

Rural Finance in Latin America and the Caribbean:

Challenges and Opportunities

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Abstract

Despite substantial financial deregulation in larger financial systems, rural financial markets in Latin America are shallow, segmented, and inefficient. The principal reasons for the observed market failure are the pervasive risks, information asymmetries, and high transaction costs present in rural financial markets. In order to improve the situation, yet avoid government failure, concerted effort is needed in a number of areas-- policy reform (macroeconomic, sectoral, legal, and financial regulatory), institutional capacity building, and new product development--- to effectively resolve the underlying root causes. The role of donors and national governments is primarily to create a conducive environment and the role of the private intermediaries is to assume risks and to provide financial services. This paper reviews the current situation and the causes of the problems observed. It also highlights areas that show promising solutions to those problems. The value of the paper is the integrated approach to assaying the challenge and pinpointing how to attack the identified problems. The financial market and economic policy liberalizations that occurred in the late 1980s and early 1990s in Latin America and the Caribbean were necessary but not sufficient conditions for the deepening and improved functioning of rural financial markets. Second generation policy reform efforts and attention to institutional details are needed.

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1. Introduction

1.1 Historical Overview and Recent Reforms

Between 1950 and the early 1990s, Latin American and Caribbean countries relied on a government-driven approach to serve the financial needs of their rural sectors. The design of large targeted and subsidized credit programs, implemented through state-owned specialized agricultural development banks and private commercial financial entities, was the norm. The objective was to improve access to credit for small farmers and thereby spur agricultural sector growth and income expansion. Despite the substantial efforts and the best of intentions, evaluations of credit programs sponsored by various international development agencies indicate that results have been far less than expected (IDB, 1998; World Bank, 1989; Buttari, 1995).

Since the late 1980s and early 1990s much of Latin America and the Caribbean has experienced a wave of financial liberalization resulting in market determined interest rates, higher investment efficiency, greater banking competition, and a wider offering of financial products (IDB, 1996). Most of these changes have been noted in urban markets, however. Rural financial markets, for the most part, continue to be underdeveloped, shallow, and noncompetitive. This duality in financial market development limits growth and dynamism in the rural sector and raises policy concerns about income distribution and balanced economic growth. Although Latin America is the most urbanized continent in the developing world, sizeable proportions of the total population still reside in rural areas (regional unweighted average: 39.6%) and agricultural pursuits still generate a fair share of total economic output (regional unweighted average: 11.5%) and employment (regional unweighted average: 16.5%). The majority of rural residents tend to be medium- and small-scale agricultural producers, small entrepreneurs, and landless workers who experience a higher incidence of poverty than their urban counterparts and greater difficulties in accessing formal financial services.¹

1.2 The Importance of Financial Sector Development

Historically, financial sector development has been an important element in overall economic growth and development for three reasons. First, financial sector development helps to unleash the economic potential of increasingly greater proportions of the population and is highly correlated with accelerated *economic growth*. Countries with more developed financial markets and greater financial depth, as measured by the ratio of M2 to Gross Domestic Product, have grown faster than other countries with less complete and developed financial markets (King and Levine, 1993). Second, the lack of adequate financial services hinders the formation of new enterprises and the expansion and modernization of existing ones and contributes to *income inequality*. Those able to access credit and deposit services a priori are better able to increase their income than those that do not. Third, improving rural financial intermediation can contribute to alleviating poverty if accompanied by rational and

¹ Economic Commission for Latin America and the Caribbean (ECLA) in 1997 estimated that 54% of rural households in the region were below the poverty line compared to 34% of urban households.

equitable reforms in macroeconomic and sectoral economic policies and improvements in the functioning of factor markets.

1.3 Objectives

This paper has three purposes. First, it seeks to provide an overview of the current situation in rural financial markets in the region since the onset of widespread financial liberalization earlier in the decade (Section 2). Second, it presents a conceptual framework that explains why these markets do not work well and, in particular, why formal intermediaries find small-scale entrepreneurs to be unattractive clients (Section 3). Third, it identifies the main actions and policy reforms that are required to resolve the problems identified (Section 4).

2. Overview of the Current Situation in Rural Financial Markets

2.1 Depth

The late 1980s and early 1990s ushered in a period of financial liberalization for many Latin America and Caribbean countries.² These reforms eliminated severe policy distortions (interest rate ceilings, credit allocation quotas, multitiered reserve requirements), promoted greater competition (allowed entry of foreign-owned financial institutions), and strengthened prudential norms and supervisory authorities (improved capital adequacy standards, tighter limits on related lending, increased provisioning, etc). Partly, as a result of the reform efforts, the degree of monetization or financial depth (measured as the broad supply of money (M2) as a percent of GDP), increased for a large number of countries between 1990 and 1997 (Table 1). For 20 out of 25 Inter-American Development Bank borrowing member borrowing countries, the ratio of M2/GDP was higher in 1997 than in 1990. For 14 of these countries, the increased depth was 25% higher in 1997 than it had seen 7 years earlier. The countries that exhibited dramatic improvements in depth were Argentina, Bolivia, Brazil, Colombia, Guatemala, Nicaragua, Panama, and Paraguay.

Twelve economies in the region can be characterized as agrarian: Belize, Bolivia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Nicaragua, Paraguay, and Suriname.³ Nine of these have experienced significant financial deepening (Table 1), with five (Bolivia, Ecuador, Guatemala, Nicaragua and Paraguay) experiencing an increase in depth of 50% or higher. Only in five countries of the region, the first three of which are agrarian, financial depth decreased (Haiti, Guyana, Suriname, Uruguay and Venezuela).

The general trend of increasing economy-wide financial depth in the 1990s, especially for the agrarian countries, however, was not accompanied by an increase in formal credit services to rural areas. For all 10 countries with available data, credit to agriculture (including livestock, forestry, and fisheries) from formal sources decreased significantly in relation to total formal credit. This development also reflected the decline in agriculture's share of GDP. For 5 of 10 countries in the 1990s, agricultural credit as a proportion of agricultural GDP declined in five of the ten countries listed in Table 2, even though these same five countries exhibited substantial increases in overall financial depth (Table 2).⁴

² The Inter-American Development Bank approved and financed 13 Financial Sector Loans and an additional 18 Investment Sector Loans, many of which had financial sector reform components in the period of 1990 to 1998. Similarly, the World Bank financed 26 financial sector adjustment related operations between 1985 and 1996 in Latin America. Sources: ? Lessons Learned in Rural Finance at the Inter-American Development Bank, ? (1999) **Financial Sector Reform: A Review of World Bank Assistance**. (1998).

³ For purposes of this study, agrarian economies are those that have predominantly rural populations (>40%) and agricultural output representing 10% or more as a share of GDP. The list includes: Belize, Bolivia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Nicaragua, Paraguay, and Suriname. The focus is on agrarian economies due to availability of statistics. It does not imply that the paper is only concerned with agricultural finance. The objective of the paper is to understand the constraints to rural finance (both on-farm and non-farm).

⁴ Agricultural credit is used as a proxy for rural credit in general.

Table 1. Selected Indicators of the Significance of the Rural Sector and Financial Depth

Country	Population			Agriculture, For. & Fish. as % of GDP	Annual GDP Rate of Growth 1990-1997		M2 as %GDP		
	000's	% rural	% Empl. (index 1990=100)		in 1996	Agriculture et. al	Total	1990	1997
						GDP			
Argentina	34,587	12	1.50	6.7	2.8	5.2	11.5	24.0	109%
Barbados	261	54	4.60	4.3	0.9	0.5	50.7	63.3	25%
Belize	210	52	38.30	20.4	7.3	4.4	40.8	51.4	26%
Bolivia	7,414	40	22.10	11.7	0.8	4.2	24.5	48.3	97%
Brazil	161,789	22	26.10	7.2	3.9	1.9	26.5	42.1	59%
Chile	14,210	16	15.40	7.6	5.5	7.7	39.9	43.4	9%
Colombia	35,101	28	1.30	14.2	2.2	4.1	19.3	31.7	65%
Costa Rica	3,424	51	21.60	15.4	2.6	3.5	28.0	41.2	47%
Dominican Republic	7,823	38	14.50	14.0	3.4	3.6	23.0	27.8	21%
Ecuador	11,460	41	6.60	13.0	2.3	3.8	21.8	34.1	57%
El Salvador	5,768	48	28.10	13.6	1.9	5.2	30.6	42.1	37%
Guatemala	10,621	61	26.10	24.1	3.0	3.9	21.3	65.2	207%
Guyana	825	65	NA	35.8	5.7	6.5	69.8	65.2	-7%
Haiti	7,180	66	NA	36.6	-2.8	-3.4	37.4	34.1	-9%
Honduras	5,654	56	37.20	19.8	3.1	3.3	31.7	36.7	16%
Jamaica	2,431	39	27.10	8.7	4.4	1.0	42.2	49.3	17%
Mexico	91,145	26	22.50	7.4	1.5	2.7	23.7	28.3	19%
Nicaragua	4,124	42	13.10	33.7	3.9	2.4	5.8	60.2	946%
Panama	2,631	44	NA	8.2	1.7	5.1	41.1	73.3	78%
Paraguay	4,828	48	3.90	26.9	2.4	2.8	19.8	30.7	55%
Peru	23,532	29	21.60	7.2	3.4	4.2	20.7	25.8	25%
Suriname (a)	418	55	6.10	11.2	-0.6	-0.8	122.3	88.8	-27%
Trinidad/Tobago	1,292	33	10.60	2.5	3.3	1.9	44.9	48.2	7%
Uruguay	3,186	10	4.80	12.1	3.7	3.7	61.2	43.0	-30%
Venezuela	21,844	14	13.20	4.9	1.1	3.8	28.9	21.5	-26%

(a) 1993 data.

Sources: IADB database and International Financial Statistics, IMF.

Table 2. Agricultural Credit as a Percent of Total Credit and as a Percent of Agricultural GDP

Country	Agricultural Credit as a % Total Formal Credit			Agricultural Credit as a % of Ag. GDP		
	1984-86	1990-92	1994-96	1984-86	1990-92	1994-96
* Bolivia	-	18.8	12.2	-	36.0	40.4
* Brazil	-	11.3	10.7	-	60.5	40.5
* Costa Rica	-	23.4	20.0	-	20.9	18.9
** El Salvador	11.1	18.0	12.1	21.4	42.9	28.4
** Guatemala	17.2	14.2	10.2	42.6	19.8	28.5
* Honduras	26.5	22.9	17.9	45.7	36.6	23.1
* Jamaica	15.1	9.2	5.3	66.1	31.5	14.2
* Mexico	15.3	9.5	7.7	47.2	37.0	53.8
** Peru	27.0	-	5.6	28.9	-	8.3
* D. Republic	12.7	13.8	10.8	19.4	15.5	18.4

* outstanding balance at end of the year

** annual commitment

Sources: IMF Statistics and various Central Bank reports.

Note: Three-year averages are used to minimize the effects of sharp movements in the supply of credit due to external shocks on agricultural prices and production.

Yet it should be noted that a measurement problem exists. Not all of the apparent *decline* represents a net reduction in agricultural financing. Earlier credit subsidies, combined with the *fungibility* of funds, introduced incentives to substitute loans for self-financing (VonPischke and Adams, 1983). In directed credit programs, diversions of loan funds to non-agricultural uses and substitutions in the use of funds occurred frequently. Because these incentives disappeared with the elimination of interest rate subsidies, statistics on uses of loan funds must be interpreted with caution. Furthermore, to some extent, agriculture was financed, not by what the statistics designated as *agricultural* credit, but through other channels, captured in part by the statistics on *commercial* credit. Credit has been available, for instance, from input suppliers and crop marketing intermediaries who, in turn, had access to commercial banks. In summary, there is not a clear cut correlation between the supply of agricultural credit and agricultural output because of measurement problems, but evidence suggests that the supply of rural credit, in general, and the supply of agricultural credit, in particular, are not optimal.

2.2 Efficiency Indicators

While financial depth increased in the region's financial systems, there has been no overall improvement in a summary measure of financial efficiency, that is, the margin between the cost of mobilizing liabilities and the earnings on assets, or the interest spread.⁵ Small

⁵ The "spread" is an imperfect measure of efficiency and should be interpreted with caution. The spread can be affected by inflation rates and legal reserve requirements. It also reflects perceptions of risk. To make a

financial margins are important because they contribute to economic growth by reducing lending rates and the cost of investment. Thus, interest rates reflect the responsiveness of financial institutions to competition and price incentives. For countries with available data in the region, Only six of the countries for which data are available exhibited reductions in the spread from 1990 to 1997; they are: Chile, Costa Rica, Dominican Republic, Nicaragua, Peru, and Paraguay. One country, Panama, had an unchanged spread (Table 3). Ten of the countries with available data showed growth in their banking sectors as represented by the ratio of domestic credit provided by the banking sector to GDP. Only three countries exhibited both shrinking interest rate spreads and either constant or expanding domestic credit/GDP ratios, indicating unambiguous improvement in both efficiency and depth. In other cases, other factors complicate the interpretation. For example, several countries were characterized as successfully adopting major financial sector reform (Argentina, Bolivia, Colombia, El Salvador, Nicaragua, Peru, and Uruguay) in the late 1980s and early 1990s (IDB, 1996). The adoption of reforms would lead one to expect improvements in competition and, thereby, financial efficiency. Of these seven countries, four (Argentina, Nicaragua, Peru, and Uruguay) reported drops in their 1997 spreads compared to previous years. One possible explanation for the lack of improvement could be shocks to the entire banking system. For example, one of the reformers that did not show an improvement was Bolivia, which experienced a banking crisis in 1995-96. Beyond relative movements in direction, none of the listed Latin American countries came close to the low spread reported by Canada (1.25% in 1990 and of 1.37% in 1997), a country widely recognized for its efficient banking system.

Depositors are motivated in large part by positive real rates of return on financial instruments but also convenience of access to deposit-taking institution and perceptions of safety. Eleven, out of the 23 Latin American countries (48%) had negative real rates at the start of the decade. By 1997, only 6 countries (26%) had negative real deposit rates. As financial reforms take hold, inflation is controlled and ceilings on lending rates are eliminated, improving one incentive for increased savings has improved (Table 4).

definitive assessment, detailed knowledge of a particular countries' financial sector over time is needed. Nonetheless, it is the most commonly available and used measure of financial efficiency.

Table 3: Financial Depth and Efficiency Indicators

COUNTRY	Domestic Credit (% GDP)			Interest Spread (Lending minus Deposit Rate percentage points)		
	1990	1996	1997	1990	1996	1997
Argentina	32.4	26.0	27.2		3.2	2.3
Bolivia	30.7	57.5	55.5	18	36.8	35.3
Brazil	89.8	36.8	43.1			
Chile	73	59.6	64.7	8.6	3.9	3.7
Colombia	36.2	45.5	47.0	8.8	10.8	10.1
Costa Rica	29.9	33.1	37.4	11.4	9.0	9.5
Dominican Republic	31.3	29.5	31.0	15.2		7.6
Ecuador	17.2	31.7	36.9		13	14.9
El Salvador	32	41.4	43.9	3.2	4.6	4.3
Guatemala	17.4	19.4	21.2	5.1	15.1	12.8
Haiti	32.9	27.4	31.4			10.3
Honduras	40.9	26.	29.2	8.3	13	10.8
Jamaica	34.8	33.5	39.2	6.6	18.8	22.3
Mexico	42.5	40.6	30.0			9.9
Nicaragua	206.6	189.4	148.6	12.5	8.4	8.6
Panama	52.7	74.4	74.4	3.6	3.4	3.6
Paraguay	14.9	28.2	25.5	8.1	11.7	14
Peru	16.2	12.1	17.7	2334.9	11.2	14.9
Trinidad and Tobago	58.5	54.2	57.8	6.9	9.1	8.4
Uruguay	60.8	39.8	39.0	76.6	63.4	51.9
Venezuela	37.4	19.9	18.5	.4	4.1	4.4

Source: World Development Indicators, 1998 and 1999.

Note: The lending rate is the short or medium rate charged to private sector borrowers with variations due to creditworthiness. The deposit rate is the interest rate paid to residents for demand, time, and savings deposit, which varies according to the maturity of instrument. Countries tend to report system wide averages.

Table 4. Real Deposit Interest Rates

COUNTRY	1990	1991	1992	1993	1994	1995	1996	1997
LATIN AMERICA REGION								
Argentina	-0.34	-0.64	-0.31	0.06	0.75	1.93	5.97	4.31
Bahamas	0.33	-0.02	0.06	0.67	1.21	na	1.56	3.15
Barbados	0.78	0.03	0.08	1.57	3.84	1.11	0.82	-0.36
Belize	1.29	1.85	1.77	2.80	1.65	1.66	0.36	4.10
Bolivia	0.37	0.11	0.85	1.44	1.18	0.77	0.50	1.76
Brazil	2.20	1.07	0.55	0.53	0.94	-0.38	0.63	2.21
Chile	0.53	0.02	0.17	0.40	0.30	0.60	0.72	0.83
Colombia	0.24	0.22	-0.01	0.14	0.23	0.52	0.52	0.26
Costa Rica	0.11	-0.05	-0.26	0.66	0.29	0.03	-0.01	-0.01
Ecuador	-0.26	-0.23	7.54	4.32	2.73	2.28	0.67	-0.08
El Salvador	-0.24	0.11	0.03	-0.17	0.26	0.40	0.39	1.32
Guatemala	-0.54	-0.26	0.04	0.06	-0.10	na	-0.29	-0.33
Guyana	5.42	8.25	5.53	na	na	na	0.42	1.08
Honduras	-0.60	-0.64	0.36	0.08	-0.45	-0.57	-0.29	0.05
Jamaica	0.08	-0.51	-0.56	0.24	0.04	0.16	-0.05	0.40
Mexico	0.16	-0.24	0.01	0.52	0.78	0.12	0.11	0.19
Nicaragua	-1.00	-1.00	-1.00	-0.49	-0.41	0.38	0.06	0.31
Panama	4.22	2.80	1.38	3.60	2.09	3.09	2.57	2.49
Paraguay	-0.39	-0.07	0.31	0.20	0.12	0.54	0.68	0.75
Peru	-0.67	-0.58	-0.19	-0.09	-0.05	0.40	0.27	0.67
Trinidad & Tobago	-0.42	0.41	0.05	-0.31	-0.19	na		0.72
Uruguay	-0.13	-0.26	-0.20	-0.27	-0.17	-0.09	-0.01	-0.01
Venezuela	-0.31	-0.09	0.12	0.40	-0.35	-0.58	-0.72	-0.69
EXTRAREGIONAL								
United States	0.43	0.32	0.17	0.04	0.56	0.82	1.66	0.47
Sweden	-0.05	-0.13	1.67	0.09	0.85	1.05		na
France	0.25	0.31	0.62	0.77	1.06	0.96		na

Source: International Financial Statistics

Note: The deposit rate is the reported rate offered to residents for demand, time, and savings deposits. The maturity of instruments can vary by country. Countries tend to report system-wide averages. The inflation rate is measured by the contemporaneous change in the Consumer Price Index. The formula used is $((1+r)/(1+i))^n - 1$ where r = interest rate and i =inflation rate.

2.3 Access to Formal Financial Services

2.3.1 Access to Credit

Access rates to formal credit and deposit services by rural households remain low in most countries. Generally the access rates are less than 15%. The available data on access to credit, measured as the proportion of rural residents who borrowed in a given year (or, if available, over a longer period of time) from formal sources are summarized in Table 5. In most countries, access rates range from a low of 2% in Peru to a high of 28% in Mexico. A notable exception is Costa Rica (40% farm households), where high rates of access result from the combination of a small geographic extension, a small population, and an extensive branch network of state-owned banks.

Market segmentation is also common. Borrowers tend to rely on a single source of credit. Those who access formal credit tend to be larger farmers and higher-income households. They rely primarily on cash loans with relatively long duration. Landless farm workers and poorer households tend to rely on informal sources of credit, for consumption smoothing and to meet emergency needs. The loans they receive tend to be of short duration. For example, a World Bank survey (1995) of Mexican farm and nonfarm entrepreneurs with access to credit estimated that 81.2% used informal credit sources only, 9.4% used formal sources only, and 9.4% used both formal and informal sources. A comparable survey of 628 rural households in El Salvador found only two families with outstanding debt balances who used more than one type of lender (World Bank 1998b). More detailed information is available from a survey of 250 Honduran farmers: 58% reported that they relied over a 5 year period on only one source of credit, 26% relied on two sources, and 17% relied on three or more (González-Vega and Torrico, 1995).⁶

Since formal sector loans tend to be larger and of longer duration, their quantitative significance is greater than access rates suggest. In El Salvador, formal sources accounted for 41% of the total number of loans but 76% of the amount borrowed in 1995 by the rural households surveyed. Similarly, in Mexico, formal sector loans accounted for 61% of the total amount borrowed but only 13% of all *ejido* borrowers who had access to formal credit in 1997. In comparison, Mexican informal sources provided rural residents with significant access to credit. For example, 54% had access to supplier or commercial credit, 10% used moneylenders, 14% borrowed from friends and relatives, and 8% engaged in forward sales to processing and trade establishments. The volume of credit granted by rural informal sources was limited. These sources accounted for 15% of the total volume of credit provided by suppliers of commercial credit, 13% of the total volume of forward sales, 8% of the total volume lent by moneylenders and 3% of the total volume lent by family and relatives (World Bank, 1999a and 1998b).

⁶ The possible sources are: bank credit, non-bank credit, commercial credit, moneylenders, and friends.

The evidence also suggests that when government credit allocations to agriculture declines, informal sources are strengthened but do not entirely make up for the decline in supply. The elimination of Mexico's PRONASOL *crédito a la palabra* program, for instance, appears to have led to a significant decline in formal credit access by *ejidatarios*, from 28% in 1994 to 13% in 1997 (World Bank, 1999a). Informal credit sources have become more important, increasing from 2% in 1994 to 7% in 1997 (Table 5). They have not, however, made up (quantitatively or qualitatively), for the whole decline in formal credit sources. Similarly, following the closure of Peru's state agricultural bank (Banco Agrario de Peru--BAP) in 1992, there was a strong drop in the supply of formal credit. The situation improved with time and by 1996, a combination of commercial banks, rural and municipal credit funds, and revolving credit funds were estimated to supply US\$492 million. This amount is still a fraction of the US\$500-700 million normally disbursed by BAP in its heyday.⁷

2.3.2 Access to Deposit Services

Rural residents seem to have even less access to formal deposit services than to formal credit services. Information available for a selected number of countries shows rates of participation in formal and semi-formal savings services that are uniformly below 15% (Table 6).

Recent studies focused on Latin America and the Caribbean demonstrate that low-income, rural residents have the capacity to save and must do so given the marked seasonality of income flows in agriculture (Mansell (Mexico), 1995, Wisniewski (Bolivia), 1996, and Hunte (Jamaica) 1997). Most savings, however, is in-kind (livestock, grain reserves, jewelry, inventories, and land). Rural residents may be willing to monetize in-kind savings but two impediments seem to prevent this from happening: the lack of conveniently located branches of deposit-taking institutions in rural areas and the corrosive effect of high inflation rates on purchasing power.

In the 1990s, inflation rates generally declined across the region, but as of 1997, 8 out of 24 countries reported double digit figures and, of those, 4 reported inflation greater than 20% (Ecuador, Honduras, Mexico, and Venezuela), a commonly accepted threshold value for financial instability.

⁷ Source: Cesar Falconi, "Rural Finance in Peru", SDS/MIC Brown Bag presentation August 8, 1997.

Table 5. Estimates of Participation Rates in Rural Credit Services (%)

Population surveyed		Borrowers as a percent of reference population			Source
		From any source, formal or informal	from formal sources (alone or in addition to informal credit)	From informal sources only	
Bolivia		52%	-	-	Reported in World Bank 1998b
Costa Rica		57%	40%	17%	Villalobos, 1994, as reported in World Bank 1998b
El Salvador		12% borrowed in 1995; 20% had outstanding debt balances	5% borrowed in 1995; 7% had outstanding debt balances		World Bank 1998b
			-	7% in 1995	
Guatemala		26%	-	-	World Bank 1999b
Honduras		6.7% (probably from formal sources) census year 1 May 1992-30 April 1993)			González-Vega and Torrico, 1995
		65% in 1994; 0% in 1994-1990	21% in 1994; 29% in 1990-94	44% in 1994	González-Vega and Torrico, 1995
Mexico	Farmers	38%	12%	26%	World Bank, 1995
	Non-farm entrepreneurs	52%	6%	46%	
	Combined farm & non-farm	45%	8%	36%	
	Ejido Households 1994	30%	28%	2%	World Bank, 1999a
	Ejido Households 1996	21%	12%	9%	
	Ejido Households 1997	20%	13%	7%	
Peru	Coast	17%	-	-	1972 National Agricultural Census
	Highlands	3%	-	-	
	Humid Forrest	11%	-	-	
	Nationwide:	5%	-	-	
	Coast (248,809 farms)	16%	9%	-	1994 National Agricultural Census as reported in Orihuela, FAO-MINAG-INEI, 1996)
	Highlands (1,204,423 farms)	5%	3%	7%	
	Humid Forest (292,721 farms)	5%	3%	1%	
	Nationwide:	6%	4%	2%	
				2%	
	Rural Households 1994	16%	0.2%	15.8%	
Rural Households 1997	22%	2%	20.4%	National Living Standards Surveys (ENNIV), 1994 & 1997	

2.4 Limited Range of Other Financial Services: Insurance and Commodity Linked Finance

Rural entrepreneurs in Latin America, especially farmers, generally lack access to insurance services, payment services, commodity structured finance, and risk management instruments such as forward contracts, futures, options, and commodity swaps that could potentially increase welfare by protecting against catastrophic loss of income, reducing transaction costs, and reducing revenue uncertainty.

For example, earlier in the decade, only nine countries in the region were known to have offered agricultural insurance products.⁸ For the most part, the insurers have mixed or wholly public ownership and came into being to protect medium-size and small farmers from catastrophic income loss and reduce the default risk for state agricultural and commercial banks. These insurance entities tended to incur financial losses, to be depend on subsidies, and to have limited coverage. As of the early 1990s, the best multiple peril performer was the Chilean program and the best single peril performer was the Windward Island program of the Eastern Caribbean (St. Lucia, Dominica, and Grenada) (Hazell, 1993).

Another area that is underdeveloped is commodity collateralized finance. Commodity backed finance and instruments to manage commodity risk are potentially very significant for the countries of Latin America and the Caribbean, given their high degree of dependence on trade in agricultural commodities.

⁸ The countries were Brazil, Chile, Costa Rica, Dominican Republic, Jamaica, Mexico, Panama, Venezuela, and St. Lucia-Dominica-Grenada (Windward Islands).

Table 6: Rural Survey Estimates of Rates of Participation in Savings Services (%)

Population surveyed		Depositors as a percent of population of reference					Source
		Formal & Semi-formal Deposits*		Forms of savings Informal sources or informal			
		At the time of survey	Now or in the past				
Guatemala	Rural entrepreneurs, 1997	10.7%	17.5%	1%	(moneykeepers, NGOs, other cooperatives)		World Bank 1999a
Honduras	Yoro, Ocotepeque y El Paraíso; farmers (<35 ha), 1994		-	57% of sampled farmers keep animals as savings reserve. 59% keep savings in the form of grain reserves; 48% keep savings "under the mattress"			González-Vega and Torrico, 1995
	% with deposits in banks***	12%					
	% deposits in cooperatives***	6%					
Mexico	Rural and periurban populations, 1994**	-	-	-	-	-	SHCP 1994 as reported in Mansell, 1995
	Municipalities with 5,000 - 10,000 inhabitants	6%	14%	-	-	-	
	Municipalities with 10,000 - 15,000 inhabitants	10%	18%	-	-	-	
	Municipalities with 15,000-20,000	10%	14%	-	-	-	
	Total (5,000 - 20,000 inhabitants)	8%	15%	-	-	-	
	Guanajuato, Puebla and Veracruz, 1994 --Rural entrepreneurs (farm & non-farm)		9%	26%	-	-	

*Banks and cooperatives

**Figures refer exclusively to bank deposits.

***The same farmer may have had money in both banks and cooperatives.

Based on trade data from 1990-95, nine countries of the region earn more than 50% of their export revenue from agriculture (IFS). These products are subject to price volatility and uncertainty with significant potential macro and micro effects. At the macro level, adverse movements can affect the current account deficit, the fiscal budget, and international reserves. At the micro level, volatility increases credit risks for producers and exporters and for the banks and trade houses that finance them.

In Latin America, the limited availability of commodity collateralized schemes (warehouse receipts, green clause letter of credit, repo transactions, discounted receivables) and hedging instruments (forward contracts, futures contracts, options, and swaps) makes it more difficult for agricultural producers, food processors, traders, exporters, and importers to obtain financing and mitigate foreign exchange, interest rate, and credit risks. Commodity collateralized financing essentially allows physical commodities, whether produced and stored or yet to be grown (extracted) as well as titles thereto, to be pledged as a security or a source of repayment to obtain credit or trade finance. Since many rural producers, especially medium and small farmers, have limited amount of real property to pledge as collateral, the expansion of the set of acceptable types of collateral can allow greater credit access and reduce risk premiums in lending, benefitting all parties, the producer, processor, exporter, and the credit provider.⁹ For example, warehouse receipts (warrants) are known to be used in a number of countries. Nevertheless, legal restrictions, standardized grading issues, and certification costs limit accessibility to large producers. Regarding the other instruments (green clause letters of credit, discounted receivables) there is a paucity of data. Hedging instruments for agricultural commodities (futures) are known to be used in Argentina, Brazil, and Mexico in external trade. The application to internal markets has been not observed in the region (Chalmin, 1998).

⁹ Latin American countries have the worst Gini index values for concentration of land ownership in the world. Twelve of 17 countries (70%) have index values greater than .80. In contrast, only 15% of the other developing areas and industrialized countries in the sample of 54, report index values of .8 or more (World Bank, 1993, p. 8).

3. Conceptual Framework of Analysis

Rural financial markets are shallow, segmented, and inefficient because risk, imperfect information, and transaction costs are pervasive problems. Until these problems are effectively resolved or minimized, these markets will continue to function poorly. Past public sector interventions (credit quotas, mandated subsidized interest rates) focused on symptoms (lack of access by small scale producers) and viewed subsidized credit as compensation for other policy distortions affecting rural areas, without an understanding of the underlying factors that shape rural financial markets and make small producers, for example, non-preferred clients. As a guide to policy formulation and to evaluate the likely consequences of alternative interventions, a conceptual framework that unifies the consideration of risk, asymmetric information, and transaction cost is required.

3.1. Causes of Shallowness, Segmentation, and Inefficiency

A financial contract is an intertemporal promissory claim with uncertainty of compliance. It is primarily affected by evaluations of risk, available means to share and reduce risk, completeness and cost of information on willingness and capacity to honor the commitment made, and per unit transaction costs.

3.1.1 Risk

Rural economies are marked by high risk and limited mitigation techniques. Rural agricultural producers and entrepreneurs who contract a financial obligation are subject to systematic variability that may result in involuntary default. Typical sources of risk include:

Yield: Supply variability that can stem from unfavorable production conditions reduces yields and thus income below the expected norm. Unfavorable conditions include: weather, pests, disease, poor health of the operator, equipment failure, theft/lost/damage to productive moveable assets, inability to meet simultaneous peak demand for fixed inputs synchronic risk, and suboptimal timing in the application of inputs.

Price: Variability in (i) input prices that increase costs of production or (ii) forces a change in choice of production technique; and (iii) variability in supply arising from variability in price expectations of output (cobweb effect) resulting in less profit.

The existing set of household/firm coping strategies tend to be few and non-robust. They include among others: (i) change to less risky production techniques; (ii) diversify crop and livestock (product or retail) mix; (iii) plot fragmentation to take advantage of different microclimates; (iv) supplement household/firm income through wage employment by principal owner/operator and other family members to outside parties; (v) accumulate in-kind savings; (vi) invest in social collateral to have access to emergency loans from informal sources (Rotating Saving and Credit Associations (ROSCAs), employer-landlord, cooperatives, etc.); and (vi) attempt to

purchase crop and/or credit insurance. Some of the choices, for example, choice of production technique or crop diversification, may imply investment in irrigation or large up-front costs that require external financing. If credit cannot be accessed, diversification cannot occur, and vulnerability to risk is increased. Others such as plot fragmentation and off-site employment, may reduce economies of scale and lower productivity. Still others, such as emergency loans from informal sources, may be high cost and inadequate, depending on the severity of the income shortfall. Lastly, formal sector insurance products may be unavailable or unaffordable.

Formal, rural financial intermediaries also have a limited set of default risk mitigation instruments which are inadequate for rural settings: (i) demanding collateral and/or third party guarantees; (ii) including a risk premium in the interest charged; (iii) establishing adequate loan loss reserves; and (iv) portfolio diversification. Depending on the circumstances, these coping mechanisms may not be sufficient and result in either no lending, rationing of loan size below the optimal demand, or lending only to those with sufficient collateral. Since the majority of rural residents tend to be collateral constrained, this reduces outreach potential. The use of larger spreads may result in adverse selection.¹⁰ The use of portfolio diversification may be constrained by information and the structure of the regional economy where the bank operates. If the intermediary has limited geographic coverage and many of the economic activities are interrelated, covariate risk may remain high. In summary, the opportunities for profitable intermediation are reduced, explaining why formal intermediaries are not eager to penetrate rural markets.

3.1.2 Imperfect Information

Information is costly to acquire and transmit, yet it is vital in assessing and managing risk. In the absence of adequate risk mitigation instruments (e.g., collateral, insurance, futures, etc.), additional information about borrower intentions and repayment capacity, can help sort the pool of prospective applicants, and allow gain-risk trade-offs to be better weighted. However, incentive problems arise when information, in addition to being costly, is asymmetrically distributed (meaning that one party has less information about the other party and cannot easily observe actions or discern intentions). Some of these incentive problems are *screening*, *adverse selection*, and *moral hazard*. In order to cope, lenders/insurers have to use contract design mechanisms to resolve these problems. Depositors face a similar problem. They cannot easily ascertain the fiduciary capacity of the deposit-taking institution. Thus, they risk losing their savings to fraud or to poor management.

¹⁰ Lenders can charge higher interest rates in an effort to cover some or all of the expected default risk. However, the charging of higher rates can contribute to adverse selection if the lender cannot accurately assess the underlying riskiness of the investment projects to be financed. Clients with safe but lower yielding projects, may opt out and not demand a loan. The result is that the loan contract with high interest rates will only attract clients with the higher risk projects, increasing default risk and thereby diminishing the expected profits of the lender (Stiglitz and Weiss, 1981).

Screening: The first challenge a lender faces, is how to identify “good” from “bad” credit (insurance) risks. Prospective clients know their own capabilities, wealth distribution, and true intentions but formal lenders cannot easily distinguish differences among prospective clients. Both parties have to expend time and effort gathering, transmitting, and processing information. The two traditional *direct screening devices* used to reduce lending risk are real collateral and interest rates. But these are not fully satisfactory and can lead to other problems (small outreach and adverse selection). Furthermore, if the lender does not know the true repayment intentions of the borrower, the utility of default can exceed the utility of repayment. Therefore, the lender will be driven to make loans for amounts smaller than demanded (loan size rationing), lend to those who are less mobile and have made visible fixed investments, and rely heavily on collateral. Asking for real collateral can increase the expected return of the lender and reduce the expected return of the borrower, serving to shift some of the risk of loss of principal to the borrower and reducing incentives for a strategic default.

In order to avoid adverse selection and increase outreach potential, most of the viable alternatives for formal intermediaries lie in the design of incentive-compatible contracts that promote self-selection and assortative risk matching. In most rural settings, the use of social collateral (reputation) as a substitute for real collateral, the use of repayment incentives (interest rate rebates, automatic approvals for second, larger loans), and tied relationships (demonstrated ability to save first, employment, monopsonistic marketing structure) become important. In this area, formal financial institutions (banks and insurance companies) are at a distinct disadvantage vis-a-vis semiformal and informal intermediaries (nonbanks, NGOs, credit unions, village banks, trader-supplier cum lenders, ROSCAs, and traditional moneylenders). The latter intermediaries, through geographic proximity and a variety of interwoven social and economic relationships, can obtain information about the creditworthiness of a prospective client more rapidly and at lower costs than a formal intermediary. Consequently, informal lenders can more accurately identify those clients who will repay a loan as long as project returns or household resources permit.

Monitoring: Once screening has been completed and the loan (insurance policy) approved and disbursed, most rural lenders (insurers) invest in monitoring the behavior of clients to avoid moral hazard incentive problems. The typical lender checks the client periodically to verify that adequate *effort* (good husbandry) is being applied to increase the chances of investment project success. This implies costs that are particularly high in rural settings because clients are geographically dispersed, the communication and transportation infrastructure is poor, and there is a dearth of reliable financial and production records. Formal financial intermediaries find these monitoring costs unbearable, particularly in view of the relatively small size of loans demanded by most rural clients. Rural informal intermediaries can more effortlessly and more affordably monitor clients and resolve moral hazard problems through interlinked contracts and social proximity, but their ability to service a large clientele is limited.

3.1.3 Transaction Costs

The institutional setting, both the *de jure* political, social, and legal ground rules that establishes the basis for production, exchange, and distribution and the *de facto* contracting and governance arrangements between and within economic units, is vitally important to understanding how transactions costs arise and what can be done to economize or reduce them. Transaction costs, that is, all non-interest financial costs related to approving, processing, disbursing, and complying with a financial contract, play a significant role in financial intermediation. High-income clients, who demand large loans and maintain large savings balances, are less sensitive to transaction costs compared to low-income, small borrowers and savers. Transaction costs are determined by (i) physical setting, (ii) the legal and regulatory environment, and (iii) the nature and structure of the intermediary organization.

3.2 Consequences of Identified Problems

As a consequence of the problems identified -high levels of unmitigated risks, the existence of imperfect information, and high levels of transaction costs- certain types of financial intermediaries tend to be favored and present in rural settings. Each general type of intermediary has strengths and weaknesses.

Formal Intermediaries: Banks and finance companies generally depend on asset based lending technologies to cope with risk and imperfect information problems. This traditional banking technology discriminates against small, collateral constrained borrowers and implies high transaction costs, for the medium and small-scale entrepreneurs able to access credit. Because of weaknesses in the legal and regulatory framework, especially surrounding movable collateral, formal intermediaries are further constrained and are not eager to expand activities in rural areas. They tend to serve only a small proportion of the rural populace. The result is shallowness, credit rationing, and inefficiency.

Informal Intermediaries: Supplier-traders, ROSCAs, and moneylenders enjoy absolute information and transaction cost advantages due to proximity, multi-stranded relationships, willingness to accept a greater variety of collateral, and superior enforcement capacity compared to formal rural intermediaries. Nonetheless, informal intermediaries have limited capital bases, tend to exercise market power, and are geographically bound. As a result, identical clients receive different loan terms and conditions (segmentation). The high interest rates charged cover the higher risks faced but also may include a monopoly rent. The informal sector's potential for independent growth and risk management is limited due to the lack of massive deposit mobilization capacity and covariability of risks.

Semiformal Intermediaries: NGOs, credit unions, village banks, and cooperatives enjoy some informational advantages over formal lenders but less than informal ones. These institutions tend to suffer from governance and free rider problems, to be dependent on external subsidies (except for credit unions that are savings driven) and to be operationally inefficient. These problems limit both outreach capacity and financial self-sufficiency.

4. Actions and Recommendations

The promotion of more complete, efficient, competitive, and stable rural financial markets is a threefold challenge. First, efforts are needed to create an improved policy and institutional environment conducive for rural intermediation. On one hand, steps should be taken to improve the profitability of rural activities in order to increase the demand for financial services by a broader number of rural residents. On the other hand, the cost and risk of intermediation has to be lowered in order to increase the supply of rural financial services. This will entail strengthening prudential and supervisory frameworks, better defining property rights, improving information flows, and reducing legal impediments to efficient and low cost enforcement of financial contracts (Figure 1).

Second, efforts are needed to improve intermediary retail capacity, namely, by focusing on ways to improve management and operational efficiency in rural financial institutions and investing in new financial technologies and arrangements. Some specific steps may include forging links between formal and informal financial institutions to maximize comparative strengths; modifying and expanding “financial products” that currently exist in the informal sector, such as ROCSAs (contractual savings) and contract farming; and promoting “linking schemes” that solve credit, technical assistance, and marketing risk problems simultaneously.

Third, efforts are required to encourage the introduction and diffusion of financial instruments other than credit, such as deposits, crop insurance, commodity structured finance, hedging instruments, portfolio securitization, electronic cards, leasing, and factoring. These products would serve to better manage risk and liquidity and lower transaction costs. The absence of these products, especially the savings and risk management instruments, complicate the delivery of efficient credit services.

4.1 Create a Favorable Policy Environment

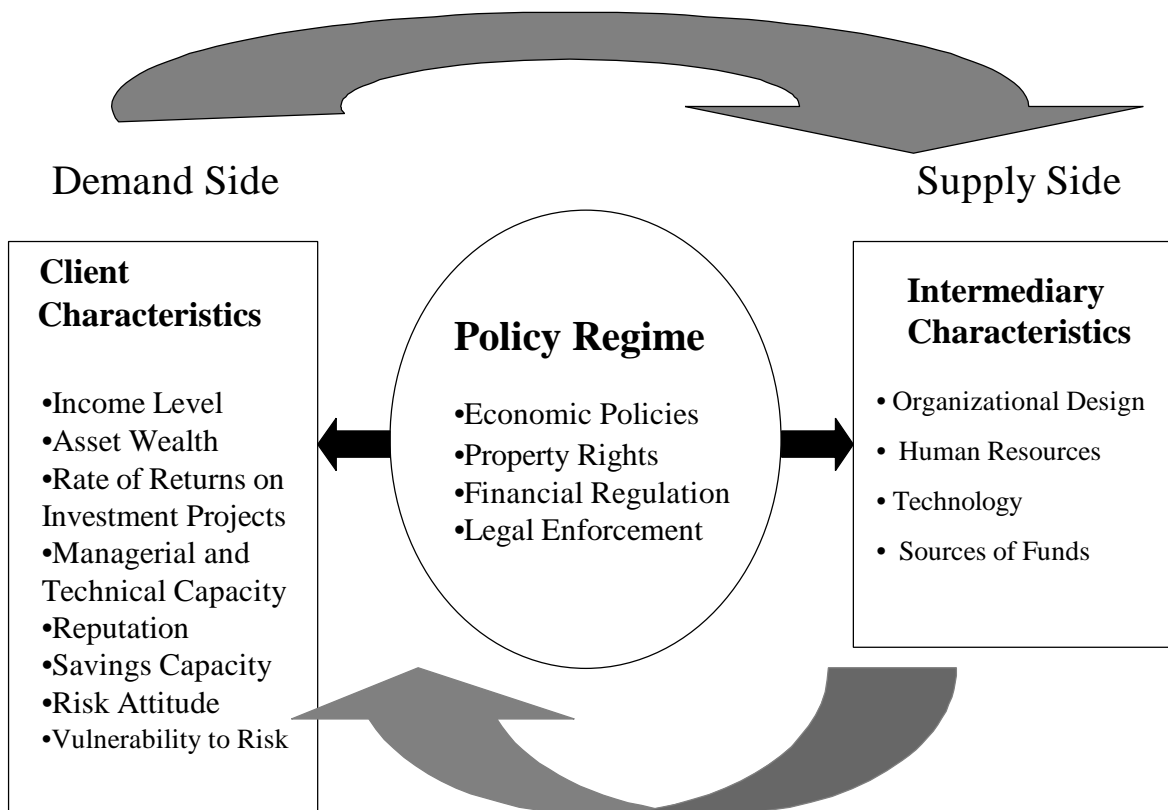
With regards to the policy environment, six specific areas for action are highlighted below. They include pursuing macroeconomic stability, appropriate sectoral economic policies, clarifying property rights, improved contract enforcement capacity, and the enhancement of information flows.

4.1.1 Macroeconomic Stability and Policy Consistency

Fiscal, monetary, and trade policies affect the risk environment faced by financial intermediaries and the cost of funds. The crucial variables for financial markets are the central government’s deficit, the inflation rate, the interest rate, management of terms of trade risk, and the real effective exchange rate. While there are elements beyond the control of the government (capital movements and terms of trade), central governments can pursue consistent policies and strengthen their countries’ ability to cope with external shocks. Specific areas of action include broadening the tax base, tax diversification, improving tax collection efficiency, setting

precautionary fiscal targets, adopting budgetary rules that permit a quick response to external shocks, and adopting the use of medium-term budgeting. The aim of central governments should be to vigorously pursue a modicum of fiscal and monetary stability. Without price and exchange rate stability, investment planning is uncertain and the financial system becomes subject to disintermediation and prone to crisis.

Figure 1: Schematic of Factors Affecting Financial Intermediation



4.1.2 Appropriate Sectoral Economic Policies

Neutral sectoral policies are needed to lower transaction costs in rural financial intermediation and to increase the profitability of rural economic activities. The principal areas of concern are public infrastructure investments, market based price incentives for agriculture, and non-farm incentive policies. Expenditures on rural infrastructure will increase rural productivity, lower marketing risk, and reduce financial transaction costs. Unfortunately, rural areas historically have been disadvantaged in the allocation of infrastructure resources. Agricultural taxation has diminished with the advent of price and trade liberalization programs in the late 1980s. However, some Latin American and Caribbean agricultural sectors have faced adverse terms of trade due, in part, to external shocks, weak macroeconomic management, and institutional and infrastructural weaknesses. Lastly, incentives for the relocation of industries and start-up of other non-farm business activities are needed in rural areas to diversify sources of household income and create backward and forward linkages.

4.1.3 Clarification of Land Use and Ownership Rights

Lack of secure land tenure is a major obstacle to the provision of medium- and long-term credit. Titling is not a sufficient condition to improve access to credit. Other complementary factors seem to be important. They include larger farm size, higher levels of human capital, and proximity to major consumer markets. Therefore, titling efforts should be cautious and emphasize the use of modern technology (satellite imaging) to reduce cadastral mapping costs, integrate titling and registration procedures, and issue universal requirements to register title, and modernize public registries.

Where the State or ethnic communities (e.g. indigenous and Afro-Latino communities) wish to retain title over land, temporary usufruct rights that are fully transferable may constitute a valuable asset that banks may potentially use as an alternative form of collateral. This will often require the strengthening of land rental markets through the clarification of land use rights, the development of suitable longer term land leases, and the laws, regulations and institutions that affect the transfer of those leases and usufruct rights.

A related and important issue is the recognition of women's rights to property acquired while in an official or common-law marriage. Efforts are needed to study the impact of current laws and practice and determine what can be done to improve equity and fairness in the disposition and pledging of assets.

4.1.4 Effective Legal Environment

A well functioning legal system is fundamental to the operation of financial markets due to the intertemporal, promissory nature of financial transactions. In Latin

America and the Caribbean, the secured transaction framework is generally inadequate and public registries are weak. Moveable collateral is not readily acceptable due to gaps in the law. Moreover, the lack of adequate enforcement of creditor claims, partly an exogenous historical endowment (French civil law tradition), increases the risk and cost of rural financial intermediation thereby discouraging the entry of formal intermediaries into rural markets or outreach to more low-income, collateral constrained clients. Informal intermediaries remain dominant in rural areas due to their willingness to accept a wider variety of collateral and because they have a superior enforcement capacity that is based on inter-linked contracts and monopoly power. This market power can be exploited to extract rents in excess of reasonable risk premiums.

4.1.5 Adequate Regulatory Environment

The lack of strong and appropriate prudential regulation and supervision in a liberalized setting increases the chances for banking crises, fails to protect investors and savers, and introduces biases against unsecured lending and small credit transactions. Particular areas of concern regarding rural financial intermediation are loan documentation, provisioning requirements, loan risk classification, sampling techniques, usury laws, and entry requirements. Inappropriate rules discourage formal intermediaries from serving rural, low-income, small borrower/depositors.

4.1.6 Development of Enhanced Information Environments

The use of information in the valuation of risk is key in financial transactions. However, the availability and reliability of information is less than desired at all levels: macroeconomic, intermediary, household. The presence of asymmetric information complicates the functioning of financial markets. Government can play a pivotal role in improving the situation through actions to promote credit bureaus; periodic surveys of rural production, income, and demand conditions; the harmonization of accounting standards; and the promotion of transparency and openness in intermediaries through disclosure laws. The greater flow and lower cost of obtaining reliable information would permit private actors to design products and provide new types of services. At first, the public sector will have to take a dominant role in gathering and disseminating information due to free-rider problems.

4.2 Development of Financial Institutional Retail Capacity

The strengthening of financial institutional retail capacity is a clear and fundamental need. The rural landscape is littered with many weak intermediaries. Specific areas of concern are governance incentives, quality of business management, and technology/contract design. No particular institutional form has been shown to be dominant in the development finance literature. Therefore, institution-building interventions should be multi-pronged and guided largely by country context, the quality of available leadership, and the level of institutional commitment to financial sustainability.

Five institutional interventions are possible:

- ? *Upgrade NGOs to Regulated Financial Entities*
- ? *Downscale or Help Commercial Banks Better Serve Smaller, Low-Income Clients*
- ? *Link Formal and Informal Intermediaries*
- ? *Restructure and Reform Existing Financial Institutions*
- ? *Create New Financial Institutions*

Each type of intervention has its advantages and disadvantages, the choices are not mutually exclusive but depend on context. For example, several urban-based NGOs have successfully transformed themselves into regulated financial entities and are now entering rural areas. (Prodem—BancoSol; AMPES—Financiera Calpia; Ademi—BancoAdemi; etc.). However, the transformation process is expensive and requires very strong leadership, competent and committed staff, and sustained donor support. Furthermore, expanding microfinance services from predominately urban to rural areas has typically required (e.g. PRODEM post BancoSol creation and Financiera Calpia) further development and adjustment of microfinance technology and practices to address the specific risks and constraints typical of rural areas.

Commercial banks have significant advantages—economies of scale and scope, good management information systems, etc. However, without a strong strategic commitment to the sector and a willingness to change culture and technology, “downscaling” is not likely to be successful. Existing financial institutions such as state-owned agricultural development banks, *cajas rurales*, and credit unions have a checkered past and many failed reform attempts. Thus, care must be exercised in determining whether reform, consolidation, or liquidation is the best course of action. Linking formal to informal institutions is a promising avenue but the layering of costs, agency problems, and effective coordination can be issues. Lastly, the creation of new financial institutions again is promising but the charter laws must be well designed to create good governance incentives. This route, however, will be costly and take time to bear results.

Regardless of the type of institutional model of intervention chosen, efforts will be necessary to improve specific institutional capabilities. Part of the strengthening of institutional capacity involves assessing governance incentives, internal controls, and organizational design. The way a financial entity is structured, its mission, the way it obtains its funds, and the way the managers and board of directors are rewarded and held accountable, determine the chances for long-run stability, growth, and permanence. Another part involves improving technical and management skills in the staff. Clearly, the level and nature of compensation, the degree of upward mobility, the level of commitment to on-going staff training, and the basic competence of recruits, affect productivity and efficiency. Still a third part, involves the development and refinement of financial service delivery systems or “technologies.” The way financial contracts are designed, the way clients are selected, the way the services are delivered, and the way account and performance information is gathered, processed, analyzed, and used in making decisions, together represents a “technology”. Technologies evolve in particular contexts (policy and

organizational) and can successfully address some of the information, incentive, contract enforcement, and transaction costs obstacles encountered in financial markets. Accordingly, research on “best management practices” in a particular industry or sector can be a valuable way to discover how well a particular “financial service technology” performs in a particular policy environment and to explore how independent or dependent a particular technology may be of the “organizational design” in which it operates. If some understanding of what makes some technologies seem more robust than others and some institutional intermediary forms more successful or more sustainable in the long-run than others, then this knowledge may be applied in the design of more appropriate and cost-effective interventions. Given the limited state of knowledge, experimentation and the evaluation of various models are being recommended.

4.3 Promotion of Other Financial Services and Innovation

The array of available rural financial services is quite limited and the incompleteness of the market, especially with regards to insurance and risk management techniques, increases the cost of credit dramatically. The promotion of other services listed below would serve to more efficiently transfer risk and allow rural clients to better manage liquidity. The principal impediments to the expansion of these services are mostly legal and institutional ones.

4.3.1 Deposit Services

Several impediments need to be overcome to promote voluntary deposit mobilization. First, if the country has weak macroeconomic management then the regime often imposes taxes on savers via high legal reserve requirements and inflation. These policies result in low positive and even negative real rates of return on savings instruments thereby discouraging savings mobilization. Second, ineffective supervision of deposit-taking institutions or, in its absence, full and independent disclosure of risk jeopardizes the savings of low-income, unsophisticated clients. Third, inadequate regulatory frameworks that, for example, do not permit flexible hours of operation to suit the density of prospective clients and their work schedules (e.g., requirements to be open a fixed number of days and hours, prohibitions on mobile banking units, etc) make the capture of savings from low-income rural clients difficult because the cost of fixed investments may be too great to justify an extensive branch network in rural areas. Fourth, the lack of explicit deposit insurance as a last resort form of protection for small savers may influence the decisions of risk averse savers. Fifth, the transaction cost of mobilizing small savings are high and there is concern with the volatility of sight deposits which is the preference of low income individuals. At present service delivery technologies are not well developed and market research and product testing is needed.

4.3.2 Insurance and Hedging Instruments

Property and liability insurance is important in reducing risks in rural financial intermediation. For farm households, the availability of formal insurance can greatly reduce welfare reducing contingencies. For financial intermediaries, clients with access to insurance can reduce credit risk. In the past, publicly funded crop insurance schemes have generally not worked and private crop insurers have either been deterred by the publicly subsidized schemes or catered only to large, commercial farmers. The majority of medium- and small-scale farmers remain excluded because of high administrative costs present in providing services to them. Given this state of affairs, new schemes will likely have to be single peril (drought, windstorm, etc) to avoid moral hazard and adverse selection problems and keep premiums affordable. Geographic coverage would have to be sufficiently wide so that the chances of the insured threat occurring simultaneously throughout the covered area in any given year are negligible. One such scheme is a rainfall lottery that is in a pilot phase in Nicaragua.

In addition, other risk reducing instruments such as forward, futures, options, and swaps need to be promoted. These other instruments help to manage price and exchange rate uncertainty. In order for them to be more widely used in internal markets the legal enforcement environment will have to be improved and more commodity exchanges developed. The challenge of thin or illiquid markets will have to be overcome.

4.3.3 Warehouse Receipts, Inventory Credit, Accounts Receivables, and Supplier Credit

Input suppliers, feedlot operators, abattoirs, grain silo operators, processing plants etc. could play a more significant role in granting credit to small agricultural producers and small businesses if they could better leverage their assets. Currently, many of these operators receive loans from commercial banks to finance working capital needs, but the amount is limited by the value of real estate collateral that can be pledged. The expansion of supplier or commercial trade finance will require wider use and acceptance of warehouse receipts, inventory, and account receivables.

At present, licensed or bonded warehouses exist in several countries and issue receipts that can be endorsed, thus providing the endorsee the collateral of underlying inventory deposits in the warehouse and thus the possibility of obtaining financing. Current warehousing systems, however, are plagued with uneven grading, inefficient storage procedures, high capitalization costs, documentation that may be altered or counterfeited without severe penalties, and limited competition.

The main impediments to more widespread use inventories and accounts receivables as collateral are problems in establishing a security interest at reasonable cost and gaps in the law. For example, accounts receivables in many systems do not have legal standing unless the underlying claim is reduced to a promissory note (*pagaré*), which is cumbersome and not appropriate for trade finance.

4.3.4 Leasing

In rural areas where medium- and long-term financing is particularly scarce, leasing of equipment represents an attractive alternative but it is still largely an urban phenomenon. In the last 30 years, leasing has grown rapidly in the developing world, particularly in Asia. In Latin America, slower growth is attributable to more volatile macroeconomic conditions, weak regulatory frameworks, and tax disincentives.

4.3.5 Electronic Cards

The use of debit, credit, and smart cards promises to significantly reduce transaction costs for rural clients. The obstacles that check the widespread adoption of electronic cards in rural areas are the following: (i) difficulties in calculating cash flows for the self-employed; (ii) nonexistent credit bureaus or bureaus that contain only negative information on mostly large firms and urban wage earners of limited duration; (iii) postal services that are unreliable, complicating billing and payment processes; (iv) low levels of educational attainment in certain countries; (v) unreliable electricity and telecommunication services; and (vi) the use of competing and incompatible networks and proprietary standards that limit client access only to the machines of the issuing institution.

5. Conclusions

Lack of access to formal financial services by small-scale borrowers and savers has been a perennial problem in rural finance. Access is difficult for this class of client, who happen to be the majority of the rural population, due to a triad of problems—risk, imperfect information, and transaction costs. Small-scale clients represent, *prima facie*, a higher risk to formal lenders and insurers due to limited means to mitigate risk at both the household and the intermediary level. The absence of real collateral aggravates the situation. To an extent information on character can serve as a substitute for real guarantees, but information tends to be asymmetrically distributed and costly to obtain and transmit in financial markets. As a result, credit markets tend to segment and rationing may appear. To further complicate matters, the physical setting, marked by client dispersion and poor communications systems, weak and inadequate legal systems, and frequent misalignments between mission, management capacity, and technology, within formal and semiformal intermediaries, increase transaction costs. Since low-income persons are more sensitive to transaction costs than higher income individuals, most of the rural poor cannot effectively demand financial services and are excluded from formal markets. In the past, government interventions focused on the symptoms of the problem — low access rates — and relied on interest rate subsidies, quotas, and state-owned institutions to supply financial and insurance services. These efforts were costly and rarely achieved the intended objective of expanding financial outreach in rural areas in a sustainable manner.

Looking toward the future, concerted and integrated actions by both the public and private sector are being recommended in three areas; (i) creation of a favorable policy and legal environment; (ii) financial institution building; and (iii) the promotion of a wider array of financial services—deposits, insurance, electronic cards, hedging instruments, and others (leasing, warehouse receipts, etc.) The principal role of the State is to construct a favorable policy environment and to encourage experimentation and innovation, while that of the private sector is to directly provide the financial services. This proposal will require a high level of coordination across different fronts and strong political will to sustain the efforts over time. The task will be difficult and complex.

The lack of positive outcomes in rural financial intermediation in Latin America and the Caribbean to date is due largely to incomplete and insufficient policy and institutional reforms. Overall macroeconomic and financial market policies have improved in the last decade, but much work is needed in improving the legal, regulatory and information environments and in building stronger rural finance retail institutions. The *lassiez faire* notion “getting prices” right as sufficient for positive change must be supplanted by the notion of “getting institutions and technologies right” once basic financial and economic liberalization has occurred.

References

- Besley, Timothy. 1994. How do Market Failures Justify Interventions in Rural Credit Markets. *Research Observer* Vol. 9 No. 1. Washington, D.C.: The World Bank.
- Binswanger, Hans P. and Rosenzweig, Mark R. 1993. Wealth, Weather Risk and the Composition and Profitability of Agricultural Investments. *The Economic Journal*. No. 103 (January) pp. 56-78.
- Binswanger, Hans P. and Rosenzweig, Mark R. 1986. Behavioural and Material Determinants of Production Relations in Agriculture. *The Journal of Development Studies*. pp. 503-539
- Binswanger, Hans P. 1986. Risk Adversion, Collateral Requirements and the Market for Rural Credit and Insurance in Rural Areas. In P. Hazell, C. Pomareda, A. Valdes (Eds.), Crop Insurance for Agricultural Development. London: John Hopkins University Press, pp. 67-87.
- Brendenbeck, Kirsten. 1998. Savings Mobilization: Lessons from the Peruvian Municipal Savings Banks in Trujillo and Sullana, *Savings and Development* No.1, 197, pp. 87-108.
- Buttari, J. 1995. Subsidized Credit Programs: The Theory, the Record, the Alternatives. Washington D.C.: U.S. Agency for International Development Evaluation Special Study No. 75.
- Chalmin, Philippe. 1998. Commodity Price Risk Management in Developing Countries. Available online at website: <http://www.dayrobinson.co.uk/un/15chalmin.html>.
- Claessens, S. and Duncan, R. (eds.) 1993. Managing Commodity Price Risk in Developing Countries. Washington, D.C. The World Bank, John Hopkins University Press.
- Cuevas, Carlos E. and Douglas H. Graham. 1987. Costos de Préstamos Agrícolas, In Dale W. Adams, Claudio González-Vega and J.D. Von Pischke (eds.) Crédito Agrícola y Desarrollo Rural: La Nueva Visión, San José, Costa Rica.
- Evora, Antonio. 1998. The Link between Risk Management and Structured Finance. Available online at website <http://www.dayrobinson.co.uk/un/143evora.html>.
- Falconi, Cesar 1997. Rural Finance in Peru. SDS/MIC Brownbag Presentation.
- Fleisig, Heywood and de la Peña, Nuria. 1998. Guatemala: How the Problem for Secured Transactions Limit Access to Credit. Washington D.C., Center for the Economic Analysis of Law.

- _____. 1996. How Legal Restrictions on Collateral Limit Access to Credit in Uruguay. Washington, D.C. Center for the Economic Analysis of Law.
- Food and Agriculture Organization of the United Nations. 1991. Strategies for Crop Insurance Planning. FAO Agricultural Services Bulletin No.86. Rome: FAO
- Frei, Frances X.; Harker, Patrick T., and Hunter, Larry W. 1997. Inside the Black Box: What Makes a Bank Efficient?. University of Pennsylvania. mimeo.
- Gavin, Michael and Ricardo Hausmann. 1996. The Roots of Banking Crises: The Macroeconomic Context. In Ricardo Hausmann and Liliana Rojas-Suárez (eds.) Banking Crises in Latin America Washington, D.C. Inter-American Development Bank.
- González-Vega, Claudio and José Isaac Torrico. 1995. Honduras: Mercados Financieros Rurales no Formales, Tegucigalpa: PRODEPAH. mimeo.
- _____. and Graham, Douglas. 1995. State-Owned Agricultural Development Banks: Lessons and Opportunities for Microfinance. Economics and Sociology Occasional Paper No. 2245. Columbus, OH: The Ohio State University.
- Hannig, A. and Wisniwski, S. 1999. Mobilizing the Savings of the Poor: Experience from Seven Deposit-taking Institutions. Eschborn, Germany, GTZ.
- Hazell, P. 1993. The Appropriate Role of Agricultural Insurance in Developing Countries. *Journal of International Development*, 4(6), 567-582.
- Hoff, Karla; Braverman, Avishay and Stiglitz, Joseph E. 1996. The Economics of Rural Organization: Theory, Practice, and Policy. Washington, D.C. The World Bank, Oxford University Press.
- Hunte, Kenrick C. 1997. The Impact of Savings Mobilization of Credit Rationing: Empirical Evidence From Jamaica. *Savings and Development* No 4, pp. 383-396
- Inter-American Development Bank. 1999a. *Perspectivas sobre mercados de tierras rurales en América Latina*. Technical Papers Series, Sustainable Development Department, Environment Division. Washington, D.C.
- _____. 1999b. Practicas Prometedoras en Finanzas Rurales: Borradores de los Estudios de Casos (Financiera Calpía, Banco del Comercio, Proveedores de Crédito en Perú, Financiera Trisan, Workers Bank in Jamaica, etc.).
- _____. November 1998a. *Basic Socioeconomic Data*. Washington, D.C.
- _____. 1998b. Rural Finance Strategy Profile. Department of

Sustainable Development Department, Microenterprise Unit. Washington, D.C. IDB.

_____. 1998c. *Facing Up to Inequality*. Economic and Social Progress in Latin America. Washington, DC.: IDB.

_____. 1996. *Making Social Services Work*. Economic and Social Progress in Latin America. Washington D.C. IDB.

_____. 1995. *Overcoming Volatility*. Economic and Social Progress in Latin America. Washington DC. IDB.

_____. 1989. *Rural Credit*. Economic and Social Progress in Latin America. Washington DC. IDB.

International Finance Corporation. 1996. *Leasing in Emerging Markets*. Lessons of Experience Series. No.3, Washington, D.C.: IFC.

International Monetary Fund. 1996-2000. *International Financial Statistic Yearbook*. Washington D.C. IFM.

Jansson, Tor and Wenner, Mark. 1997. *Financial Regulations and its Significance for Microfinance in Latin America and the Caribbean*. Sustainable Development Department, Microenterprise Unit. Washington, D.C. IDB.

King, Robert and Levine, Ross. 1993. Finance and Growth: Schumpeter Might Be Right. *The Quarterly Journal of Economics* 108(3):717-37.

Ladman, Jerry. 1984. Loan Transactions Costs, Credit Rationing, and Market Structure: The Case of Bolivia. In Dale Adams (eds) et. al. *Undermining Rural Development with Cheap Credit*. Boulder, CO: Westview Press.

Levine, Ross. 1998. Law, Finance, and Economic Growth. Department of Economics, University of Virginia. mimeo.

La Porta, Rafael, Lopez de Silanes, Floencio, Sleifer, Andrei, and Vishny, Robert. 1996. Law and Finance. National Bureau of Economic Research Working Paper 5661. Cambridge, MA: NBER.

López, Ramón. 1999. Rural Poverty in El Salvador; A Quantitative Analysis. In Ramón López and Alberto Valdés (eds) *Rural Poverty in Latin America*. City: Publisher.

Mosley, Paul. 1989. Crop and Livestock Insurance Schemes in Less Developed Countries: Some Issues of Design. *Savings and Development*. Vol. 13, No. 1, pp. 5-20

Mansell, Catherine. 1995. *Las Finanzas Populares en México*. México: Instituto Tecnológico Autónomo.

- Myers, Robert. 1992. Incomplete Markets and Commodity-Linked Finance in Developing Countries. *Research Observer*. Volume 7, No. 1. Washington, D.C. The World Bank.
- Newbery, David M.G. and Stiglitz, Joseph E. 1981. The Theory of Commodity Price Stabilization. A Study in the Economics of Risk Clarendon Press-Oxford.
- Orihuela, María del Carmen. 1996. Crédito Agrario Proyecto FAO-MINAG-INEI (TCP/PER/4552), Lima, Peru.mimeo.
- Staking, Kim and Schulz, Alison (eds.). 1999. Financial Disclosure: A First Step to Financial Market Development Sustainable Development Department. Washington, D.C. Inter-American Development Bank.
- Stiglitz, Joseph E. 1974. Incentives and Risk Sharing in Share-Cropping, *Review of Economic Studies*, 41:2, pp. 219-256.
- _____ and Weiss A. 1981. Credit Rationing in Markets with Imperfect Information. *American Economic Review* 71(3), June, 393-410.
- Villalobos, Vilma. 1994. Microenterprise Access to Credit in Costa Rica. Unpublished Masters Thesis. Columbus, OH. The Ohio State University.
- Vittas, Dimitri. 1992. *Financial Regulation: Changing the Rules of the Game*. The World Bank. Economic Development Institute.
- Van de Walle, Dominique. 1998. Targeting Revisited. Washington, D.C. *The World Bank Research Observer*. Vol. 13, No. 2, pp. 231-248.
- Von Pischke, J.D. and Dale W Adams. 1983. Fungibility and the Design and Evaluation of Agricultural Credit Projects, *American Journal of Agricultural Economics*, Vol. 62, No. 4 (November), pp. 719-726.
- Wenner, Mark. Forthcoming . Lessons Learned in Rural Finance at the Inter-American Development Bank. Washington, D.C. IDB
- Westley, Glenn. 1998. Can Financial Market Policies Reduce Income Inequality? Washington, D.C.: IDB. mimeo.
- Wisniwski, Sylvia et al. 1996. Mercados Financieros Rurales en Bolivia La Paz, Bolivia. Fondo de Desarrollo Campesino.
- World Bank. 1999a. *Mexico Ejido Reform Avenues of Adjustment-Five Years Later*, Report No. 18897. Washington, D.C. The World Bank.
- _____. 1999b. Guatemala: Financial Markets in Rural Areas. Report No. XXXXGT. Washington, D.C. The World Bank.

_____. 1999c. *World Development Indicators*, Washington, D.C. The World Bank.

_____. 1998a. *World Development Indicators*, Washington, D.C. The World Bank.

_____. 1998b. *El Salvador Rural Finance: Performance, Issues and Options*, Report No. 17689-ES. Washington, D.C. The World Bank.

_____. 1997. *Argentina: Rural Finance Improving Access to Financial Services by Small Producers*. Washington, D.C. The World Bank

_____. 1996. *Argentina: The Framework for Secured Transactions and Access to Credit in Agriculture*. Report No. 15456-AR. Washington, D.C. The World Bank

_____. 1995. *Mexico: Rural Financial Markets*, Report No. 14599-ME. Washington, D.C. The World Bank

_____. 1993. *How Legal Restrictions on Collateral Limit Access to Credit in Bolivia*. Report No. 10627-BO. Washington, D.C. The World Bank

_____. 1992. *Uruguay: Mission to Assess Collateral and Access to Credit*. Washington, D.C. The World Bank

_____. 1989. *Report of the Task Force on Financial Sector Operations*. Washington, D.C. The World Bank.

Yaron, Jacob, Benjamin, M., and Piprek, G. 1997. *Rural Finance: Issues, Design, and Best Practices*. Environmentally and Socially Sustainable Development Studies and Monographs. No. 14. Washington, D.C. The World Bank.