them. These very positive innovations are not discussed further here because they are commercially oriented, committed to best practice and are likely to move slowly away from donor assistance.[37] An institution in this market is probably the world leader in microfinance and small business lending transparency (see www.imi-ag.com).

The Open: Institutions Based on Creativity and Opportunity

It appears that microfinance may have passed its heyday as a donor funded venture. Major donors apparently believe that microfinance cannot contribute directly to the Millennium Development Goals (MDG).[38] Emphasis on this new global initiative seems to be making it more difficult for MFIs to obtain donor funding. This places a premium on institutions that effectively provide sustainability, outreach and impact. At the same time, and apparently unrelated to these Goals, donors now would like to apply microfinance practice to revive rural finance. In this effort, a variety of measures can be useful. A few are presented below in no particular order of importance.

The Trade

An area that holds keys to the operation of rural finance is input supply and produce marketing in the private commercial sector, which has been largely overlooked by development assistance, excluding donor assisted cooperatives. (Neglect may reflect difficulty in finding ways to channel subsidies through the trade.) Input suppliers and produce buyers provide a lot of informal credit to farmers in all market-based economies. In development circles, relatively little is known empirically about the volume of this business and the terms on which it is conducted. It seems

reasonable to assume that the strengths of the trade include knowledge of clients through diversified channels; incentives to provide credit in order to sell inputs or compete for purchase of harvests; links to larger chains of credit, supply and processing; measures to control risk; massive outreach and ubiquity.

The trade has two major problems. One is a lack of transparency regarding the cost of credit. The second is its role as the defenseless scapegoat of the non-commercial elite and populist critics who distrust markets and accuse the trade of gouging clients and allege the trade's responsibility for market failure and other odious behavior. In response, donors should pave the way in finding out more about the trade in its various incarnations. This research should explore the incentives and information of the trade and their sources in financial markets, commodity markets, government regulations and other areas. Efforts to create more effective markets that serve the poor should override sector or institutional boundaries and popular prejudices.

So Much Progress in Agriculture and Finance, So Little in Rural Credit![39]

The major issue is the extent to which The Past, The Continuing and The Recent offer guideposts that will be incorporated into donor policy, given that donors create new worlds for which they become basically responsible, but on a non-recourse basis.[40] Donor promotion of agricultural and rural finance has had a hiatus of more than 10 years. There has been relatively little documented experimentation during this period that readily provides a basis for new initiatives, although some positive rural microfinance experience has developed and the Past, the Continuing and the Recent have been well documented in Asia.[41] Donors have little institutional memory, and 10 years is a generation in a bureaucracy without a history.

Are the mistakes of the past behind us and will whatever lessons that might be drawn be placed in context? Fortunately, financial systems have changed enormously for the better, making some historical lessons redundant. And, information is available. Mark D. Wenner of the Inter-American Development Bank has assembled a comprehensive exposition of experience and lessons that should serve as a guide.[42] The agricultural credit revival provides an opportunity for a New Rural Finance (NRF) distinguished by its objective, method and legitimacy.

The objective is to create more efficient rural financial markets that fill up more and more of the space inside the finance project pyramid, as defined by financial sustainability, outreach to the poor, impact, and transparency. This objective deserves priority for two reasons. First, because it includes all components of the pyramid. Second, because no three of the four components offer a sufficient basis for 1) efficient use of resources within the economic framework of the New Institutional Economics and its emphasis on governance *and* 2) promoting social welfare.

> Robust financial markets are correlated with rapid agricultural growth in Asia. The PRC [People's Republic of China] is the only country in the region that has experienced rapid agricultural growth without the benefit of a strong market-oriented rural financial system. No country in the region has developed a strong rural financial system without [also] having a progressive agricultural sector. Moreover, rural financial institutions are part of the overall financial system; it is logical that no strong rural financial institutions exist in a country with a weak financial sector.[43]

The method of the NRF is institution building. Institutional innovations occupy the interior of Zeller and Meyer's microfinance triangle.[44] Only through good institutions can markets and nonmarket initiatives yield productive results. Because the focus is on financial markets, the institutions that matter most have to mobilize deposits and other market-based funding, offer credit, facilitate transfers and payments, and provide insurance. Other institutions that may also be important include regulatory bodies, credit information systems and providers of subsidy.

The legitimacy of the NRF is based on outreach and impact. The principal goal and test of the New Rural Finance is that well functioning rural financial markets have to address effectively the problem of seasonal shortages and the havoc these cause to rural welfare.[45] Therefore, donor assistance can be legitimized only (but not exclusively) if it moves the frontier of finance down market, serving more poor people with savings, credit and insurance products.

Any nonfinancial goals included in rural finance should be secondary, and must be secondary if they are ultimately to be achieved. This strategy is the only one that ensures the possibility of creating sustainable institutions engaged successfully in rural finance over the long run.

Related to this concern is that agricultural progress has only two certain outcomes: cheaper food and fewer farmers. Therefore, more attention should be accorded to how poor rural families get out of or reduce their participation in agriculture. A characteristic of agriculture is that some families go to the wall every season. How does or can credit accelerate or delay this process? How can rural finance be used to help families get out of agriculture as painlessly as possible? How do rural land markets and credit markets interact?

The Role and Usefulness of Failure

Missing in the unfortunate saga of The Past, as well as in much of the Continuing and The Recent, is curiosity about the socially beneficial aspects of failure. Failure is helpful when three conditions apply: 1) The decisions that produced failure were based on the best information available at the time they were made. 2) The failure was made only once, and 3) its causes were made transparent, communicated in detail to all those with a need to know. In disciplines where failure results in punitive consequences, it is studied rigorously[46], and donors should adopt no less a standard because of the influence they have or could have over the lives of lots of poor people.

If history is any guide, all sorts of projects are likely to be attempted, and a rush to get lots of projects started is the smart bureaucratic response to politically-driven goals. For this reason and as the fallback, *any project that is designed and funded should be accepted for implementation,* because it will be anyway. Accepted because failure is socially useful when the three conditions apply. In a post-Enron, post-Clintonian world this requires investment in carefully measuring and reporting results, so that:

a) each project is monitored and evaluated by one or more third parties in a meaningful manner, with conflicts of interest duly noted;
b) monitoring and evaluation includes analysis of financial performance according to accepted accounting standards but including the Subsidy Dependence Index and other performance measures that have become recognized as microfinance best practice, and others that may evolve in rural finance;

c) nonfinancial project activity may also be freely monitored and evaluated to determine impact or other effects;
d) results identified by routine monitoring and evaluation, or by special study or investigation, be made transparent to the public, on a friendly website, and include the names of the donor agency(ies), the implementing agent(s) and possibly the professionals responsible.

This exercise in social and fiscal responsibility may require some sort of watch dog organization that would debate and recommend standards and that would offer sanctions, primarily through public exposure, of lapses in implementation and follow-up, or of refusals to cooperate. (Watchdogs of this breed often have no teeth. The question is how loudly they bark.)

The failure that is increasingly mentioned is market failure,[47] which in welfare economics is said to occur when information is insufficient to provide a basis for informed action, and when incentives for those in the market are not aligned with those that would better benefit society at large. The reluctance of commercial banks to lend to small farmers has often been portrayed as a market failure. Bankers were sometimes characterized as uninformed, selfish, oligopolistic, not socially aware and lazy. Two possibilities were often left unexplored: 1) bankers had concluded that the rural credit market was not worth serving because of transaction costs and risks (which govern incentives), and 2) any presumed market failure presents an opportunity for innovators to explore.[48] Microfinance suggests that this possibility is not fanciful.

The welfare economics response to allegations of market failure is government intervention, which was commonly thought to be remedial and good for society. However, those who would intervene also have information problems, such as a lack of familiarity with the lending business or the rural economy or target group cultural norms.[49] Their incentive problems may include the quest to build larger state bureaucracies and hire more staff as a symbol of bureaucratic power. Hence, *market failure is a perfect public policy wild card.* It allows those with money and power to impose their values on those active in any market, at least for a time, behind the cloak of the public good. Critics also note that there is surprisingly little empirical data to support the classic textbook cases defining market failure.[50] (I cannot recall any farm credit project in which market failure was a motivation that performed well. At the least, market failure was a smoke screen invoked to help get projects approved. It deflected or diluted potential criticism of problems in project design, such as lack of credible measures to improve loan recovery.)

State-owned financial institutions and state-sponsored cooperatives provided sufficient evidence of a different phenomenon: government failure. Government failure occurs when governments or their agents do not have the information or the incentives to behave in ways that contribute to national welfare. Possibly the largest government failures that kept bankers away from rural areas and the poor was failure to protect citizens' property rights,[51] the fundamental rationale for government in a liberal society. Governments failed by not having or not exercising laws and credible enforcement mechanisms that would make assets acceptable to banks as collateral. Land titles were lacking or could not be enforced. Trade and ownership disputes would require many years to sort out, depending on who could best bribe the judge and afford to pay others in the legal system.[52] For some reason, government failure was not discussed in development assistance agencies with the same fervor unleashed on market failure. It remains a major issue, and donors should take the lead by providing more disclosure regarding their own operations.

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Donors and Appropriate Institutions

In approaching what might be done to revive agricultural finance, consider the unique opportunities donors offer. They provide funds that do not have to be repaid or that are repayable over long periods. For initiatives other than humanitarian assistance for food, health and education, and for environmental improvement, the principle of matching or of symmetry suggests that donor funding should support long run objectives that are otherwise beyond the capacity of poor countries. To do this effectively requires the creation of institutions, in the sense of organizations as well as in the sense of structures for coordinating behavior, that expand spontaneously to engage and serve increasingly larger numbers of poor people. Institutions have an unlimited life, providing the greatest leverage for and tribute to donor initiatives that launch institutions that are successful over long periods of time.

Sustainability requires self-correcting mechanisms and dynamism through innovation.[53] Competitive markets are probably the most subtle and sensitive self-correcting mechanisms because every transaction has the power to make some change, however small. Government efforts at self-correction can be useful but take longer and are less subtle. This is because they have monopoly power, which is never supple and becomes brittle with age, whether in state or private hands. To the extent that governments hold monopolies, change often requires an authoritarian approach, or major efforts to mobilize democratic opinion, or else occur when there is simply no other way out, as with the collapse of the Soviet Union, a most brittle demise.

Therefore skepticism should be the default option when market failure and public goods arguments are used as justifications for intervention. The burden of proof must fall primarily on advocates. Why? The history of donors' rural credit promotion in poor countries is one of overwhelming government failure. If intervention is inevitable, consider the "net" impact of responding to claims of market failure, which would equal the social cost of market failure plus or minus the social benefit or cost, as the case may be, of attempts to repair market failure through government intervention. Market failure is a public policy wild card, although intervention is not always inevitable if frameworks are established that create institutions that create competitive markets.

Intervention as an institutional mode in activities in which revenues are unlikely to cover costs is complex. First, it may crowd out or foreclose opportunities that markets might better perform in the long run. Second, it can start things that cannot be finished. This occurs when efforts to address market failure or the provision of public goods descend into the realm of entitlements in poor countries that are unlikely to have the institutional capacity and the tax base to provide these goods or services in perpetuity. Therefore, it is important to avoid the temptation to view and advocate rural finance as an element of global social policy unless the advocate can guarantee an almost perpetual flow of subsidy, which is an essential characteristic of the welfare state. Sustainability requires dependable sources of funding over the long term. Donors failed this test when the jettisoned farm credit around 1990. Other donor activities have met the same fate. Modest starts and learning curves, often unfortunately long, can avoid creating false expectations.

Contributing to global social policy

Many development assistance agencies advocate, or come close to advocating, global social policy, a code word or term that implies the construction of welfare states and their numerous

entitlements. These agencies will continually search for projects that are devised to extend services beyond the limits of commercial sustainability. These agencies' power and appeal will produce definitions of rural finance that focus primarily on outreach and impact[54]with a raft of NGOs to implement them. In all of these cases the institution must be subsidized, and in many the transaction must also be subsidized. What can be done to accommodate their view of sustainability as continued access to subsidy and the initiatives they devise without undermining markets?

The challenge would be to create foreign-funded welfare state structures in countries that for many years are not likely to have the tax base or the administrative tradition or apparatus that is required to run a welfare state effectively, assuming that that would be possible. Projects are not good vehicles for this task because they are short-term, with no guarantee of renewal. The benefits they produce can be lost when the project closes and the skills or funding needed for continuation are not available locally.

When market failure and public goods arguments are convincing to those who have the power to do business in these terms, when the estimated social benefits are considered by advocates to be large, and when there is little probability of crowding out private commercial initiatives, donors could still play a supportive role by providing funding over the long term. This can be accomplished through trust funds with limited purposes and lives of 25 years or longer.

Trust funds would be established for noncommercial or quasi-commercial rural finance purposes. They could sponsor and maintain group lending programs for poor women, build regulatory structures, and lend and collect savings in market segments that are costly to serve and are likely to remain so, such as the very poor and those in isolated regions.[55] Trust funds could finance provision of essential technical capability. Technical assistance, training and collaboration should be aimed at developing local expertise and institutions structured so that incentives will encourage good long run performance consistent with the values of a welfare state.

These funds should be country-specific and have a narrow, limited focus. Narrow agendas, and a multiplicity of narrow agendas, are preferred over large agendas because they are more transparent and hence easier to govern, and so that their eventual disappearance creates no more than a whimper. Their most important technical feature is their expiry, which is possible only if vested interests are relatively small and weak. Expiry provides an opportunity to re-evaluate their usefulness or feasibility. Accordingly, add-ons to existing funds should be prohibited: new funding should go to new trusts. Trust fund management companies could oversee several funds if that led to economies and synergies. Competing fund managers would be ideal.

These trust funds would be fully funded at the outset as a guarantee of a long life. The poor country inhabitants who are beneficiaries do not bear the risk of abandonment, disappointment and social loss that would occur if donors left the party. A trust fund's endowment and the interest earned over its life would be spent to accomplish its purpose. Its life would end when its principal and interest income declined to zero as predicted in disbursement schedules drawn up when the fund was formed. Donors have already used this sort of arrangement: USAID had a small and medium enterprise project in Bangladesh that had a life span based on expenditures and losses that were calculated in project design; British assistance was designed to go broke in a credit guarantee fund in Poland.

Endowment assets not yet disbursed would be held in hard currency investments and disbursed over the life of the trust fund based on an appropriate formula. (Any investment strategy other than the most conservative would be inconsistent with a fixed life of a fund: a "long life" of around 25 years offers flexibility.) These commitments would easily run into the billions of dollars, offering an unprecedented opportunity for donors.

Trust funds would require relatively complex design to ensure that their incentives were consistent with their objectives. Trustees consisting of donor institution or donor government representatives in the majority and recipient country government representatives in the minority would govern each fund if that format were required, as would probably be the case for the multilateral development banks. In other cases, funds could be privatized with trustees representing interested and competent parties against which donors could have legal recourse.

Donors and host country governments would have to have reserved powers that would permit them to pull the plug in those cases in which objectives became impossible to achieve, the activity became redundant, or abuse exceeded some level of tolerance. For example, civil war might interrupt operations or government priorities might change. Possibly the exercise of these reserved powers could be subject to arbitration by an impartial international panel. In other cases an unconditional buy-back, fixed price option could be established at the outset so that embarrassed donors could get off the hook in really egregious cases, with the proceeds turned over to the United Nations or some other designated cause. Likewise, governments should have an out to ensure that the trust fund remains apolitical and, for example, does not become a vehicle for spying. The trust funds should not be held hostage to foreign policy considerations, which seem to be increasingly in play as a tool to ration development assistance.

Incentives should be attractive: politicians in poor countries could be given credit for expanding the outreach of the state and establishment of new institutions dedicated to a worthy cause at someone else's expense. (Local resistance could be justified because in effect the trust fund arrangements formalize what development assistance based on loans and grants does, which is to outsource government, social and charitable functions.) The trusteeship format allows local politicians to duck responsibility and point the finger at the donors and the foreign trustees when unpopular courses are taken or when the trust funds resist local rent seeking.

If a trust fund's purpose and operations were satisfactory over the course of a generation in which the fund is exhausted, possibilities for continuity could be explored. These could include increased reliance on the local tax base, developed over a period of at least 25 years, to fund the insatiable fiscal appetite of welfare state structures.

Rules of Engagement for Donors Selecting Institutions Lending in Rural Areas

When starting a new activity, how should donors select partners who will implement their objectives? The door should be open to all who will help create a competitive market and make sustainability their goal. At the same time, opportunists have to be weeded out along with those whose use of subsidy would undermine the competitive positions of others working hard to develop rural finance as a commercially sustainable business. What selection criteria could appropriately be applied to consultants, government institutions, cooperatives,[56] NGOs, microfinance networks, banks and others? What institutional attributes increase the probability of effective and sustainable rural finance at the small end of the market?

Donors' criteria governing awards to microfinance providers should be elaborated, discussed and debated as the rural finance revival proceeds. The Annex that follows offers preliminary points of reference at the technical and institutional level. (The Annex is intended to complement CGAP's "Format for Appraisal of Microfinance Institutions,"[57] which is more technical in nature.) This list consists largely of questions to be answered by applicants who want to become "lenders," the term used here for donors' clients, including consulting firms managing financial institutions. The list is not meant to apply to activities unrelated to finance. "Target group" refers to rural clients who would be borrowers or users of other services included in rural finance projects. No recommendations are provided here about preferred types of responses to the questions on the list. Different donors and different investors have different objectives, and many institutional choices beckon.

Housekeeping Hints

Be extremely cautious about *large initiatives* that involve *ministries of agriculture or state-owned banks* or that are otherwise likely to be *politicized* in countries with *bad traditions* in rural finance (e,g, India, Mexico, Brazil and China), unless these have been clearly overcome. Politicization risks probably rise as rural finance institutions become larger and more successful.

Do not engage in "experimental" projects. Every project is an experiment. Goals and risks should be determined in advance and monitored in implementation. Projects labeled as experimental (excluding an excellent USAID experiment in Bangladesh) are usually replicated before sufficient information is on hand to justify their continuation. Agriculture and the rural economy yield data slowly.

Do not proclaim any project a success until it has been in operation for five years, or sooner if it has suffered a bad year and responded effectively. (A World Bank credit project in Albania was proclaimed a success by the project officer responsible *before* any of the loans issued to farmers had fallen due.) Proclaiming success in good or normal years is like playing the bagpipe – the missing link between noise and music -- but skipping the grace notes.

Work on property rights. Effective property rights exercisable by the world's poor and common folk generally would release much more productive energy and credit in a year than could fifty years of credit projects funded by loans and grants.

Finally, address the most awkward subsidy problem. Three hundred billion dollars a year in farm subsidies in rich countries pre-empt and crowd out opportunities that markets could otherwise provide to farmers in poor countries. This diminishes rural welfare in poor countries to a degree that cannot be counterbalanced by any conceivable quantity of donor-funded rural projects. Find the money to engage institutions that can make a difference, including universities (remembering Ohio State's role in curbing the nonsense in the heyday of rural credit projects), think tanks such as Brookings and Cato, environmentalists and other advocacy groups willing to contest OECD bloc farm subsidies.

ANNEX: Attributes of Potential Partners for Donors

Donors will have rural finance agendas based on many factors and including various priorities. Different dimensions of intervention – financial sustainability, outreach to the poor, impact and transparency -- will be accorded different weights or profiles. Therefore, efforts to match "lenders" with objectives requires a sorting process. ("Lenders" is the term used here for those that are selected to implement donors' plans in rural finance. They include NGOs, cooperatives, commercial financial institutions, state banks and others. Lenders would typically offer services such as savings facilities or loans or insurance or payments, or combinations of these. Some would also provide nonfinancial services.) This check list of characteristics is meant to facilitate sorting.

1. How does the lender measure and reveal results?
    - Financial sustainability
    - Outreach
    - Impact
    - Transparency

This question is a good starting point because results are important and transparency is even more important because it underlies incentives. The things that are measured display the lender's values and where energy is most likely to be focused. The four variables listed constitute the triangle of microfinance as defined by Zeller and Meyer[58] plus transparency, creating a finance project pyramid.

2. How does the lender obtain knowledge about the target group?
    - What is the definition of the target group and the geographical area to be served?
    - How does or would the lender obtain and use information about the target group?
        - Staffing for service to the target group
        - Physical presence where target group members live or work
        - Data bases that adequately track the lender's performance and target group participation in rural economic activities
        - Ability to extrapolate from and refine similar experience elsewhere
        - Lending technologies that minimize clients' transaction costs
    - What are the lender's responses to shocks encountered by the target group?
        - Idiosyncratically by small numbers of households or individuals
        - Systemically by most clients
    - What specialization in agriculture, if any, is required to achieve project objectives?
        - If required, how will it be supplied?

Knowledge of the target group is important to successful project design and execution. The lending technology and donors or lenders' objectives imply or determine the sorts of information that would be especially valuable.

3. How will the lender engage the target group?
    - What experience does the lender have in serving the target group?
    - What financial services will be offered?
    - What lending technology or instruments will be employed?
        - What information is gathered about loan applicants, and by whom?
        - What types of loans are or will be offered?

How are credit decisions made, and by whom?
How quickly are loan applications processed?
How is loan size determined?
How is loan tenor determined?
How is delinquency managed?
What is the operating cost per client and per loan made?
What sort of collateral or guarantee is obtained, if any?
How and when is collateral foreclosed?
How are interest rates and fees determined?

In what locations will lending occur?

What nonfinancial services will be offered?

What is the rationale for offering nonfinancial services?
How will nonfinancial services be funded?

What will be the relationship between the financial and nonfinancial services offered?

Staffing
Funding and budgeting
Obligations of clients for access to financial services
Expected payoff of nonfinancial services, on a with/without basis

What channels will be used to communicate with clients?

What measures will be used to cope with the seasonality of rural finance?

To what extent do gender, age, ethnicity and similar donor hot buttons figure in engaging the target group?

How many clients will the lender engage?

Classified by services used
Over what time period?

Outreach begins with the relationship between the lender and the target group member. How the relationship is structured is a governance issue that defines information and incentives that have a critical impact on the productivity of the relationship and on each party's costs of maintaining and strengthening it.

4. Reaching the break even point: What level of and strategy for pricing is required to break even from earned income? What is the projected time period required to achieve this result?

How is the project activity or institution to be financed?
What interest income and fees will the lender be able to collect?
What is the break-even level of lending activity?
What amount of funding is required to reach break even?
What sources of funding are available?
What experience has the lender had in bringing similar ventures to break even?
What are the lender's projected fixed and variable costs per loan made?
What amount of subsidy will be required per loan made and per borrower?

Annual or seasonal
Cumulative

What risks are most likely to delay achievement of breakeven results?

How long does it take for a rural lender to cover its costs? This question is critical for commercial lenders that regard covering costs as the minimum financial prerequisite for sustainability. This question is also critical for noncommercial lenders that regard sustainability

as a function of access to continued subsidy. These questions are intended to serve as a basis for evaluating the lender's business plan.

5. Governance

- What is the corporate form of the lender?
  - What are the major strengths and weaknesses of this corporate form for this activity?
  - What measures are taken to capitalize on strengths, minimize weaknesses?
  - Does this project involve a change in corporate form or governance?
  - If the lender is part of a larger group or network, what services are supplied by the larger group or network?
  - Who is on the lender's board and what are their qualifications and tenure?
  - Who are the real "owners"?
- What failures has the lender encountered within the last 5 years?
  - How large were the costs of these failures?
  - By whom were these failures addressed?
  - What measures were taken to control the problem?
  - What longer term measures were implemented to reduce the probability of recurrence?
  - How is the internal audit function organized and performed?
- How and in what form is commitment to sustainability demonstrated?
  - How is sustainability defined?
  - To what extent does pricing policy contribute to sustainability?
  - What internal policies are in place to assure sustainability?
  - If deposits are accepted, how would depositors be protected in the event of default by the lender?

What commitment of resources, including experience and expertise, will be made to achieve rural finance objectives?

- Management
- Staffing
- Funding
- Space, hardware, software, vehicles, etc.
- Continuity

Regulation

- To what regulatory regimes is the lender accountable?
- Has the lender been out of compliance at any time?
- What, if any, ratings or sanctions have been given by regulators?

How does the lender organize quantitative information internally?

- Information gathered
- Information retained, and for what period?
- Analyses based on retained information
- Accounting and management systems hardware and software
- What statistical data are extracted from information retained?
- How is information communicated to management and the board?

What disclosure will the lender provide to the public?

- What results will the lender report?
- What standards will be used to quantify and report results?
- What will be the frequency of reporting?
- What will be the time lag between reporting dates and disclosure?
- What media will be used to disseminate results?

Governance has emerged as the fundamental determinant of organizational performance within any given market or nonmarket environment. The ideal governance structure for commercial lenders begins with efforts to form a board of directors that includes "owners" who have money and reputations at stake, including donors that provide equity capital. The ideal governance structure for noncommercial lenders begins with a quest to engage directors who have connections to and credibility with the sources of subsidy, and others who provide good advice and embody the lender's values. Because donors expand the size of institutions, their interest in governance has become deeper and more focused.

6. What is the relationship between the lender and the donor with respect to this project?
   - What subsidy is required and for how long?
   - What other sources of liquidity can the lender mobilize?
   - How will any surplus or profit be used?
   - What plans does the lender have that will permit donors to exit, and when?
   - Other than donor exit, what events would lead to project discontinuation by the lender?

Sustainability places a premium on continuing and evolving relationships. The relationship between donor and lender should not produce surprises. While paving the way forward, occasional speed bumps are acceptable, but potholes are frowned upon.

7. What other factors, not mentioned above, will help to ensure that the lender's objectives are achieved, and/or that make the lender's contribution unique?

Endnotes

[1] I am grateful to Dale Adams, Juan Buchenau, Lucy Ito, Richard Meyer and anonymous reviewers for the many useful comments they provided.

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[13] USAID's Microenterprise Best Practice Project was administered for some time by Development Alternatives, Inc. See www.dai/com/publications for the extensive literature produced.

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[16] See for example, World Bank, *World Development Report 1989*. New York: Oxford University Press, 1989; portion reprinted as "Financial Systems and Development." Policy and Research Series 15. Washington DC, World Bank, 1990; Nicolas Mathieu, "Financial Sector Reform: A Review of World Bank Assistance." Washington DC: The World Bank, 1998; Millard Long, "Looking Back at the World Bank's *World Development Report 1989*," in Gerard Caprio, Patrick Honohan and Dimitri Vittas, eds., *Financial Sector Policy for Developing Countries: A Reader*. New York: Oxford University Press for the World Bank, 2002. pp. 3-18.

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[56] Financial cooperatives, credit unions in particular, have embraced commercialization and expansion, and serve many poor people and others. They operate in rural areas in many countries. Their recovery from problems in poor countries, at least in the opinion of this observer, is based on attention to the grass roots rather than on apex cooperative organizations, and on the strategic decision that assistance should discriminate, being narrowly targeted where it is likely to be most effective, rather than broadly based. It appears that performance must override solidarity as the key feature in developing financial cooperatives in poor countries.
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Paving the Way Forward for Rural Finance
An International Conference on Best Practices

Discussant Reaction Paper

Comments on

"The Evolution of Institutional Issues in Rural Finance: Outreach, Risk Management and Sustainability"
by J.D. von Pischke

By Richard Rosenberg
(CGAP)

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author (s) and not necessarily those of the supporting or collaborating institutions.

1. **Models for Rural Finance.** I share JD's view that the overall state of rural finance is disappointing. However, there are promising new models, mainly those produced by the 'microfinance revolution" of the past two decades. (The new microfinance is not a predominantly urban phenomenon: most of its clients are in fact rural.) Thus, I'd argue that we know how to do good rural finance, and that the main obstacles to its expansion are political and managerial, not technical.

There are, however, two frontiers of rural finance where progress has been limited:

- There is relatively little sustainable crop lending. Borrowers from the sustainable rural microfinance institutions do use some of their loan proceeds for cropping. But typically the portion of funds used for this purpose is relatively small, and most of the borrowers have non-crop income sources from which they can repay a loan if a crop fails. The problem is the inherent risk in crop production. We should expect substantial improvement in sustainable crop credit only when we find ways to reduce or hedge the farmer's business risk. This is a challenge that goes beyond tinkering with credit methodologies.

- Most of the successful rural finance is in areas that are densely populated and accessible. Getting services out to areas that are remote and sparsely settled will always be a problem for finance, just as for most other services. Not surprisingly, the few models that do it sustainably seem to grow slowly and to rely on the clients themselves to provide much of the retail management. Depending on evidence about impact, a respectable argument can perhaps be made for long-term subsidy of remote rural finance in some cases. On the other hand, it may also be useful to remember that the original meaning of the word "civilization" is "moving to the city."

2. **Trust Funds.** JD suggests that, if rural finance is going to be subsidized, the vehicle ought to be long-term "trust funds" so that the services being supported don't disappear in smoke at the end of each 5-year project cycle. This seems eminently reasonable. It also dovetails nicely with the current push by the Microcredit Summit to establish national wholesale funds everywhere as the predominant vehicle for supporting poor people's finance. As is often the case with eminently reasonable ideas, variants of this one have already been tried. So far, the results have been happy in a few cases and disappointing in most. The keys to success appear to be (1) the existence of a critical mass of competent retail lenders, (2) competent management of the wholesale fund, (3) de facto exclusion of the government from the fund's decision-making; and (4) the absence of disbursement pressure that forces fund managers to support weak retailers. Note that donor technical assistance has sometimes proved useful in helping strong retailers get stronger, but seldom succeeded in changing weak retailers into strong ones.

3. **Can we donors clean up our act?** It is hard to argue with the picture JD paints of donor involvement in rural finance:

--Our project quality has been generally bad in the past.

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--Recent years have seen not only the emergence of more successful models but also improved donor awareness of sound practice principles.
--Nevertheless, the average quality of our financial services interventions—and not just the rural ones—is still distressingly low.

Why has better understanding of the right way to do things not led to a more dramatic improvement in project quality? In my experience, it comes down to skills and incentives.

Skills. It turns out that the quality of finance projects correlates fairly strongly with the knowledge level of the direct-hire donor staff involved. The notion that the necessary technical perspective can just be contracted out to consultants does not square with experience. Most of the good financial-services consultants I know are working on projects where the direct-hire donor manager is reasonably knowledgeable about the issues. Generalist donor staff with no background at all in finance have a hard time telling good consultants from bad ones, let alone managing their work.

In many donor agencies, even those with in-house financial specialists available, most of the credit is done as a component in a non-financial project (e.g., a social or community development fund). The staff designing and managing many of these project either do not know their agency's financial specialists, or consciously avoid involving them because the specialists' input tends to constrain the project designers' choices and makes it harder to get a project approved. The staff who are most likely to draw on help from good financial specialists—direct hire or consultant—are those who have had some basic orientation to good financial practice.

Such orientation makes a demonstrable difference. Without imagining that all problems have been solved, it seems fair to say that there has been a palpable improvement in the quality of USAID's credit projects over the past decade. I am aware of no great change in the agency's incentive structure that would explain this improvement. Rather, I think the improvement has been mainly due to the fact that large numbers of USAID staff have had some basic formal orientation—from a few days to a few weeks—in good financial practice.

Top managers of development agencies quickly learn that such agencies are hard to change, and in particular that new policy and strategy documents may be more likely to change the names than the substance of projects. The World Bank's decade-long struggle over its financial services policy directive is a sobering case in point. When I scratch my head for reforms that seem relatively practical to implement, training comes out high on the list. If I were the administrator of an agency and I were really serious about improving financial project quality, my first step would be to enforce a rule that no project that involved using donor money for credit could advance even to the earliest concept-paper stage unless the direct-hire staff responsible for the credit component had a minimum of two days of orientation to sound practice principles. (The marvelous CD-ROM-based course developed by Heather Clark at UNCDF would be an excellent vehicle for such training.)

Incentives. Even while arguing for more training, I fully accept JD's diagnosis that incentives are an enduring core problem. For donors who work with governments as clients, there is no getting around the fact that those clients need to worry about a lot of factors that have nothing to

do with good credit practice. And the rewards/penalties for good or bad project outcomes still pale in comparison with the incentives that individuals and offices have for getting projects approved. These incentive problems have been recognized and decried for years, but I know of no donor agency that had great success in altering them.

I agree with JD that improved transparency is the only avenue that offers much hope for changing this incentive structure. The two prongs of a transparency strategy would be reporting and external review.

If credit projects components were required at all their stages to report credibly on loan loss rates and financial sustainability, behavior would change.

External review can be powerful. By shining a spotlight on a hitherto-neglected aspect of our projects, private environmental organizations managed to force serious changes in the ways we donors do business. JD wonders (somewhat wistfully?) whether some external group such as a public-policy "think-tank" might take on such a role for financial activities. One wonders whether the issue of good financial practice will have enough appeal for such an organization to motivate it to embark on a crusade.

The dream that I prefer—though it is at least as subject to political feasibility questions as JD's suggestion—involves the heads of a few agencies agreeing to establish and fund an external agency that regularly audits a random sample of their finance projects for compliance with some written set of sound practice principles, and publishes the results. Once a critical mass of donors joined such an effort, it would be politically embarrassing for the others to stay away.

Either way, those of us who have worked in donor agencies know that avoidance of public criticism is a powerful and effective incentive.

One thing is clear. If the staff and leadership of our agencies are not able to implement structural changes in the ***rules*** by which our financial-services business is done, then any rural finance conference reviewing our performance a decade from now will be telling a variant of the same sad story. If nothing changes, nothing changes.

Discussant Reaction Paper

Comments on

The Evolution of Institutional Issues in Rural Finance Outreach, Risk Management, and Sustainability by J. D. Von Pischke

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As usual, J. D. has written a lucid and provocative paper that highlights crucial aspects of the post 1960s record of rural finance (mostly agricultural credit) projects in developing countries and presents thoughtful suggestions about donor involvement in the New Rural Finance so that the success rate of future projects will be much higher than experienced in the dismal past. The landscape is littered with failed agricultural credit projects and many of us have made a living analyzing this sad chapter in donor history. Unfortunately, in much of our work, as well as in this conference, we have learned far too little about the two remarkably successful cases in the developing world: the unit desas of BRI in Indonesia and the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand. In my view, we spend too much time focusing on tantalizing tales of tiny new projects and innovations, and far too little time learning from these huge proven success stories with billion dollar portfolios. I will concentrate my remarks on the opportunities and threats, most of which J.D. mentioned in his paper, to sustainable rural finance.

I. Improved opportunities for expanding sustainable rural finance. J.D. is correct in arguing that in many ways the prospects for developing and expanding rural financial services are better today than they were during the heyday of small farmer directed agricultural credit projects two decades ago. There are many reasons, and he lists most of them, including the important emergence of microfinance. They include:

- Some of the urban-biased economic policies that used to heavily penalize developing country agriculture have been reformed.
- Repressive financial policies, especially concerning interest rates, have been liberalized in many countries.
- Successful microfinance operations have demonstrated the importance of doing more than simply pushing credit disbursements. Success requires investing in institution building, paying attention to client demand, carefully designing financial products and services, controlling costs, developing strong management and information systems, paying staff incentives, using professional management, and implementing strong governance.
- Credit continues to dominate; however, there is a better understanding today that there is a demand by rural people for savings and other well-designed financial services.
- Improved understanding of firm-households as joint producing and consuming units has prompted a shift away from preoccupation over the targeted use of loan funds towards greater emphasis on reaching target groups of clients with sustainable services.
- Aid managers are implementing procedures that delegate more daily decision making to microfinance contractors and service providers while requiring stronger institutional monitoring and performance reporting with a more balanced weighting of sustainability and outreach objectives.
- Greater transparency in operations and more systematic accounting for costs, revenues, loan recovery, efficiency and productivity measures facilitate the comparative analysis of performance and the establishment of best practices.
- The emergence of specialized microfinance rating agencies provides financial institutions with the opportunity to market themselves more professionally to commercial sources of funding.

• Competitive pressures are prompting some banking institutions to reconsider business opportunities in the agricultural and rural economy.

• Greater competitiveness and sophistication exists in some segments of the rural economy.

II. Key threats to developing sustainable rural finance. Several problems continue, however, that make sustainable rural financial services as elusive as ever in most developing countries. Some problems can be ameliorated by the creative design of financial institutions and products, as occurred with microfinance, but others require broader and longer-term interventions with multifaceted investments. Including some identified by J.D., the key threats are:

• There is a widespread failure of governments, donors, and potential financial service providers to understand the implications of the basic fact stated by J.D.: "agricultural progress has only two certain outcomes: cheaper food and fewer farmers." Farmer survival in developed nations has usually meant getting bigger (and more modern) or getting out (seeking nonfarm work).

• Food prices are a critical concern for governments so agriculture is a political sector. Problems such as crop failures, excessive farmer indebtedness, and low producer prices are more likely to induce government and donor interventions (e.g. loan forgiveness) that are "damaging" for market-oriented financial institutions than is the case with most segments of the microfinance market.

• Farmers face cost-price pressures because long-term trends in real international prices have been downward for major farm commodities with few prospects for recovery in the near future.

• Greater access by developing country farmers to international markets is coupled with greater vulnerability to market fluctuations and subsidized imports. This produces arguments in favor of rolling back liberalization polices.

• Fewer opportunities exist today for the widespread adoption of highly profitable technological alternatives and enterprises in most developing countries compared to the early days of the Green Revolution.

• Higher interest rates may be needed in rural than in urban areas to cover costs and risks. But policy makers are tempted to reject market determined rates and rationalize interest subsidies and controls because of large amounts of rural poverty, the rates of return on many farm investments are perceived to be low and highly variable, and the length of rural loans often need to be longer to fit rural production and cash flow patterns. (The recent emergence of populist and religious views about finance and interest rates represent additional complications in some countries.)

• The heterogeneity of farming and the rural economy has increased as new opportunities emerged and as farm-households adopted complex survival strategies. This situation increases the complexity that financial institutions face in evaluating the credit worthiness of diverse potential clients and in mass-producing standardized financial products as occurred in the early days of microfinance.

• The demise of directed agricultural credit programs has diverted attention away from the long-term arduous work of identifying and removing constraints in the legal and regulatory environment that supports rural financial intermediation. Institutional innovations in microfinance, such as making small loans with frequent repayment and

using collateral substitutes, avoided many of these constraints. Serving clients in high-density environments helped avoid the transportation, communication and other bottlenecks in rural settings. Awareness of these problems will heighten as attention is refocused on the conditions necessary for sustainable rural financial services.

- Either because the lessons have not been learned or because short-term imperatives are overwhelming, donors rarely design long-term strategies for developing coherent sustainable rural financial systems. Effective donor coordination is more a buzzword than an operational norm, and too many projects still focus on disbursement rather than sustainability. (Witness the many add-on microfinance components in large multi-purpose projects and credit disbursement targets in major donor projects.)

III. The role of donors in building sustainable rural finance. The comments of J.D. and Rich don't provide much reason for optimism about donors becoming effectively reengaged in rural and agricultural finance. Although changes have provided better opportunities for building sustainable rural financial systems today, many old problems remain and new ones have emerged. On balance, I think the challenges are at least as formidable now as they were two decades ago. The limited capacity of donors and governments to address the challenges comprehensively in the midst of other pressing short-term development problems does not bode well for future success. The lack of broader access to sustainable formal financial services in rural areas is not going to be resolved by simply funding a handful of projects to make a few more NGO rural loans, or to create a few credit unions, or to rehabilitate a bank, as important as these activities may be in specific situations. The careful design of financial institutions and products is necessary, but not sufficient. Addressing the rural finance challenge comprehensively requires an effort at least as substantial as occurred with microfinance. But if the CGAP donor peer reviews are correct in identifying a declining interest in microfinance in spite of its massive public relations machinery, it is hard to imagine that a serious rural finance initiative, such as J.D. outlined, will ever be given thoughtful analysis until there is another world food shortage. Of course, when that happens, pressures for quick disbursements and short-term solutions will dominate the donor agenda.

The donors pursued a successful long-term strategy in the 1960s and 1970s to create agricultural colleges and research stations in developing countries. Was that a one-time event in effective donor institution building in agriculture that will not be repeated again in the near future?

RURAL FINANCE PROGRAMMING PRINCIPLES

Rough Draft for Donor Discussion

The objective of this paper is to solicit views from donors with the objective of improving donor collaboration and consistency in donor rural finance programming principles that will expand the outreach of financial services in rural areas and strengthen the sustainability of the institutions providing those services. Today's **financial systems approach** enhances the efficiency and depth of savings, financing and insurance services available to rural communities. This approach supports rural employment and economic growth and, therefore, income generation and wealth accumulation in rural areas.

The structure of this paper and the USAID-sponsored *Paving the Way Forward for Rural Finance: An International Conference on Best Practices* has been built around but is not limited to a conceptual framework wherein rural financial systems development is implemented through (1) establishing an enabling economic policy environment, (2) establishing an enabling legal framework (3) supporting mechanisms to reduce risk in rural financial intermediation, (4) building or restructuring sustainable financial institutions, (5) developing appropriate/innovative products for rural finance, and (6) supporting agribusiness linkages that deepen rural financial services.[1]

(1) Establishing an enabling economic policy environment.

The role of Government economic policy is to support and stimulate market operation, not to administer market operations. Donors can provide incentives to eliminate Government biases in sectoral economic policies, such as agricultural price control and tax regimes, that reduce the profitability of rural production. The Government should not engage in price controls, interest rate controls, portfolio quotas, directed credit, operational subsidies or direct provision of financial services. The role of the Government in undertaking complementary investment in non-financial rural infrastructure to improve the return on rural finance investments. Donors may support Government development of rural education, health care, agricultural research and extension and public investment in physical infrastructure upon which financial services returns are indirectly dependent. This infrastructure is characterized by public goods—benefits available to the wider population and not adequately provided by the private sector.

Goal: Establish conducive economic policies that stimulate financial systems to expand rural financial services access in a sustainable manner.

Donor Programming Do's	*Donor Programming Don'ts*
• Assist in the establishment of information infrastructure such as credit bureaus and property registries that reduce the risks for intermediaries. • Require clear prudential norms, transparent reporting and effective supervision consistent with international standards for donor supported deposit-taking institutions. • Support product innovation not by having the Government implement innovation itself, but by motivating the Government to establish a framework that allows innovators to experiment and benefit financially from desired innovations.	• Do not support interest rate controls. • Do not provide credit or grants for subsidized interest rate lending, directed credit, or credit programs with political rather than commercial management. • Do not support direct provision of financial services by the Government.

(2) Establishing an enabling legal framework.

An adequate legal framework defines the manners in which a borrower and a lender may undertake secured transactions and how that contract will be enforced. The legal system needs to establish the mechanisms and rules by which (a) the lender takes collateral upon a specific property, (b) the claims on collateral are prioritized, (c) the claims are registered and (d) the collateral arrangement is enforced and liquidated. One of the critical issues is the clear definition of legal rights to land and the right of landowners to pledge land as collateral. Another constraint includes the ability of rural producers to pledge their crops as collateral.

Goal: Establish a legal framework that offers property for collateral in a transparent manner to reduce risk in lending and allow financial institutions to offer rural finance in larger amounts, at lower interest rates, and for longer terms.

Donor Programming Do's	*Donor Programming Don'ts*
• Create incentives for establishing a single or umbrella legal framework that defines the priority of claims upon borrower collateral. • Support programs that strengthen institutions that title and register security interest. • Improve the security of land tenure legal frameworks by (i) strengthening title process and registries, (ii) defining transfer and pledging rights, and (iii) removing legal restrictions on mortgaging rural property (iv) removing restrictions on sales, rentals and other forms of transfer of rights. • Provide support for improved court and legal system, enforcement of contracts and bankruptcy law. • Encourage the use of collateral alternatives such as producer crops and joint liability groups. • Support the regulation and supervision of deposit taking institutions under the same or consistent and capable formal finance sector supervisor. • Encourage governments to simplify the regulatory structure thus reducing opportunities for rent-seeking behavior	• Do not encourage unnecessary bureaucratic procedures that would provide opportunities for rent seeking.

(3) Supporting mechanisms to reduce risk in rural financial intermediation.

Risk can be pooled and managed for the mutual benefit of the individual producer and financial institution through insurance programs. Such programs will then increase the access of producers to agricultural credit. Index-based insurance programs provide financial institutions with greater incentives for investment in rural markets while maintaining the incentives for producers to produce effectively and avoid risks.

Goal: Reduce high degrees of price and production risk in agriculture finance.

Donor Programming Do's	*Donor Programming Don'ts*
• Create incentives for establishing or strengthening market information mechanisms such as price information services, distribution information and associations to reduce risk to producers and rural financial institutions. • Require accurate actuarial and statistical information modeling for donor supported insurance programs. • Support crop insurance programs which are profitable and are attractive to private sector ownership and management. • Provide incentives and support programs that determine insurance premiums and payments based upon indices such as rainfall, crop production histories, and natural events which are beyond the control of producers so that producers are still motivated to manage and maximize their production. • Require that donor supported deposit guarantee insurance have in place prior financial monitoring and supervision systems to reduce the risk of morale hazard.	• Do not support the establishment of multiple peril insurance programs which decrease the incentive for producers to well manage their production. • Do not support insurance programs that lack adequate limits on what can be insured, have high monitoring costs, and/or face generally high losses. • Do not support crop insurance in markets characterized by decreasing productivity trends, unfavorable terms of trade, geographic concentration and small market size.

(4) Building or restructuring sustainable financial institutions.

Various financial institutions possess distinct comparative advantages which makes their co-existence and fierce competitiveness possible. Institutional diversity breeds competition and competition is healthy in that it breeds institutional innovation and sustainability. Institution-building is a function of information and incentives. Information begins with transparency and full disclosure of reporting by financial institutions. To be sustainable, rural financial institutions need to cover their full costs including financial costs, operating costs, provisions, and capital accumulation to meet capital adequacy requirements. Institutions must be able to pay full market costs (meaning non-subsidized costs) for their loanable funds. As part of this commitment, donors, as key investors in financial institutions, should consider taking an active role in the formulation of institutional policy and oversight. Active participation on the institution's board of directors either as a voting or nonvoting member should be seriously considered. The creation or restructuring of sustainable institutions requires a long-term commitment to put systems and trained personnel in place.

Goal: Establish a diversified range of rural financial, bank and non-bank, institutions which provide efficient financial services in rural areas and which are sustainable.

Donor Programming Do's	*Donor Programming Don'ts*
• Require rural financial institution partners to meet standardized international reporting and auditing requirements for the measurement and monitoring of sustainability and financial health. • Limit investment grants or operating subsidies	• Do not support rural finance programs that lend at interest rates which fail to cover the lender's full costs. • Do not rely solely on Government-owned financial intermediaries to provide rural

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for start up or restructuring to specific costs with clear objectives, timelines, and performance criteria for reaching sustainability. • Require that partner financial institutions target, plan, and price to achieve full cost recovery and financial sustainability with operating revenues; create incentives for actually reaching full cost recovery and financial sustainability. • Insist that governance of rural financial institutions be strengthened with (i) a clear definition of the roles and responsibilities of board members and managers, (ii) criteria for board candidates, (iii) internal controls, and (iv) conflict of interest controls. • Provide credit lines only on a non-subsidized basis and only when local financial markets do not provide long term financing. • Assure that, in donor supported rural finance programs, external credit is priced at commercial wholesale rates to financial institutions and at retail market rates to client-borrowers. • Require that rural finance partners hire and dismiss management on commercial criteria and performance standards in response to market forces and not on political objectives. • Donors should structure long-term partnerships with institutions they supporting by ensuring their participation on the institution's board of directors.	financial services. • Do not rely on Government-owned non-financial institutions or non-financial ministries (likely to pursue political ends) to implement rural finance projects.

(5) Developing appropriate/innovative products for rural finance.

Innovations may help reduce the costs of rural finance operations for financial institutions, lower transaction costs for client and institution, or reduce the risks to the institution and the client. The worth of innovation is in the increased profitability of the financial institution and in the increased income or wealth through access to financial services at the client level. Innovations may be the creation of new products, changes in the characteristics or application of old products, or simply the transfer of products and technologies from one country or one sector to another.

Goal: Introduce product innovations which expand rural finance services by reducing the costs of services, reducing the risks of providing services, or expanding the range of financial service characteristics tailored to the disbursement, term, and repayment characteristics of the economic activity of the clients.

Donor Programming Do's	*Donor Programming Don'ts*
• Provide incentives for strengthening rural financial institution lending capacity to include household multi-activity repayment analysis for farm and non-farm activity lending. • Develop long term funding vehicles and methodologies at market interest rates to finance	• Do not limit partner financial institution services to just agricultural credit. • Do not support uniform supervision policies which place barriers to providing rural lending services via nontraditional collateral arrangements.

longer term agricultural investment. • Restrict innovations which require large financial investment to larger and financially sound institutions. • Ensure commitment of the financial institution introducing the proposed innovation; require co-funding of institution where innovation is introduced. • Emphasize savings services among regulated financial institutions and credit for purposes beyond agricultural production. • Establish standards for warehousing and strengthen boards which monitor the quality of warehousing receipts.	

(6) Supporting agribusiness linkages that deepen rural financial services.

Non-financial institutions provide interlinked credit arrangements such as contract farming, supplier trade credit and output distributor advances. Rural traders who advance agricultural inputs or purchase harvest are important providers of credit in rural areas. Large supply or processing companies often use the traders as middle men to interface with producers. Where traders are absent, the processors often work directly with the producers. Traders apply their patronage history knowledge of clients to screen credit recipients who usually tend to be small and medium producers. Trader credit operations therefore tend to be limited to a small number and geographic area but are replicated on a major scale.

Goal: Expand financial services through interlinked markets and coordinating with commercial non-financial entities.

Donor Programming Do's	*Donor Programming Don'ts*
• Support trader or processor business relationships linked to credit without distortion or crowding out of private sector activities. • Support the development of liquidity management systems for traders and traders' supplying companies. • Ensure that the resource allocation distortions caused by donor intervention are transparent and outweighed by the public benefits of the intervention.	• Do not support or promote programs in which supplier, processor or trader relationships with producers are "predatory", i.e., locking producers into production/debt peonage through credit terms.

[1] The text of this paper draws from but is not limited to the papers commissioned for this conference, including *Deepening Rural Financial Markets: Macroeconomic Policy and Political Dimensions* by Claudio Gonzalez-Vega, *Legal and Regulatory Requirements for Effective Rural Financial Markets* by Heywood Fleisig and Nuria de la Pena, *Risk Management Challenges in Rural Financial Markets: Blending Risk Management Innovations with Rural Finance* by Jerry Skees, *Models of Rural Financial Institutions* by Manfred Zeller, *Innovative Products and Adaptations for Rural Finance* by Juan Buchenau and *The Evolution of Institutional Issues in Rural Finance Outreach, Risk Management and Sustainability* by J.D. Von Pischke.

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