

Rural Financial Markets in Argentina: Access to Financial Services And Institutional Performance

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GLOSSARY OF ABBREVIATIONS

ADEBA	Asociación de Bancos Argentinos
ATM	Automatic Teller Machine
BancoSol	Banco Solidario, S.A.
BCRA	Banco Central de la República Argentina
BNA	Banco de la Nación Argentina
BPBBAA	Banco de la Provincia de Buenos Aires
CGAP	Consultative Group for the Assistance of the Poorest
FET	Fondo Especial de Tabaco
FINAGRO	Unidad de Financiamiento Agropecuario
FONCAP	El Fondo Fiduciario de Capital Social
INDEC	Instituto Nacional de Estadística y Censos
MGS	Mutual Guarantee Societies
NEA	Noreste de Argentina
NGO	Non-Government Organization
NOA	Noroeste de Argentina
PPRNEA	Programa de Crédito y Apoyo Técnico al Pequeño Productor Rural del NEA
PRODEM	Fundación para la Promoción y Desarrollo de la Microempresa
PROINDER	Programa de Reducción de la Pobreza e Iniciativas Rurales
PSA	Programa Social Agropecuario
ROA	Return On Assets
ROE	Return On Equity
ROSCA	Rotating Savings and Credit Association
SAGyP	Secretaría de Agricultura, Pesca, y Alimentación
SDI	Subsidy Dependence Index
SME	Small and Medium Enterprises
SRP	Small, Rural Producer
VAT	Value-Added Tax

TABLE OF CONTENTS

I. Introduction	-1-
A. Why study rural financial markets in Argentina?	-1-
B. Objectives	-2-
C. Interventions in rural financial markets	-2-
1. Market failures	-2-
2. Market non-failures	-5-
3. What not to do	-5-
4. What to do	-6-
a. Wait	-6-
b. Intervene	-6-
i. Framework for security interests	-6-
ii. A national credit bureau and a national pledge registry	-6-
iii. Prudential regulation and supervision	-7-
iv. Tax compliance	-7-
v. Research and development of technology	-8-
II. Financial services demanded by small, rural producers	-9-
A. Framework for demand	-9-
1. Credit, savings, and payments	-9-
2. Formality	-9-
3. Effective demand	-9-
a. Costs to users	-10-
b. Benefits to users	-10-
4. Effective supply	-10-
5. Access	-11-
B. Cash flows	-11-
C. Small, rural producers	-11-
1. Rural	-11-
a. Low population density	-12-
b. Agricultural	-12-
i. Investments and lags	-13-
ii. Marketing intermediaries	-14-
iii. Risks	-14-
c. Non-agricultural	-15-
i. Investments and lags	-15-
ii. Marketing intermediaries	-16-
iii. Risks	-16-
d. Comparison of agricultural and non-agricultural activities	-16-
2. Producers	-17-
3. Households	-17-
4. Small	-19-

a. Income	-19-
b. Wealth	-19-
c. Formality	-19-
d. Frontier of formal finance	-20-
5. Conditions unique to Argentina	-20-
D. Demand	-20-
1. Ideal general characteristics	-20-
2. Summary of characteristics of demand	-22-
a. Savings	-22-
b. Credit	-22-
c. Payments	-22-
III. Financial services supplied to small, rural producers	-24-
A. Framework	-24-
B. Supply of savings	-24-
1. Informal savings	-24-
2. Formal savings	-25-
a. Sight deposits	-25-
b. Time deposits	-28-
C. Supply of credit	-28-
1. Informal credit	-28-
a. In cash	-28-
b. In kind	-28-
2. Unregulated, formal, private credit	-30-
a. Small consumer durables	-30-
b. Small consumer non-durables	-30-
c. Producer non-durables	-31-
i. Credit from input suppliers	-31-
ii. Credit from agricultural cooperatives	-32-
iii. Credit from tobacco processors	-33-
iv. Credit from NGOs	-33-
3. Unregulated, formal, public credit	-35-
a. PSA	-35-
i. Lending technology	-35-
ii. Strengths	-37-
iii. Weaknesses	-37-
b. PPRNEA	-38-
c. The micro-global of the IDB	-38-
d. Others	-39-
4. Regulated credit	-39-
a. Credit cards	-39-
b. Overdrafts	-40-
c. Personal credit	-41-
d. Agricultural loans	-41-

i. Share of the overall portfolio	-42-
ii. Concentration in La Pampa	-43-
iii. Concentration in public banks	-43-
iv. Lack of access	-46-
e. Warrants	-47-
f. Motor vehicles	-47-
i. Cars	-47-
ii. Tractors	-48-
g. Housing	-48-
D. Supply of payment services	-48-
E. Mismatches of supply and demand	-49-
1. Savings	-49-
2. Credit	-50-
3. Payment services	-51-
IV. Inefficiency in Financial Institutions	-56-
A. Inefficiency in the supply of financial services	-56-
1. Spreads	-56-
a. Intermediation margins	-56-
b. Ratio of operating costs to assets	-57-
c. Profit	-59-
2. Reasons for inefficiency	-59-
3. Inefficient lending technology	-60-
B. Effects of prudential regulation and supervision	-60-
1. Minimum loan-loss provision requirements	-61-
a. Risk classification	-61-
b. Factors in risk	-61-
c. Appropriate provisioning	-62-
2. Minimum-capital requirements	-63-
a. Capital-adequacy formulas	-64-
b. Capital-adequacy formulas and guarantees	-64-
3. Liquidity requirements	-65-
4. Effects of BCRA regulations	-65-
C. The legal framework for secured transactions	-66-
1. Shortcomings of the legal framework	-66-
a. Argentine law and its implementation	-66-
b. Inadequate and inefficient registries	-67-
c. Slow execution of movable property after default	-67-
d. Other weaknesses	-67-
2. Why these shortcomings are problematic	-68-
a. Movable property	-68-
b. Land	-68-
3. Attempts at reform	-69-
a. Reforms for pledging motor vehicles	-69-

b. General reform for secured transactions	-69-
c. Reforms of the process of judicial seizure and sale	-70-
d. Other reforms	-70-
e. Shortcomings of the reforms	-71-
f. Recommendations	-71-
D. Effects of privatizing public banks	-72-
1. Benefits of consolidation	-73-
2. Worry of loss of intangible assets	-75-
a. Loss of vocation to agriculture	-76-
b. Loss of knowledge	-76-
c. Loss of network of branches	-76-
d. Loss of rural focus	-77-
i. Surplus and deficit regions	-78-
ii. Agricultural lending	-80-
iii. Regression analysis	-80-
iv. Agricultural lending	-81-
v. Surplus and deficit regions	-81-
E. Other constraints	-82-
1. High costs	-82-
2. Demand competition	-82-
3. Perceived risk	-82-
4. Taxes	-83-
5. Culture	-84-
REFERENCES	-85-
Annex I: An analysis of Fundación Emprender	-89-
A. Introduction to Emprender	-89-
B. Conception and birth	-89-
C. Outreach	-90-
1. Breadth	-90-
2. Depth of outreach	-90-
3. Quality of outreach	-92-
a. Joint liability	-92-
b. Taxes	-92-
c. Transactions costs	-93-
d. Interest costs	-93-
e. Total costs of borrowing	-93-
D. Financial Self-sufficiency	-94-
1. The Subsidy Dependence Index of Yaron	-94-
2. The worthwhileness of Emprender	-95-
E. Productivity and Efficiency	-95-
F. Conclusion	-96-
G. Caveats	-96-

Annex II: Formal cash ROSCAs in Argentina	-97-
A. Introduction to ROSCAs	-97-
B. ROSCAs in Argentina	-97-
C. Cash ROSCAs	-97-
D. Benefits of formal, cash ROSCAs	-98-
E. ROSCAs vs. alternatives	-98-
1. ROSCA deposits vs. sight deposits	-99-
2. ROSCA loans vs. Personal loans	-99-
Annex III: Affects of regulation on loans with non-preferred guarantees	-100-
A. Assumptions	-100-
B. Types of costs	-100-
C. Implications	-102-
D. Caveats	-103-
Annex IV: Rural financial markets and the Argentine macroeconomy	-104-
A. Before convertibility	-104-
B. Convertibility	-104-
1. Strengths	-104-
2. Weaknesses	-105-
C. Tequila	-105-
1. Premonitions	-105-
2. Crisis	-105-
3. Countermeasures	-105-
4. Effects on the financial system	-106-
5. Other effects	-106-
D. Recovery	-106-

I. Introduction

A. Why study rural financial markets in Argentina?

Argentina is fortunate. Although it is not a developed country, it is not very poor either. It has abundant natural resources. It has an unusual wealth of infrastructure and human capital. GDP per capita is about \$8,000 (World Bank, 1996b). Misguided policy created the moribund economy of the 1980s. Therefore, policy reform may unleash rapid, sustained growth (World Bank, 1994). Fortunately, the most important reforms have already been implemented.

Rural financial markets matter for the process of rapid, sustained growth. Rural financial markets also matter for equity during the process. There are at least seven reasons for this.

First, agriculture is one of Argentina's most important sectors. Agricultural exports account for more than half of foreign-exchange earnings (World Bank, 1996a). A balanced macroeconomy requires a competitive agricultural sector. Rural financial markets matter because agricultural cash flows are mismatched, creating an unusually strong demand for financial services.

Second, sustained growth requires increased domestic savings. Rural households and enterprises save because their cash flows are mismatched. Often, savings are held in wasteful forms. Formal financial intermediaries have just begun to tap these savings and reduce the waste.

Third, poverty is both deep and wide in rural Argentina. Financial services facilitate more efficient consumption by rural households. Access to deposits and loans can help households buy food, health care, and supplemental labor during emergencies.

Fourth, financial services facilitate more efficient production by rural households. By reducing the uncertainty of consumption, access to finance increases productive investment. Healthy children learn more in school, and healthy parents produce more in the enterprise. Access to finance not only reduces risk but also allows investment in excess of current resources. This matters because the liberalization of the Argentine economy has exposed small, rural producers to increased competition. To survive, they must modernize. Modernization means increased investment, higher returns, and higher risks. Without finance, higher risk may preclude making the higher investments that lead to higher returns.

Fifth, finance affects equity. The escape from poverty requires the long-term accumulation of wealth. If finance facilitates the accumulation of wealth but if access to finance requires wealth, then finance will decrease equity. Appropriate financial technology should produce savings services that are safe, liquid, and remunerative that can be used by small, rural households at low transaction costs. Credit services should not be based on the large assets these households do not have, such as land, motor vehicles, or other traditional types of collateral. Instead, credit services should be based on the assets the households do have, including their labor, reputation, and small assets.

Sixth, finance affects equity because it affects investment and investment affects the creation of jobs. Expanding rural enterprises could block some of the flow of migrants to urban areas. This is an especially important possibility because unemployment is high in Argentina and because most migrants live in squalor.

Seventh, many people consider access to credit as a right. Although access to financial services matters, it probably is not a merit good, regardless of what a politician might claim. Still, equity under democracy requires that voters get what they think they deserve.

Although finance matters, rural Argentines think other things matter more. Benencia (1995) asked a series of focus groups from rural areas to rank areas of rural development. The most important were production, marketing, basic needs, employment, organization and agro-industry, training and technical assistance, and direct subsidies. Credit was ranked last in all of the regions except the NEA, where it ranked second.

B. Objectives

One goal of the World Bank in Argentina straighten and smooth the road to rapid, sustained growth (World Bank, 1994). This report has two basic objectives in relation to this goal and rural financial markets.

The first objective is to understand how the interaction of demand and supply create or fail to create financial services with certain costs and qualities. This requires analysis of how the material conditions faced by small, rural producers lead to certain patterns of cash flows that lead to demands for finance services. It also requires analysis of the retail supply of financial services. There is an attempt to identify demands of small, rural producers for financial services that are not matched by supplies. All households are depositworthy, and unmatched demand for savings leads to waste. Some households are creditworthy, and unmatched demand for credit leads to the loss of profitable opportunities due to lack of resources.

The second objective is to identify possible modifications to the institutional and macroeconomic environment which would increase the ability and willingness of the suppliers of financial services to meet the demand of small, rural households. Institutions should lubricate financial markets. Efficient markets need efficient institutions and a healthy, stable macroeconomy.

The fundamental assumption is that interventions are justified only when there is a market failure. Markets fail when private incentives fail to produce socially optimal outcomes.

C. Interventions in rural financial markets

1. Market failures

The World Bank's 1994 study of Argentine capital markets identified one market failure, the framework for security interests. The enforcement of security interests in credit contracts is so costly that many types of contracts and types of security interests are unused. If Argentina had an institutional framework resembling those of countries of comparable development, these unused contracts and security interests would create social and private benefits in excess of private costs (Fleisig and de la Peña, 1996, 1995).

There are at least five other failures in rural financial markets. The first two failures concern competition and confidence in financial markets in general. The second two failures concern the creation of information and technology in financial markets. The last failure concerns the use of financial markets for fiscal purposes. These market failures are not specific to rural financial markets, but their consequences are especially sharp there.

First and most importantly, competition in the banking sector is weak. This leads to inefficiency, high costs, few services, and few users. Markets are shallow, intermediation costs are high, and margins are wide (World Bank, 1994). Deposits are short and large, and loans short and small. Borrowers are constrained by access and cost as well as price. High profits coupled with high intermediation margins implies lack of competition. These profits are less than the increase in general welfare that increased competition would cause.

Second, the generalized lack of confidence in the financial system is a market failure. Regardless of the accuracy of beliefs, financial systems become unstable if people believe they could become unstable. The lack of confidence in Argentina resulted from the decisions of bankers and politicians that led to a system where savings were unsafe. Bankers and politicians made their decisions without considering their social costs. Likewise, individual decisions to avoid financial contracts creates social costs that the individuals ignore. Social and private gains to economies of scale in financial systems are lost because no one has an incentive to coordinate their decisions.

Third, there is a market failure in the creation and dissemination of appropriate financial technology. For example, any bank could easily copy any other bank's investment in developing technology to evaluate potential borrowers based on cash flows, character, and collateral at its value in use. Although the diffusion of the technology would benefit society, it would decrease the return earned by the innovating bank. The wedge between private and social returns may be so wide that private costs exceed private returns even though social benefits would exceed social costs. This is a market failure.

Fourth, there is a market failure in the creation of knowledge about creditworthiness. This is particularly true for small, rural producers. Any bank could easily observe the result of another bank's investment in lending to small, rural producers in order to learn about their creditworthiness. This reduces the potential profit of experiments and, because experiments are risky, could lead to private costs exceeding private benefits even though social benefits exceed social costs.

Finally, linking tax payments to access to regulated financial services creates a market failure. Potential borrowers and depositors must prove both that they do not owe pension contributions and, if they run an enterprise, that they have paid the VAT. These taxes and the transactions costs of compliance are especially onerous for small, rural producers. Evasion snuffs out access to regulated financial services. Argentines should pay their taxes, but the level should be appropriate for people means and the levy should not be enforced through the financial system. The intrusion of the fisc in the financial system creates a market failure.

These market failures involve not just rural financial markets but rather financial markets in general. Their resolution would help not only small, rural producers but Argentina as a whole. There is nothing wrong with this. Many urban, middle-class households and small firms lack access to financial services, and it would be unwise to try to avoid solving the easiest problems in order to try to solve the hardest.

Market failure is necessary to justify interventions, but it is not sufficient. Most interventions are not self-corrective, so they fail more easily than markets. Interventions may be worthwhile only when the social costs of market failure are huge and the intervention has a self-corrective design.

Box 1: Mutual guarantee societies for small and medium enterprises

Some SMEs are joining mutual guarantee societies (*Sociedades de Garantías Recíprocas*). Small, rural producers may benefit from the guarantee societies someday, but the possibility seems both low and distant. MGS exist because of the inability and/or unwillingness of banks to evaluate loan applications even from relatively large firms. As for most innovations in financial technology, the guarantee societies will benefit large, urban firms first.

The MGS are based on similar societies in Spain. They consist of one guaranteeing member and many borrowing members. The guaranteeing member provides a large guarantee fund to be managed by the BCRA on the behalf of the society. The guaranteeing member owns 49 percent of the shares in the society, and the individual borrowing members own the rest.

Representatives of the guaranteeing member and of the borrowing members evaluate loan applications from potential borrowers. If the representatives rule favorably, the application is submitted to a bank. Because the society will become responsible for the guaranteed debt if the borrower falls 90 days or more into arrears, the bank bears less risk and so charges a lower interest rate. The society can guarantee a portfolio up to four times the size of its guarantee fund.

As of November, 1996, there were two societies. The first was formed by a large industrial group and its suppliers. The second was formed by the BNA and associations of urban SMEs. Neither society has guaranteed a loan yet, although about 130 SMEs have bought \$2,000 shares in anticipation of the possibility of being guaranteed.

The benefits of membership in a guarantee society for borrowing members are clear and include improved access to loans and lower interest rates. There is an application fee of 0.5 percent of the amount solicited and a guarantee fee up to four percent annually. The \$2,000 membership fee is tax-deductible and only \$1,000 needs to be paid in cash.

If the guaranteeing member is a large firm and the borrowing members are its suppliers, then the benefits of membership for a guarantor are also clear. The guarantor increases the security of its lines of supply. Improved access to credit increases the value to the supplier of the supplier's relationship with the large firm. In addition, the asymmetric information that often plagues attempts to lend to SMEs is decreased because the large firm, by its long relationships with its suppliers, knows their characters and cash flows. The risk of default, and thus the need for collateral, is also decreased because the large firm can deduct the borrower's loan repayments to the bank from its payments to the supplier. The main disadvantage is the risk implicit in a guarantee fund supporting a portfolio of loans in a single sector.

If the guarantor is a bank, then the benefits of membership, aside from some tax benefits, are not clear. After all, the guarantee society evaluates potential borrowers and assumes risk, just as a bank would. Since banks specialize in lending, the guarantee society probably can not evaluate loan applications cheaper than the bank. The logic of having a special, separate loan-evaluation committee is even less clear when that committee is essentially housed in a bank. In that case, the bank does not even decrease its risk because it also supplies the guarantee funds.

If a bank is willing to learn to lend to SMEs through an in-house guarantee society and if the bank is also willing to bear the risk of those loans by creating a guarantee fund, then it would seem more reasonable simply to train regular bank employees in the technology, cutting the extra level of bureaucracy, non-transparency, and transactions costs implied by the guarantee society.

2. Market non-failures

Not everything is a market failure. One important example is the privatization of public banks. Public banks did not lend much to small, rural producers before privatization anyway. Their inept, now-debunked strategy of supply-driven, top-down, subsidized, directed credit did not drive the rural economy but rather dragged it. Even if the newly privatized banks do not immediately supply credit to small, rural producers, they will continue mobilizing deposits. Eventually competition will drive them to reach more and poorer rural clients with more and better services.

Another important example of market non-failure is the stringent prudential regulation and supervision of the banking sector by the BCRA. Supervision ameliorates the market failure of generalized distrust in the financial system, and it does not cost much. Stringent supervision also increases competition, ameliorating yet another market failure.

The high cost *per se* of savings and credit is not a market failure. High costs result from market failures, including failures in the markets for research and development of appropriate technology and for information on creditworthiness. High costs also result from a lack of competition and confidence.

Likewise, the absence of long-term loans is the result of a market failure even though it is not a market failure. Bankers like to lend long. Long-term loans are scarce because long-term deposits are scarce because people distrust the financial system. If policymakers wish to lengthen term structures, they should remedy the illness of weak confidence in the system as a whole.

3. What not to do

The World Bank (1994) concluded that market failures do not seem to justify any special lending programs. This report concurs. Existing market failures involve either the entire Argentine economy or the public institutions that should lubricate financial markets. Interventions, if any, should be directed at these levels.

A better institutional and macroeconomic environment will reduce costs and increase competition. It will therefore increase access to financial services by small, rural producers. If redistributive interventions are desired, they should avoid tweaking the financial system. In particular, direct subsidies alleviate poverty quicker, cheaper, and with less harmful side effects than interventions in financial markets.

In many respects, the World Bank can best promote access to financial services by small, rural producers by encouraging the Argentine government to maintain its present course. Argentina should maintain current macroeconomic policies, continue support for the Convertibility Plan, and avoid the temptation to meddle in rural financial markets. The consolidation of the banking system should continue.

The most important interventions required to restore confidence in the financial system have already been launched. The overdue overhaul of the banking system is well underway. But consolidating confidence requires time. Special lending programs would show a willingness to abandon the overall philosophy of the Convertibility Plan and step toward the slippery slope back into the 1980s.

Credit is not a good tool to alleviate poverty in the short run. Direct subsidies are better. Perhaps an extension program can use credit to complement other aspects of a larger poverty alleviation program and to motivate participation, as the PSA does. This is fine as long as repayment is good and costs are low.

4. What to do

a. Wait

Argentina is fortunate. It is wealthier than many countries. Financial markets are reforming in a stable, growing economy. The reforms that are most important for rural financial markets are already in place. The interventions that remain are marginal. General economic growth will alleviate poverty better than perfectly functioning financial markets ever could.

It will take time for competition to increase and for banks to unlearn the bad habits acquired during hyperinflation. Likewise, it takes time to breed the confidence that allows long-term liabilities and therefore long-term lending. Finally, it takes time to restore fiscal balance and to stop crowding out private investment with public debt. Argentina is still scratching its way out of the grave dug by excessive intervention. Special credit programs only throw dirt in its face.

For example, the program of Mutual Guarantee Societies (Box 1) is inconsistent with the policy package that resuscitated the moribund economy of the 1980s. It does not resolve any market failure caused by lack of information about creditworthiness. It only creates more costs without encouraging more market.

The NGO Emprender (Annex I) stands in contrast to the Mutual Guarantee Societies. With limited public subsidies, it borrowed a lending technology developed in Bolivia and used it to demonstrate the creditworthiness of small enterprises. A program like FONCAP (Box 9) can work if it focuses on strengthening organizations that would copy Emprender's pioneering.

b. Intervene

Special programs cannot provide savings and payment services. They can lend to only a few middle- and low-income households. Only banks can reach the masses with savings, credit, and payment services. Government policy should aim to create an environment of competition to drive banks to serve poorer and poorer clients. Any intervention should focus on strengthening institutions that facilitate competition and resolve market failures in rural financial markets.

i. Framework for security interests

A presidential decree attempted to reform the framework for security interests along the lines recommended by Fleisig and de la Peña (1995, 1996). The essence of the decree should be introduced for passage as a law. As a mere decree, uncertain execution hampers its effectiveness.

The most important components of the decree aim to speed the process of judicial enforcement of security interests or to avoid the process completely. A possible law should also include measures to facilitate leasing and hire/purchase arrangements because they are self-collateralizing lending technologies. Finally, a law should also provide for pledging accounts receivables. This would increase access to credit for small, rural producers by increasing access to credit for the medium and large enterprises that lend to them.

ii. A national credit bureau and a national pledge registry

A single national credit bureau and a single national pledge registry should be created. The government should not subsidize them by providing funds; rather, it should subsidize them by requiring the participation of all private pledge registries and of all regulated lenders. The

credit bureau and the pledge registry themselves could be owned publicly or privately. If owned publicly, the institutions should charge users enough to cover their costs. If owned privately, they should be regulated to avoid monopolistic exploitation.

Existing credit bureaus either are accessible only to certain lenders or maintain only negative information about borrowers. A bank can check if a potential borrower has ever been delinquent, but it cannot check if a borrower has repaid previous loans faithfully. It also means that a bank cannot know if a potential borrower has ever been in arrears unless it checks with every credit bureau.

A single national credit bureau could maintain both negative and positive information on borrowers only if regulated lenders are required to provide both types of information for every borrower. By legislating and enforcing participation, the government resolves a market failure by forcing the banking system as a whole to internalize the costs and benefits of the credit bureau.

Existing pledge registries are fragmented, inefficient, and exploitative. Just as in the case of a national credit bureau, mandatory participation in a single national registry would internalize the costs and benefits of the provision of information within the banking system. Existing registries could survive as modern, efficient retail outlets of the national registry.

iii. Prudential regulation and supervision

The capacity of the BCRA to review and to sanction banks should continue to be strengthened. This will deepen rural financial markets in two ways. First, it will mitigate against runs on deposits and against general uncertainty in the financial system. This is especially important because confidence enables deposits and because small, rural producers demand deposits more than anything else. Second, it will foster competition, driving banks to search for virgin clients.

Prudential regulation and supervision should not directly push banks to lend to smaller clients. High-cost intermediaries should not hurdle medium-cost clients to go straight to high-cost clients. But competition will nudge banks toward poorer clients without unhealthy side-effects.

Finally, the BCRA should carefully study the appropriate regulatory framework for finance mutuals (Box 5). These intermediaries do not reach many people nationally, but they are important in some areas. They also reach smaller rural producers than any other formal intermediary. Perhaps finance mutuals should be treated as any other regulated intermediary, but perhaps such treatment would destroy their strengths without bolstering their weaknesses.

iv. Tax compliance

Tax compliance should be decoupled from access to regulated intermediaries. Increasing tax revenue is a cornerstone of the reform program. Tax evaders should be hunted down, but not by financial intermediaries. Banks are not tax police. Banks facilitate payments, change term and risk profiles, and intermediate resources between surplus and deficit users. The current policy probably misallocates resources and discourages domestic savings more than it decreases tax evasion.

v. Research and development of technology

No private intermediary can appropriate all the returns from investment in research and development of the technology that would reduce the costs of supplying financial services to small, rural producers. Public investment could be appropriate, especially for the supply of deposits.

Technologies developed elsewhere should be imported and tuned to fit Argentina. Such technology might involve ATMs, mobile deposit services, or remote offices offering limited services only a few days every month. It may also involve taking advantage of installed public capacity, such as post offices or agricultural extension agents, to serve as retail deposit outlets.

II. Financial services demanded by small, rural producers

The first part of this section presents a framework for understanding the demand for financial services by small, rural producers. The difficulty is characterizing demand when no transactions are observed. The strategy is to use the organization, structure, and activities of rural households to characterize their cash flows. Differences between cash inflows and cash outflows require financing and indicate potential demand.

A. Framework for demand

1. Credit, savings, and payments

Financial services include credit, savings, and payments services. Credit is the most expensive to produce. An institutionalized intermediary must evaluate the probability of repayment in the future of resources lent to an individual borrower in the present. This is especially expensive, *ex ante*, when there is no institutional information about the creditworthiness of a new borrower. Not all potential borrowers are equally creditworthy

Savings are less expensive than credit. An individual depositor must evaluate the probability of repayment in the future of resources lent to an institutional intermediary in the present. Usually there is both institutional and non-institutional information about the intermediary. There are so many depositors that the BCRA regulates some level of creditworthiness among deposit-taking intermediaries. All potential depositors are equally depositworthy.

Payments services are also inexpensive. The postal service does not care about the sender or the addressee; it cares only about the stamp. Likewise, a financial intermediary does not care who is the payer nor the payee; it only cares about the fee.

2. Formality

Financial services may be formal or informal. Formal services have contracts created and enforced by mechanisms beyond the contracting parties. For example, formal contracts are usually written. In theory, formal contracts are legally enforceable. In addition, formal intermediaries may be regulated. In contrast, informal contracts are enforced without reference to third parties.

Both formal and informal finance matter to small, rural producers. But policy focuses only on formal finance. Policy ignores informal finance for two reasons. First, informal finance is outside of government's ken. Policy affects formal finance directly but informal finance only indirectly.

Second, informal finance is an imperfect substitute for formal finance in the long run. In particular, formal finance supplies better savings and payments services. In the short run, however, formal and informal finance may be close substitutes, especially for small, short-term, uncollateralized loans. Correcting market failures in financial markets matters only inasmuch as savings, payments, and long, large loans matter in the long-run.

3. Effective demand

Small, rural producers demand financial services if they voluntarily bear the cost of using the service as stipulated in the financial contract. This type of demand is sometimes called *effective demand*. Effective demand excludes the demand of those who, such as delinquent borrowers or bankrupt banks, do not fulfill their contracts. These borrowers do not really

demand the temporary transfers that are finance; they demand the permanent transfers that are grants.

a. Costs to users

The cost of using a financial service has three components: price, transactions costs, and opportunity costs. The price is the cash expense paid by the user to the supplier, including tax. The price should cover at least the provider's costs. The price of deposits includes maintenance fees and the real rate of interest, if negative. The price of loans includes fees and the real interest rate.

Transactions costs are cash expenses incurred by the user in completing the financial transaction. The cash outflows generated by transactions costs are usually not collected by the financial intermediary. The transactions costs of deposits or loans include, for example, the price of transportation to bank and any fees for documentation required for the transaction.

Opportunity costs are non-cash expenses incurred by the user due to the financial transaction. The user pays opportunity costs even though no one collects them. For deposits, opportunity costs include the value of the time lost while making a deposit or a withdrawal, the value of the consumption in the present postponed for the future, and the costs of the constraints implied by the deposit contract. The opportunity costs of loans are similar.

The users of financial services care about interest rates only inasmuch as interest is a major component of the price, itself one component of costs. For small, rural producers, transactions costs and opportunity costs often swamp interest costs.

b. Benefits to users

Financial services also generate benefits for users. Benefits include, for example, better allocations of resources through time, any interest earned, reduced risk, and reduced costs of transacting real goods.

There is an effective demand for financial services if three conditions are met. First, the user must want the service. This means that expected benefits exceed expected costs. Second, the user must be able to pay the costs. The suppliers of financial services are not charitable organizations. Third, the user must be willing to pay its cost. Default can be either voluntary or involuntary.

4. Effective supply

Effective supply is the complement of effective demand. There is an effective supply of financial services if suppliers are able and willing to set prices so as to cover the cost of production without also imposing excessive costs on users. Suppliers who do not cover costs do not live long. Costs for users are excessive when they could be reduced without harming the viability of supply.

Sometimes high costs are not excessive. A small, rural producer in the Antarctic would have to bear high transactions costs to make a deposit in Tierra del Fuego. But there is no way to reduce these enough to make the transaction worthwhile to both the depositor and the intermediary.

Sometimes non-price costs are excessive because of market failures. Weak competition may permit satisfactory profits even while ignoring some effective demand. Some of the imperfect information between users and suppliers could be eliminated if suppliers worked harder or if improvements were made in markets for information. Finally, better markets for research and development would decrease costs to users.

5. Access

Access is the confluence of effective supply and effective demand. No one is concerned when a lack of access caused by a simultaneous lack of effective supply and lack of effective demand. In fact, this is the most common case. Nor is anyone concerned when a lack of access is caused by a lack of effective demand. Suppliers cannot cover their costs if no one will pay their prices.

The concern is lack of access when there is effective demand but there is not effective supply. In this case, users would pay for a financial service if only someone would supply it.

There are two reasons why effective demand could be unmatched by effective supply. In the first case, supply would be so costly that it would destroy effective demand. This is why there are no bank branches in Antarctica. This case is not a concern. In the second case, supply is costly, but costs could be reduced to levels that would not destroy effective demand if treatable market failures were remedied. This case is the concern.

Small, rural producers want access to credit, savings, and payment services. Policy should focus less on access to credit and more on access to savings and payment services. From the demand side, there are often informal substitutes for credit. Usually this is not the case for savings and payment services. Savings and payments services often can substitute for credit.

From the supply side, savings and payment services are probably easier to supply than credit. They are not associated with imperfect information or collateral, and there is appropriate technology awaiting adoption.

The rest of this section characterizes small, rural producers and their demand for financial services. It provides a framework for how their households and enterprises interact with their smallness and ruralness to produce cash flows and thus potential uses for finance.

B. Cash flows

Cash flows shape the demand for financial services. Depositors exchange cash outflows in the present for cash inflows in the future. Borrowers exchange cash inflows in the present for cash outflows in the future. Payments are simply cash inflows or outflows. Cash outflows are expenditures, and cash inflows are receipts.

Activities shape cash flows. Even in a world without deposits and loans, activities generate expenditures and receipts. Uncoupling the exchange of resources from payment is credit; uncoupling the generation of resources from the use in consumption or in production is saving.

C. Small, rural producers

1. Rural

In Argentina, rural people live either on the land they farm or in communities of less than 2,000 people. About 13 percent of Argentina's population is rural. A 1988 agricultural census counted 421,221 farms and 2,479,640 farm residents (INDEC, 1988). There are an additional 700,000 non-farm rural households (Maletta, 1996). According to the criteria of Cambio Rural and the PSA, about 130,000 to 150,000 farm households are small.

a. Low population density

Rural areas have low population densities. Agriculture leads to low population density

because plants and animals need more space than people. Farmers live near their work to reduce transportation costs and to deter theft. In contrast, markets and most non-agricultural production are cheaper when population density is high. Squeezing into cities reduces transactions costs.

Financial intermediaries locate in cities to take advantage of economies of agglomeration. The costs of rural lending depends on the cost of determining if potential borrowers are willing and able to repay. Rural distances increase the costs of evaluating creditworthiness and thus decrease access to credit. Distance also decreases access to deposits by increasing the transactions costs.

The cost per person of public infrastructure increases as population density decreases. Therefore, rural roads are few and often rough. Many households do not have telephones. Although most of rural Argentina is electrified, the poorest parts are not. Transportation and communication are thus more expensive in rural areas than in urban areas. This means that traded goods and services tend to be more expensive in rural areas than in urban areas.

Low population density has some advantages. For example, it encourages strong social networks. Friendships are stronger when people are scarce. Rural people may cling to social networks out of loneliness. In addition, families often run dynastic agricultural enterprises. This lengthens the horizon over which relationships are valued both within and between families. Strong social networks decrease asymmetric information and thus decrease the costs of informal financial services. But formal intermediaries are not privy to these networks.

Agriculture is also cheap in rural areas. Far from cities, land is inexpensive. Nutrition is the most important expenditure for poor families, and rural families can produce much of their own.

b. Agricultural

In Argentina, *rural* usually means *agricultural*. Most rural Argentines work either as self-employed farmers or as wage laborers. There are some non-agricultural rural enterprises, but they are less important than in less-developed countries. Non-agricultural rural enterprises are scarce because Argentina is well integrated with world markets. On the one hand, market integration brings access to manufactured goods from factories that are better and cheaper than what local craftsmen can produce. On the other hand, agriculture benefits by access to the international market. Most Argentine farmers sell at least some of their produce, reducing the need for non-agricultural activities to generate cash.

In general, Argentine agriculture has an extraordinary demand for financial services. For example, agricultural production grew 23 percent from 1988 to 1993, but agricultural credit grew 171 percent (Maletta, 1996). Strong demand for loans will continue as farmers arm themselves to compete internationally and as they replace ancient machinery (Garcia-Rivero, *et al.*, 1994).

The demand of agriculture for finance is characterized by the required investments, by the lags both between investment and production and between production and reinvestment or consumption, by the marketing intermediaries, and by the risks.

i. Investments and lags

Production requires investment. Because the cash inflows from production lag behind the cash outflows of investment, investment requires finance. Production requires both durable and non-durable investments. Durable investments are often lumpy, all-or-nothing propositions; the farmer either buys an entire tractor or nothing at all. Durable investments are not consumed in a single production cycle. Non-durable investments often are made piecemeal; the farmer adds more or less oil to the motor. Non-durable investments are consumed in a single production cycle.

Most investment expenditures have both lumpy and continuous characteristics. For example, a farmer can decide to add one cow to the herd but not half a cow. Expansion or modernization often call for lumpy or durable investment, while maintenance often calls for non-durable or continuous investments.

Lumpy investments for durable inputs are usually large. One reason why agriculture is an unusually finance-intensive industry is the importance of durable inputs such as land, machinery, and livestock. Buying durable inputs requires a single lumpy cash outflow long before any harvest.

Durable inputs contribute to a stream of cash inflows from many harvests over time. These lumpy investments are usually too large to be covered by the additional contribution they make to the cash inflows from any single harvest. They must be financed either by savings or by credit. A single large cash outflow followed by many smaller cash inflows implies large, long finance.

Lumpy investments usually require a single expenditure. Other agricultural inputs are consumed over the course of a single production cycle and often require several smaller expenditures. Before harvest there are many cash outflows for inputs such as fuel, fertilizer, pesticide, tilling, harvesting, weeding, wage labor, and the maintenance of formalization. Barring catastrophe, the additional cash inflows generated by the contribution of these inputs exceeds the accumulated cash outflows. They must be financed either by savings or by credit. Many small cash outflows followed by a single larger cash inflow implies small, short finance.

Agricultural production lags behind investment, so cash outflows and cash inflows are mismatched. They are mismatched not only over a single season but also over many seasons.

Loans for durables can be self-collateralizing if the durable depreciates slowly and if repossession is cheap enough. Effective supply is possible if the lender has access to long-term funding. Although loans for non-durable inputs are not self-collateralizing, the costs for the lender of the risk of default is reduced by the smallness and the shortness of the loans.

Savings can finance either durable or non-durable inputs. Savings are more likely to finance small cash outflows because any amount of savings is more likely to be larger than a small amount than a large amount. In addition, all households save at least small amounts for short periods even if they do not save large amounts for long periods.

Rural households can do three things with their production. First, they may consume it. Second, they may use it as an input for further production. Third, they may exchange it for resources for consumption or production.

Whether households consume, invest, or exchange their production, there are almost always lags between the creation and the use of products. For example, a household may harvest corn but store it to eat, plant, or sell later. Fattened livestock may be sold, butchered, or pastured.

Storage links the lags between production and use.

Not all products are equally storable. Continually harvested produce such as milk or vegetables are often perishable. Single-harvest produce such as grains or livestock are often storable. Enterprises with perishable products demand more deposits than otherwise because they cannot save by simply storing their own production.

Not all products are equally fungible across production, consumption, and exchange. Finance matters more as products are less fungible. Although corn or beef may be consumed or stored, man does not live by corned beef alone. Money in savings accounts cannot be consumed or used as inputs, but they can be stored or exchanged for other resources. Enterprises whose products are less fungible will demand more finance than otherwise.

ii. Marketing intermediaries

Marketing is finding partners for exchange. All produce not consumed or reinvested requires marketing. Marketing is especially costly for rural enterprises because of the cost of transportation over rural distances. Marketing is also especially costly for agricultural enterprises because agricultural goods are unusually heavy and bulky relative to their value.

Marketing margins decrease with distance from markets. This is because transportation costs increase with the distance to the farm even though the sale price in the market does not change. In addition, distance increases time in transport and thus the possibility of damage to produce.

Produce not consumed by the household itself usually must be cleaned and processed before being marketed. Important smallholder crops in Argentina that require industrial processing include cotton, sugar cane, tobacco, fruit, grapes, and livestock (Maletta, 1996). To take advantage of economies of scale, processing plants are large and thus cannot be close to many farms.

Because of economies of scale and of specialization, rural enterprises usually sell uncleaned and unprocessed produce to marketing intermediaries. In many cases, these marketing intermediaries also supply loans. This is possible because the intermediaries already know the enterprise and its creditworthiness. The loans are not regulated, so even tax evaders have access. In addition, the intermediary can deduct loan repayments from payments for the enterprise's produce. Although marketing intermediaries provide access to loans, they often they wield monopsony power, and they may offer loans with very unfavorable terms.

iii. Risks

Agriculture is unusually risky. Weather can destroy crops regardless of the efforts of the producer. Some weather risks, such as hail, are idiosyncratic; other weather risks, such as drought, are systemic. Prices fluctuate beyond the control of the producer. The prices of spices, fruits, and vegetables are especially volatile. As in all other countries, insurance against agricultural risks is incomplete. Most small, rural producers are completely uninsured.

Historically, agricultural loans has been unusually risky. Without the mortgage bonds of the BNA, arrears would be 35 percent of the outstanding portfolio. The crops with the worst repayment record were usually those grown by smallholders and protected from international competition (Maletta, 1996; Gallacher, 1989). These crops include vegetables, fruits, cotton, tobacco, and sugar cane. Some agricultural delinquency also resulted from political lending (interview with Susmel).

Agriculture has a weak repayment also because farmers have unusually poor debt/equity

ratios. Many large farmers have refinanced through mortgage bonds. Historical poor repayment has also resulted from credit used as a way to subsidize agriculture and as a substitute for insurance.

From the supply side, production risk and price risk increase the uncertainty of repayment. Historical non-repayment also increases the perceived risk. Both combine to increase the cost of credit and to decrease its supply. Risk tends to increase as size and length increase.

From the demand side, risk increases the desire for credit because, without perfect guarantees, the fixed nature of the repayment obligation allows the enterprise to shift some risk to the lender. But increased desire stimulated by risk does not increase effective demand.

Risk decreases the effective demand for large, long loans because such loans usually require traditional collateral such as land. Even if large, long loans could, in the long run, increase wealth and income and perhaps even reduce risk, farmers are loath to endanger their land and livelihoods in the short run by increasing the size and length of their fixed obligations.

Finally, risk increases the demand for savings because savings can buffer consumption like insurance. Likewise, risk increases the demand for short, small loans because such loans, like savings, help smooth consumption in bad seasons.

c. Non-agricultural

In 1988, about 130,000 of Argentina's about 400,000 farms had some off-farm income (INDEC). Just like agricultural activities, non-agricultural activities are characterized by their investments, the lags both between investment and production and between production and sales, the presence of marketing intermediaries, and risk. The most important non-agricultural rural activity is wage labor. Because of competition from tradable manufactured goods, most non-wage, non-agricultural rural enterprises produce non-tradables such as retail marketing and transportation.

i. Investments and lags

Non-agricultural rural activities require both durable lumpy investment and non-durable continuous investments. Non-agricultural durable investments such as a business locale, land for a locale, or a cash register are often less lumpy than agricultural durable investments in land, tractors, or herds. Retailers can build inventories item by item. Only transportation services require investments in motor vehicles similar to those in agriculture.

Wage employment reduces the demand for finance. Once educated, a wage laborer makes no investments in production except for time, a continuous investment. Wage employment also reduces the lag between investment and production. Wages follow work by at most a month.

After agriculture, the largest rural employers used to be the municipalities and the province itself. This public employment is disappearing with fiscal discipline and privatization.

Some rural households have monthly cash inflows from retirement and other pensions or from employment in labor-intensive public infrastructure projects. Even if households with salaries or pensions are net debtors, their potential average deposit balances are at least half their monthly incomes. If they are net savers, their potential average deposit balance is much more.

Retailers and transporters have cash inflows daily. They also purchase fuel, inventory, and labor frequently. If they buy these items in bulk, they require financing. But this high-frequency financing is even smaller and shorter than the within-season financing required by

agriculture. Often savings suffice.

ii. Marketing intermediaries

Almost all non-agricultural enterprises are linked to larger marketing intermediaries. Some, such as retailers or transporters, are themselves marketing intermediaries. These linkages increase access to finance just as they do for agricultural enterprises.

iii. Risks

Monthly cash inflows from formal salaries or from pensions enable potential lenders to verify the level and regularity of cash inflows cheaply and objectively. Lending against regular inflows is easy because risks are low, especially if repayments are deducted from salary checks.

Some non-farm activities produce irregular cash inflows. For example, urban family members may remit money infrequently. Income from seasonal agricultural labor, indigenous art, the production of charcoal or other agricultural processing are also infrequent and irregular. It is risky to lend against irregular, infrequent cash inflows from remittances or from non-farm enterprises. Still, these cash flows stimulate a demand for savings.

Finally, most non-agricultural enterprises die young if they die. Although the risk of non-agricultural start-ups is high, established enterprises are not subject to recurring risks beyond their control as agriculture is.

d. Comparison of agricultural and non-agricultural activities

Both agricultural and non-agricultural rural enterprises demand savings, credit, and payment services. Both can take advantage of linkages with marketing intermediaries for small, short, uncollateralized loans. Both can use large, long loans. Agriculture is riskier than non-agriculture even though both can offer similar collateral. Both have mismatched cash flows, but the mismatch is worse in agriculture.

For example, few agricultural activities except for dairy generate cash flows more often than seasonally, but retailing and transportation can have daily cash inflows. Wages are usually paid monthly. Unlike agricultural households, non-agricultural households cannot satisfy a large portion of their consumption needs with their own production.

Both agriculture and non-agriculture can self-finance with savings. Self-finance is probably more difficult for agriculture due to the margins and the irregularity of agricultural cash flows relative to their levels. This is also why lending to agriculture is more risky.

Finally, both agricultural and non-agricultural enterprises make payments. Payments services are especially valuable because of rural distances.

As financial markets deepen, non-agricultural enterprises probably will benefit before agricultural enterprises. There is nothing wrong with this. Non-agricultural enterprises are closer to the frontier of formal finance than agricultural enterprises. In the long run, steady improvements in efficiency and competition will help all rural enterprises.

2. Producers

People consume in households and produce in enterprises. All rural people are producers, women as well as men, families as well as household heads. Households finance consumption and investment in their production of welfare just as enterprises finance working capital and investment in their production of goods and services. From the point of view of financial services, the household and the enterprise have more similarities than differences.

3. Households

Households consume; enterprises produce. The production and consumption activities of

small, rural producers are different but linked. Production requires labor, labor requires health, health requires consumption, and consumption requires production. From the point of view of demand for financial services, households and enterprises differ along at least four dimensions.

First, slavery is illegal. Lenders cannot seize the labor potential generated by finance for consumption. The lender cannot seize the resources bought with the proceeds of a loan because the resources have been consumed. In contrast, lenders can seize the produce generated by finance for production even if production destroyed the resources bought with the proceeds of a loan. Lenders can seize durable inputs bought with the proceeds of a loan. This means that lenders are more reluctant to make unlinked cash loans for consumption than for production.

Even if production inputs do not self-collateralize, they at least directly generate cash inflows. Consumption inputs, on the other hand, do not directly generate cash inflows. If a consumption loan does not self-collateralize, then households have access to unlinked cash loans for consumption only if their enterprise can demonstrate regular cash inflows. In contrast, the creditworthiness of enterprises is judged without reference to the household.

Second, all households consume similar things. As with production, consumption expenditures can be lumpy durable or continuously non-durable. Lumpy expenditures include new housing or additions to housing, medical care, rites of passage, motor vehicles, and appliances. Continuous expenditures include housing maintenance, nutrition, education, utilities, clothing, and public transportation. This means that even if households have different cash inflows, their cash outflows are similar.

Consumption credit for some lumpy purchases is well-developed. For example, installment loans linked to modern housing, furniture, appliances, or motor vehicles are possible because they self-collateralize. Credit for other types of lumpy consumption are not well-developed. For example, there is no formal credit anywhere for emergency medical care. The effects of such credit on future cash inflows are too uncertain, and the medical care purchased cannot be seized.

Likewise, no banks anywhere lend for elementary education, rites of passage, recurrent bills, public transportation, or emergency subsistence. Households can finance these expenditures only if they have access to savings, unlinked cash credit, or informal credit.

Third, although enterprises usually sell only a few products and buy only a few inputs, households consume a variety of goods and services. Credit linked to specific purchases simply is not available for all types of consumption purchases. Even for those purchases for which it is available, borrowers like unlinked credit better. Cash credit is perfectly fungible, but linked credit

Box 2: Berger's typology of rural producers

Subsistence households

There are about 200,000 subsistence households in rural areas. They own 0 to 7.5 hectares. They usually earn less than about \$300 per month, and they usually do not pay taxes. They are concerned not with modernization or expansion but rather with survival.

Subsistence households probably have an effective demand for small, short, uncollateralized consumption loans. They may also have an effective demand for type of small, long, uncollateralized investment loans that the PSA supplies. In general, however, subsistence households do not demand loans or payment services as much as they demand safe, liquid, remunerative deposits with low transactions costs.

Poor households

There are about 90,000 poor households in rural areas. On average, they own about 75 hectares, have annual incomes of \$3,000 to \$7,000, and have up to \$35,000 in assets. They usually do not pay taxes. Poor households with pensions or remittances have a demand for savings and for payment services. In general, poor households also have a demand for small, short loans for consumption and investment. They usually cannot offer collateral unless the lender accepts consumer durables, livestock, or small farm implements at their value in use.

Small enterprises

These households are usually commercial family farms owning an average of 250 hectares with annual earnings of up to \$60,000. Most small enterprises pay taxes. They may use some formal savings and payment services from the BNA. Although small enterprises can offer land or motor vehicles as collateral, they usually borrow from input suppliers or through overdrafts. Cambio Rural targets these households.

Medium commercial farms

These 15,000 households own up to 1,000 hectares. Medium commercial farms pay taxes and, like small enterprises, they save with banks and borrow from suppliers or through overdrafts.

Large commercial farms

The 12,000 large commercial farms hold most of the 12 percent of the overall portfolio of the banking system categorized as agricultural (World Bank, 1994). On average, these households own more than 1,000 hectares. They pay taxes and can mortgage land and motor vehicles. The average bank loan to large commercial farms is \$50,000.

Small, rural producers correspond roughly to subsistence households, poor households, and small enterprises.

is imperfectly fungible. For example, when furniture store sells furniture on credit, resources are released for cash purchases at a supermarket. But the net effect on household behavior is necessarily the same as it would be with an equivalent cash loan.

Fourth, households consume constantly, and cash outflows tend to be small and constant. This is especially true for poor households who spend large portions of their incomes on nutrition.

In summary, cash outflows for household consumption are always small and constant,

and they are also sometimes large and lumpy. Consumption is required for production, but consumption purchases are not self-collateralizing. Moreover, credit cannot be linked to all consumption items. Thus, even though useful consumption credit is smaller and more flexible than production credit, it is more difficult to guarantee. These factors increase the costs of supplying consumption credit.

Supplying production credit is difficult in rural areas. Supplying consumption credit is even more difficult. This highlights the value of deposits. Safe, remunerative, liquid deposits with low transactions costs allow a household to lend and borrow from itself across time. As long as the buffer is not depleted, cash inflows and outflows match surpluses and deficits exactly.

Overdrafts and credit cards could meet most demand for continuous consumption credit. Although their price is high, especially in Argentina, their transactions costs are low. In addition, they are not linked to specific items. Although they are available only to wealthy families and to formal enterprises with minimum monthly incomes, competition over time will supply more people with credit cards and overdrafts for consumption than special credit programs ever could.

4. Small

This report is concerned with those rural producers without access to financial services. *Small* refers to these household/enterprises. Access, and thus smallness, is correlated with poverty. Poverty, in turn, is correlated income, wealth, and formalization.

Many rural households in Argentina are poor. According to Maletta (1996), a 1991 poverty census counted about 340,000 rural households below a basic-needs poverty line. Of these, about 175,000 were self-employed and about 165,000 worked for others. Of the 175,000 with enterprises, about 100,000 were agricultural households with land, and the other 75,000 were households with non-farm enterprises or with farms with leased or rented land. Box 2 contains Berger's (1996) typology of rural households.

a. Income

Small, rural producers have incomes less than \$600, twice the usual wage of an agricultural laborer. They do not hire labor or machinery permanently (Maletta, 1996; Fiorentino, 1996).

b. Wealth

Small, rural producers have less than \$20,000 in assets. Most are landless; landowners have less than 50 hectares.

c. Formality

Access requires formality. In particular, access requires tax compliance. Depositors and borrowers with intermediaries regulated by the BCRA must prove that they do not owe any pension contributions. If the client owns a business, it must be registered and have paid the VAT.

The taxes and the non-price costs of compliance tend burden the poor more than other taxpayers. Consequently, the poor usually evade them. This precludes saving or borrowing with regulated intermediaries. The cost of formalization is probably the single most important constraint on access to formal finance in Argentina by small, rural households. Unlike in some Latin American countries (de Soto, 1989), formalization is discouraged less by the lumpy cost of formalization than by the continuous cost of maintaining formalization.

d. Frontier of formal finance

Increasing access to formal finance can be seen as extending a frontier (Von Pischke, 1991). This means extending financial services to those just beyond the border of the territory now reached by the formal system. It does not imply parachuting into the interior. The skirmishes should occur on the outskirts.

The poorest lack access to financial services. Not all small household/enterprises are creditworthy. But experience in countries with less dynamic economies than Argentina's has shown that many are creditworthy. In any case, everyone is depositworthy.

In Argentina, many members of the middle class also lack access. It is fanciful to imagine that access could be extended to the poorest without access without first being extended to the richest without access. It is still useful to discuss, however, extending access to the poorest groups with effective demand. Financial services pushed toward the poorest will pass the richest first.

5. Conditions unique to Argentina

The cash flows of the rural, small producers shape the characteristics of the financial services demanded. In many ways, these cash flows do not differ from those of small, rural producers in other countries. In some, ways, however, Argentina is unique. In particular, there are many salaried employees, even in rural areas. There are good rural roads, and most rural areas are electrified. Agricultural produce is sold to intermediaries and traded on international markets, and consumption is varied. Credit cards and overdrafts are common and their use is growing.

Most striking is the juxtaposition of formal and informal. Argentina is both developed and underdeveloped. Farmers without modern technology sell to intermediaries who sell to international traders. Producers who evade taxes trade with taxpayers. Even some tax evaders present effective demands for financial services.

D. Demand

Like any buyer, users of financial services want the best products at the lowest prices. They will never be completely satisfied. Adding value adds costs, and willingness to pay increases at a decreasing rate as quality increases. Desirable characteristics in financial services are not mandates but rather directions along which improvement can occur.

1. Ideal general characteristics

All financial services should impose low transactions costs on users. Transactions costs are important because they often swamp price and opportunity costs. In addition, distances makes transactions costs in rural areas unusually high.

Financial products are *agile* if they are fungible across different uses. Financial products are *flexible* if they can be matched to the number, size, and timing of the cash flows of users. Agility and flexibility decrease transactions and opportunity costs.

Examples of agile, flexible financial services are credit cards and sight deposits. Within some constraints, credit cards allow the borrower to decide when, how much, and how often to borrow, what to buy with the proceeds, and when, how much, and how often to repay. Most other loan products constrain at least the size and the timing of disbursements and repayments. Sight deposits allow the depositor complete control over deposits and withdrawals. In contrast, time deposits restrict the timing of withdrawals.

Unlinked cash loans are more agile than linked loans. Likewise, unlinked deposits are more agile than linked deposits such as ROSCAs (Annex II).

Agility and flexibility are the key features of the most important financial service demanded by small, rural producers: sight deposits. Transactions costs also matter because of the frequency of transactions with sight deposits relative to their size. Low transactions costs require convenient office hours so that depositors do not waste the prime hours of the day trudging to the bank and being stranded in line. Deposits and withdrawals should be unrestricted and without excessive fees. Transactions should be quick and in local branches. ATMs are critical in providing access to sight deposits in rural areas. ATMs are cheaper to install and to operate than full-service branches, and they allow quick, local transactions at any hour.

Sight deposits should also be safe and remunerative. Safety requires effective prudential supervision and regulation and deposit insurance, both of which are in place. Remuneration requires effective rates of interest higher than alternative savings vehicles. Usually, this requires positive real interest rates.

There is demand for financial services both in dollars and in pesos. But peso products are especially common in rural areas for two reasons. First, it is more difficult to convert pesos to dollars in rural areas. This limits the use of dollars in mundane transactions. Second, peso loans are shorter and more costly than dollar loans, making them more likely to be offered to marginal borrowers.

Decoupling tax compliance from access to regulated intermediaries would open access to many unbanked small, rural producers. Those informal lenders, market intermediaries, and finance mutuels who currently supply financial services to small, rural producers are precisely those intermediaries who do not link access to tax compliance. Linking tax compliance to access to regulated intermediaries hurts the poor because they demand financial services even though they do not pay taxes. But the poor will not stop evading taxes simply to gain access to financial services.

Lenders should evaluate the creditworthiness of potential borrowers based on character, cash flows, and collateral. Non-mortgage collateral should be accepted and valued at its value in use.

Although borrowers prefer disbursements in cash, they sometimes prefer repayments in kind. This helps avoid the costs of marketing. Marketing intermediaries also sometimes prefer in-kind repayment because it helps them utilize installed capacity. Although marketing intermediaries sometimes accept in-kind repayments, they usually only accept specific kinds of products. In contrast, the in-kind repayment of PSA consumption loans is completely agile and flexible; borrowers repay with whatever produce they have to whatever community organization they wish.

In some cases, individuals present effective demands for loans. In other cases, only groups are creditworthy. Lenders should be able to evaluate the creditworthiness of groups because bands of small, rural producers may substitute for large, single-owner farms.

The culture and ceremony of banking should not intimidate the customer. Buying financial services should be like buying fertilizer; the customer should not have to wash, dress up, or tip.

Like postal services, payment services should be available to all. They should imply low transactions costs and be at least as convenient as cash. In particular, small, rural households would like payment services for taxes, input purchases, and utility bills. They would also like convenient ways to receive salaries or payments for produce delivered.

2. Summary of characteristics of demand

a. Savings

Small, rural enterprises demand savings, credit, and transaction services. Savings can substitute for credit if there is access to safe savings vehicles with positive real rates of return and if the household/enterprise can save long enough to accumulate enough for lumpy cash outflows.

Saving may suffice for short, small outflows such as those for consumable inputs. But it may not suffice for large outflows such as those for non-consumable inputs such as land or tractors or for consumption such as housing or medical care. Small, rural households consume most of their low incomes, and scanty surpluses may accumulate too slowly.

Savings are not a perfect substitute for credit. Even frugal small, rural producers may never be able to save enough to accumulate the types of lumpy assets that lead to long-term increases in income and wealth. In addition, lumpy consumption expenditures may appear long before the household/enterprise has been able to build up a buffer of savings. Finally, some investments must be made now or never.

b. Credit

Lenders should evaluate potential borrowers based not only on collateral but also on character and cash flow. Not all creditworthy borrowers can offer collateral, and not all borrowers who can offer collateral are creditworthy. When lenders do require collateral, they should consider not only that its salvage value decreases the potential loss of the lender but also that its value in use increases the potential loss of the borrower.

Large, lumpy expenditures on durables may require large, long loans. Borrowers are able to repay if the expenditure generate enough additional cash inflows, given that the timing and size of repayments match the additional cash inflows. Borrowers for lumpy consumption expenditures are able to repay if they have enough cash inflows from some source, given that the timing and size of repayments match the cash inflows.

Loans linked to specific purchases are useful, but they cannot be used for all expenditures. Cash loans, especially flexible cash loans which allow the borrower to choose the timing and size of disbursements and repayments, are especially valuable for continuous consumption expenditures.

c. Payments

Cash is the quintessential payment mechanism. Cash, however, has physical existence. It must be transported, and it can be lost or stolen. The cost of transport and the risk of loss are especially important in rural areas. Payment services reduce these costs.

Checking accounts and credit cards supply agile, flexible payment services with low transactions costs. But most small, rural producers do not have access to these services yet.

ATMs and even sight deposits can also provide payment services. ATMs would facilitate payments to and from bank accounts. Sight deposits could provide payment services if households could have taxes and utility bills automatically deducted and receipts from wages or sales automatically deposited.

The next section characterizes supply. Often there is no confluence of effective supply and effective demand. Sometimes demand is missing, but sometimes there is demand but supply is missing. Box 3 describes access to financial services in rural Jujuy for some specific small, rural producers.

Box 3: Access to financial services in rural Jujuy

Along the paved road in the mountain valley of La Quebrada in the province of Jujuy about 150 kilometers from the provincial capital is an example of the utter failure of formal finance to reach small, rural producers.

Matilda and her family are creditworthy, but they cannot borrow from banks despite herculean efforts. Even though Matilda owns land and her husband is a municipal employee with a monthly salary, the BNA rejected her application for a loan to plant an apple orchard because of titling problems.

Matilda's case is not unique. Down the road Hilda owns two hectares and has two permanent employees. With the help of the PSA and other government programs, Hilda prepared 55 folders of information in support of her loan application. It did not help; both the BNA and the Banco de Acción Social rejected her applications.

Poverty

Like Hilda's family, Matilda's family is poor but not indigent. Both families own land and adobe houses; both have running water and rattletrap pick-up trucks. Matilda's son attends college in the provincial capital. During periods of peak labor intensity, the family hires workers for \$10 to \$12 a day, paying them weekly. Technically, the household may be too rich for the PSA, although it is too poor to borrow from other formal sources.

The family can borrow informally, but these loans are expensive. Truckers will sometimes deliver chicken manure on credit in exchange for the delivery of produce at harvest. According to Matilda, the intermediary commits usury by heavily discounting the price paid for the harvest. Exploitation is possible because the few intermediaries who work in the valley formed a cartel to maintain low prices. The long road to the provincial capital is rough, and damage to the produce and a lack of refrigeration further reduces the price at the farmgate.

The family can also purchase groceries and small household items on credit at a local store (*boliche*). The storekeeper records the purchases in a notebook and, according to Matilda, adds a 20 percent surcharge. The tab is paid at the end of each month.

Provincial currency

Perhaps the worst failure of the formal financial system for Matilda's family is symbolized by the currency of her husband's salary. It is paid not Argentine pesos but in provincial currency (*bonos* or *Títulos Provinciales de Financiación*). Provincial currency can be used or exchanged only at a substantial discount because it is not worth much outside the province and because the province could stop honoring it anytime.

People with bank accounts can convert 25 percent of their balance in provincial currency to pesos each month. Matilda and her family do not have a savings account; they save by improving their house. Provincial currency steals purchasing power from the poor and gives it to the province and to those rich enough to park excess liquidity for months in a bank account.

III. Financial services supplied to small, rural producers

This section characterizes financial services supplied to small, rural producers. Supply is characterized along the same dimensions as demand was. The last part of the section identifies mismatches of supply and demand.

A. Framework

Financial services include savings, credit, and payments. They are characterized by their sizes, terms, guarantees, agility, flexibility, and costs. Sizes may be large or small, and terms may be long or short. Guarantees may include traditional collateral or non-traditional characters, cash flows, or linkages. Agile services provide cash, fungible across many uses. Flexible services allow users more control over the number, timing, and size of cash flows.

Suppliers of financial services are formal or informal. Formal suppliers are either regulated or unregulated. Ownership is either public or private. Suppliers of different financial services face different levels of competition. Finally, different products face different risks.

Households and enterprises use financial services for durable and non-durable purchases for consumption and production. Enterprises may be agricultural or non-agricultural. Users of financial services incur three types of costs: price, transactions costs, and opportunity costs.

Tables 2, 3, 4, and 5 on pages 52-55 summarize the framework as applied to the supply of financial services to small, rural producers in Argentina.

This section catalogs a plethora of suppliers of finance. Most small, rural producers do not use any of them (Box 4). Some are too inflexible, expensive, or urban. Other are require too much tax compliance, transactions costs, minimum balances, or collateral.

B. Supply of savings

1. Informal savings

Households save informally by maintaining resources or claims on resources that retain some value over time and which do not also provide significant consumptive or productive services. Except for reciprocity networks and ROSCAs (Annex II), most informal savings involve only the household itself. For example, the household can hide more cash than it needs for transactions, keep more livestock than it can eat or wishes to sell, amass construction materials, buy gold or other small, high-value items, and accumulate old motor vehicles or broken household appliances.

Informal savings are better than no savings. Anyone with surplus resources can save informally. Size, term, and cash outflows to savings are completely flexible. The saver also controls the overall size and length of the savings.

Informal savings are worse than formal savings. Transactions costs are high because the saver must buy, sell, and maintain the assets used as savings. Most informal savings are not remunerative because most assets depreciate. Cash inflows from savings are inflexible, so informal savings are illiquid. Savers do choose when and how much to try to liquidate, but they must also find buyers. Distress sales usually require discounts. Not only are

Box 4: Evidence of rural finance in a World Bank survey

A World Bank survey of a random sample of rural households in the provinces of Salta and Misiones turned up little evidence of formal finance (documentation from Weims).

Savings

About 84 percent of rural households reported having no financial savings, even as cash. Only 6 of 587 households had savings accounts. Median non-zero financial savings was \$2,400, most of it stuffed in the mattress. Savings were also held in low-return, non-financial substitutes such as livestock, construction materials, stocks of food or forage, and/or social reciprocity obligations.

Credit

Formal credit was also scarce. Only 11 percent of the households had ever applied for a cash loan. About 3.5 percent had sought a cash loan in the past year, and 43 percent of those applicants were rejected. Only 2 of 587 households got a cash loan from a private bank or cooperative. Usually, frustrated borrowers thought they were rejected for lack of suitable guarantees.

Most formal credit occurred through uncollateralized purchases of consumer durables on credit by people with permanent wage employment. The average amount of these loans was about \$1,000. Usually the retailer was repaid automatically by paycheck deductions. Such credit does not require traditional collateral, but it is small, short, expensive, and inflexible.

returns—prices—low, but illiquidity also implies high opportunity costs. Emergencies or fleeting opportunities may pass before informal savings can be liquidated. Informal savings are also subject to loss or theft.

2. Formal savings

Formal savings products include sight deposits, time deposits, and ROSCAs. Except for finance mutuals (Box 5), only regulated banks supply deposits. ROSCAs (Annex II) handle very little of overall savings in Argentina. As savings vehicles, ROSCAs are costly, clumsy, and rigid

a. Sight deposits

Sight deposits are useful to both households and enterprises. They are liquid and safe. Competition among suppliers is weak, but risk is low; deposits less than \$10,000 are insured.

Sight deposits are agile, and the cash they accumulate can be used to buy durables or non-durables. Access to sight deposits can sometimes substitute for access to credit and payment services. Sight deposits are also perfectly flexible in deposits and withdrawals. Sight deposits are usually small and short, with the size and the term controlled by the depositor.

Although small, rural producers probably demand sight deposits more than any other financial service, bankers do not seem to be interested in supplying them. Banks aim their deposit services at wealthy families and businesses with savings of \$10,000 to \$20,000.

Banks do not provide sight deposits useful to small, rural producers because sight deposits are volatile and because banks do not have to scratching for funds yet. Sight deposits are volatile because they are flexible and because the public still distrusts the banking system.

Box 5: Finance mutuals

Finance mutuals supply small, rural households with financial services better than any other intermediary in Argentina. But their reach is short. Even Santa Fe where they are strongest, 300 finance mutuals handle only about 1 to 2 percent (\$700 million) of the deposits in the province.

Finance mutuals accept deposits, but they not regulated by the BCRA but by the Mutual Law of 1989. They are weakly capitalized, and Tequila knocked some out. The BCRA wants to regulate them like any other deposit-taking intermediaries; the case is in the Supreme Court. Whatever the judgement, the finance mutuals show that small, rural producers have effective demands for financial services and that those demands can be satisfied at cost-covering prices.

Reasons for success

Most finance mutuals are arms of non-financial clubs. These clubs covered many of the fixed costs of starting financial operations. The club members also knew the managers and had confidence in them. The clubs also provided subsidies until the mutual could cover its costs with its revenues.

Finance mutuals enjoy special tax treatment. They are exempt from income taxes and from one side of the VAT. Perhaps most importantly, they do not require tax compliance from their customers. BCRA regulation would change that.

Most finance mutuals are in small communities. This not only reduces transactions costs for small, rural producers, but it also allows the managers to know the customers and to tailor loans to cash flows. Finance mutuals also decrease transactions costs for clients by opening in the morning and again in the early evening.

Products

Deposits with finance mutuals earn very high interest rates because they are very risky. Their deposits are volatile, and they do not have deposit insurance nor a lender-of-last-resort. Tequila knocked out several mutuals; other are weathering standing eight-counts. They make risky loans that are expensive, small, short, often for consumption, and often guaranteed only by personal endorsements. Loans for motor vehicles, housing, and for small business are also common.

Limitations

Despite their success in reaching small, rural producers, finance mutuals have several limitations. Most importantly, they are poorly capitalized. Some have negative equity. Several mutuals could not withstand even a brief run on deposits. Deposits are short-term and potentially volatile. Problems in weak mutuals could destroy confidence in strong ones.

Although the mutuals claim that attempts to regulate them only reflect the competitive vendettas of commercial bankers, the BCRA argues that it has a responsibility to protect all depositors. Indeed, mutuals are woozy, and their collapse could precipitate a larger financial crisis. Ideally, the BCRA could protect depositors and enforce minimum-capital requirements without destroying the mutuals' flexibility, localness, and willingness to serve clients who otherwise would not have access to formal financial services.

Table 1: Terms of typical sight deposits

Bank	Type	Minimum balance	Interest rate	Monthly fee	Trans. charge	Effective minimum balance
Salta	Privatized	0	4%	0	0	\$1
Galicia	Private	0	0% <\$1,000 2% >\$1,000	\$5	1.50	\$1,000
Bisel	Private	\$100	2.5%	\$3	N/A	\$1,500
BICA	Private	\$50	3.5%	\$8	N/A	\$2,700
ArgenCoop	Cooperative	0	3.5%	\$6	N/A	\$2,000

Source: Interviews and bank advertising.

For banks, sight deposits are expensive because they involve many transactions relative to their small balances. Without ATMs, transactions are labor-intensive, but competition has not yet improved the low productivity of bank employees.

Most banks charge monthly maintenance fees on sight deposits. Some also charge fees for each deposit or withdrawal. Thus, even though some sight deposits earn interest and inflation is negligible, many small deposits lose purchasing power over time.

Not only are returns low, but tax evasion precludes access. In addition, transactions costs are high because of inconvenient bank hours and small branch networks. Continued consolidation and competition in the banking sector may increase the returns to sight deposits. High transaction costs could be reduced by ATMs and by limited-service, limited-hour branches.

Table 1 lists the terms of some typical sight deposits. Terms include minimum deposits, the interest rate for dollar accounts, monthly maintenance fees, and transactions charges. The terms imply a minimum average balance to maintain purchasing power.

Most banks do not have a minimum deposit. Annual interest rates for dollar accounts range from 0 to 4 percent. Monthly fees reach as high as \$8. Most importantly, the effective minimum balance required to maintain the purchasing power of the deposit ranges from \$1 to \$1,000 to almost \$3,000. Most small, rural producers cannot maintain balances this large.

The Banco de Salta pays the highest interest rate and charges the lowest fees. Not even the smallest deposits will shrink. Salta probably offers these terms because it cannot attract deposits otherwise (Box 18). The public is wary of the newly privatized bank because its previous incarnation had a history of freezing deposits.

In contrast, the Banco de Galicia pays the lowest interest rate and charges high fees. Deposits will shrink unless the balance exceeds \$1,000. Yet, thanks to a reputation for strength and stability, Galicia mobilizes more deposits than any other private bank.

In general, the average depositor has an average balance that is about equal to the minimum balance required to avoid shrinkage. Thus, about half of all depositors lose money because the fees exceed interest earnings. This illustrates not only the high price of saving caused by lack of confidence and by lack of competition but also the strong demand for sight deposits. Still, most small, rural producers do not incur the high costs of using sight deposits.

b. Time deposits

Banks prefer time deposits if they are large and long. They increase interest rates and cut fees for large, long time deposits. Banks want to attract time deposits because they are less volatile, involve fewer transactions, and are larger compared to sight deposits. Withdrawals are limited to small windows, and the contract automatically renews once the window closes. Thus, users of time deposits sacrifice flexibility to get higher returns.

Lack of confidence affects time deposits just as it affects sight deposits. The vast majority of time deposits are for 30 days or less. Many depositors convert their time deposits into sight deposits in December, a month with a reputation for financial crises.

Time deposits less than \$10,000 are insured. Interest rates range from 6 to 9 percent per year. Galicia, the largest private mobilizer of deposits, has a \$5,000 minimum for 30-day deposits. Minimums decrease as terms lengthen.

Time deposits are useful for saving for durables but are they probably are not useful to small, rural producers. Despite few transactions, transactions costs are high because tax compliance is required and because bank branches are distant from most rural producers. In addition, minimum deposits are high.

C. Supply of credit

1. Informal credit

a. In cash

Most small, rural producers have access to informal credit in cash from friends and relatives. While this credit is ubiquitous, agile, and flexible, its size is limited by the surplus of the lender. Therefore, informal credit usually finances non-durable purchases by households or enterprises. Terms are adjustable and prices and transactions costs are low, but the opportunity costs of indebtedness to relatives can be high. Flexible repayment terms means that risk is low. Usually the only guarantee is character.

Virtually all small, rural households have access to informal credit. But it plods unscathed past interventions. It cannot be fixed, and, in any case, it is not broken. Public policy can only hope to increase access to formal alternatives that provide a wider variety of services and/or lower costs.

b. In kind

Many small, rural enterprises have access to informal credit in kind from employers, input suppliers, grocery stores, or other producers. In-kind credit (*canje*) is barter with non-simultaneous exchange. Examples include trading groceries for the delivery of vegetables or other produce of a certain quality after harvest, one bag of seeds at planting for 2 or 3 bags of grain at harvest, dry goods for charcoal, vicuña wool for a used tractor, two future harvests for a used pick-up truck, or beef cattle for milk cows. Sharecropping (*aparecería*) is a common type of in-kind credit. The tenant pays for the land with produce after the land is used.

Box 6: Non-durable consumer credit from finance companies

Finance companies specialize in short, expensive loans to households through credit cards and credit cheques. They are not regulated by the BCRA, and so tax evasion does not preclude access. Funded by equity and commercial loans, finance companies do not account for much of consumer credit in Argentina. In particular, finance companies do not reach many small, rural producers. Still, they demonstrate that small, short, loans with non-traditional collateral are possible with appropriate technology and keen competition.

Clientele

Finance companies originally targeted urban professionals and employees of large firms. Now they consider any household with at least two salaries and a monthly income of at least \$800. They do not serve many rural and/or unsalaried clients.

Products

Finance companies provide credit cards, personal loans, and credit cheques. They cannot cash checks or collect all kinds of taxes, but they do provide payment services for utility bills and some types of taxes. Their hours are more convenient than banks, and their lines are shorter. Clients with credit cards can have bills charged automatically.

Households can use non-traditional guarantees for personal or credit-card loans. For example, the finance company might require check stubs from the borrower and another salaried household member. Enterprises must present tax numbers, not to prove tax compliance but rather to prove the existence of a going concern. Compliance with pension contributions is ignored. Households or enterprises must present electricity bills and copies of titles to land or buildings. This is not a mortgage but rather a demonstration of the intent not to skip town.

Credit cards have light guarantees but heavy costs. For example, at one finance company the annual fee for a credit card was \$40. There was a monthly fee of \$4. Half of the balance must be repaid each monthly, and the unpaid balance accrues interest at a monthly rate of 4.5 percent. Overdue balances cost 0.5 percent per day. If a household maintains a \$500 average balance and does not fall into arrears, the effective rate is nearly 6 percent per month.

Credit cheques function like credit cards but reach an even riskier clientele. During Tequila, employers reluctant to give employees advances on their salaries arranged with finance companies to provide employees with books of cheques for a fee. For example, a book of 20 cheques of \$10 each might cost \$4. Local retailers accept the cheques and cash them with the finance company. Interest accrues at a rate similar to that of credit cards, and repayments are automatically deducted from the employee's salary.

In extraordinarily isolated rural areas, in-kind credit from mobile retailers with trucks of consumer merchandise (*varanqueros*) may be the only external credit available. These retailers often have a 50 percent mark-up. This partly reflects transportation costs, credit risk, and the time value of resources, but it undoubtedly also reflects monopoly power.

In-kind credit has several strengths. Transactions costs are low, especially if the borrower and lender already have a relationship. Risks are also low. By avoiding cash, in-kind credit is armored against hyperinflation. It naturally substitutes for cash loans in places like Argentina with shallow monetization. The enterprise avoids the costs of marketing its produce. Finally and possibly most importantly, in-kind credit makes it easy to avoid taxes.

In-kind credit also has several weaknesses. It is neither agile nor flexible. While it can be used for large or small durable or non-durable purchases, it is usually available not to households but only to enterprises. Terms are fixed by production cycles, and opportunity costs are high because production and delivery obligations are fixed. Lenders often are monopsonist buyers of produce, wielding market power and fixing exploitative loan terms.

2. Unregulated, formal, private credit

Some small, rural producers have access to unregulated formal credit from private suppliers. Except for credit from finance companies, unregulated formal credit is almost always tied to specific purchases from the lender.

a. Small consumer durables

Some retailers sell small consumer durables such as furniture, electronic appliances, clothes, and shoes on credit. Stability unleashed households' demand for consumer goods, increasing overall consumer credit 177 percent from 1990 to 1993 (Berasateziu, 1994).

Installment loans for small consumer durables are a part of the Argentine psyche. This type of credit purchase is so common that prices are often quoted only in terms of the number and size monthly payments. Some credit cards even mimic their structure by giving users the option of receiving monthly bills with fixed repayments for specific credit purchases.

The loans are small and last 6 to 12 months. Transactions costs are low, and tax compliance is not required, but terms are not flexible nor agile. Although risk is high, lenders usually require only a lien on the item purchased and some evidence of steady employment. This reduces access to small, rural producers without salaries. Low transactions and opportunity costs are balanced by interest rates of 5 to 6 percent per month.

Competition forces retailers to lend (Box 7). Retailers have limited liquidity, and they often must borrow themselves to be able to sell on credit. To avoid lending, retailers are willing to pay an average commission of 10 percent to credit-card lenders.

b. Small consumer non-durables

Some small local retailers will sell small consumer non-durables such as food, medicine, or toiletries on credit. These loans are non-agile, non-flexible, small, and usually last one month. Still, they help smooth consumption and they have low transactions costs. Unregulated finance companies (Box 6) also provide credit for small consumer non-durables through credit cards and credit cheques.

Even though credit for small consumer durables usually do not require collateral or tax compliance, not all small, rural producers have access. The owners of small local grocery and dry-good stores (*bolicheros*) are wary of default. Much of whatever limited liquidity the retailers may have comes from credit from their own suppliers.

Most retailers will not sell on credit to small, rural producers without a regular salary or unless harvest is near. Most purchases are in cash even for those retailers that do offer credit. Even though many retailers do not increase the price of goods purchased on credit, some do. In addition, goods from small, local retailers are more usually expensive and of lower quality than goods at large, impersonal supermarkets.

Box 7: Credit from a supplier of agricultural inputs

Credit fuels Agroquímica San Lorenzo S.A. in Salta. International agrochemical companies provide inventory of seeds, fertilizers, herbicides, and pesticides on credit. More than 80 percent of sales to farmers are on credit with the first month interest-free. Post-dated checks are welcome. The owner attributes his entrepreneurial survival to the provision of a package of services: agricultural inputs, technical advice, and credit.

Credit from international suppliers for inventory costs 1.5 percent per month. To finance credit for customers, the owner maintains personal lines of credit with four banks. He has \$50,000 of debt on a personal loan without collateral except for the owner's character and the business' accounts receivables. He also has \$50,000 of overdrafts costing 4-6 percent per month.

Credit sales are formal even though they are uncollateralized. Any client buying on credit or with a post-dated check signs a promissory note. All new credit customers are checked through a credit bureau, although the owner distrusts the reports.

Despite the fact that credit lubricates nearly every transaction of the business, the owner dislikes lending. He provides credit because of competition from other input dealers. He has absorbed several large defaults, and he borrows at very high interest rates in order to lend to his customers. He expressed a willingness to accept credit cards and the 10 percent commission charged by the issuer in order to wash his hands of credit. He claims he lost his largest clients because offering them credit was too risky. He is trying to arrange to be paid directly by the intermediaries who receive deliveries of the harvests of his debtors.

Credit is both a boon and a bother in the business. The owner would gladly pay fees to have credit-card issuers bear the risk transactions costs of lending. At the same time, the owner cannot borrow from banks at the preferred rate of 1.5 percent per month without mortgaging his home even through the business has about \$2.8 million in equity.

c. Producer non-durables

i. Credit from input suppliers

Many small, rural producers have access to credit from retailers of agricultural inputs. Retailers who do not also market agricultural produce usually collect cash after the harvest. Retailers who also market produce usually deduct debt repayments from payments for the delivery of produce after harvest. Sometimes even retailers who do not also market produce can have their repayments deducted automatically by marketing intermediaries. Some retailers also accept post-dated checks or money orders to rediscount at banks.

On the one hand, repayment by deductions from committed deliveries not only reduces transactions costs but also acts as a guarantee that reduces risk. On the other hand, repayment by deductions from committed deliveries increases opportunity costs because producers must sell at harvest when prices are lowest to specific intermediaries who may try to fix prices, especially since supplier credit often carries no explicit interest rate.

Just as with credit from retailers of small consumer non-durables, credit from input suppliers is driven by competition (Box 7). Input suppliers who also process agricultural products also supply credit in order to guarantee better utilization of their installed capacity.

Box 8: The Special Tobacco Fund

The Special Tobacco Fund (*Fondo Especial de Tabaco*) helps tobacco farmers secure loans for non-durable inputs. The FET allocates the revenue from a tax of 7.2 percent on cigarettes to all registered tobacco farmers according to estimated production. The tobacco farmers receive their allotment in monthly installments over the year as the tax is collected. The total subsidy is estimated at about \$320 per hectare, about 10 percent of the estimated variable costs of \$3,746 per hectare. In the 1996-1997 season, the FET will distribute about \$10 million.

The FET allotment facilitates borrowing by providing tobacco farmers with some demonstrably steady, secure income. Just as importantly, the administrators of the FET pay the creditors of a tobacco farmer before paying the tobacco farmer. These creditors can be implement dealers or commercial banks, but usually the creditor is the FET itself. Advances from the FET are attractive because they are in cash, are not monitored, and do not accrue interest. Repayments are automatically deducted from the debtor's FET allotment at harvest and in the months after. All tobacco farmers have a right to participate in the FET, and all tobacco farmers take advantage of the generous terms, even if they do not need financing.

As in most other cases of non-bank, non-consumer loans, FET loans are tied to transactions in a non-financial market, in this case, to the delivery of tobacco. If the tobacco farmer remains a tobacco farmer, repayment is certain.

Effects on tobacco market

The FET affects the tobacco market. The tax increases the price of cigarettes for smokers, decreasing the quantity of cigarettes purchased in Argentina. The subsidy, paid out of the tax, increases the price received by tobacco farmers, although not by as much as the price is increased for cigarette smokers. This increases the quantity of tobacco produced in Argentina.

Since production increases and local consumption decreases, more tobacco is exported. This decreases the international price of cigarettes. In the end, the tax/subsidy scheme increases foreign-exchange earnings in Argentina, increases the earnings of Argentine tobacco farmers, decreases smoking in Argentina, and increases smoking in the rest of the world.

Credit from input suppliers has limited agility and flexibility. The size is tied to the input purchase, and the term is tied to the production cycle. Supplier credit is useful only to producers who buy inputs and/or who sell to marketing intermediaries. While formal written contracts are not uncommon, tax compliance and formal collateral are not required.

ii. Credit from agricultural cooperatives

Agricultural cooperatives supply inputs and market produce. In general, corruption and bad management has reduced the importance and scope of agricultural cooperatives. Still, they still handle about 85 percent of Argentina's grain.

Some agricultural cooperatives still provide financial services, although to a lesser extent than in the past. These cooperatives lend for non-durable agricultural inputs against the promise of delivery of harvest. Farmers have a universal account that pays interest of 1 to 2 percent per month on positive balances and charges interest of 2.5 to 4.5 percent per month on negative balances. Payment upon delivery of the harvest increases the account balance just as credit purchases from the cooperative decreases it.

Some cooperatives also sell groceries, clothing, and other consumption items on credit through the universal account. No cooperatives lend cash for unlinked expenditures or for purchases outside of the cooperative.

Loans through universal accounts with cooperatives carry low transactions costs because application procedures are simple, disbursement is quick, dispositions of assets are not required, and tax evasion is ignored. Loans through universal accounts carry fairly high prices and high opportunity costs due to the obligation to deliver to the cooperative at a given time. Most farmers are associated with only one cooperative, so competition is low. As with other linked finance, default risk depends only on ability to pay because willingness to repay is moot.

Cooperatives offering universal accounts and consumer goods as well as agricultural inputs can effectively satisfy the demand of an agricultural household for financial services. But these cooperatives are not common, and they serve relatively large rural producers.

iii. Credit from tobacco processors

Tobacco cooperatives differ from general agricultural cooperatives only in that they also process the produce and that they offer farmers a package inputs, technical advice, and credit.

Tobacco is high-value, input-intensive, and concentrated in space. A two-hectare tobacco farmer is small for a tobacco farmer but not small in terms of access to financial services.

Growing tobacco requires many large cash outflows before cash inflows. One hectare of tobacco requires 160 person-days of manual labor over several months in addition to fuel, fertilizer, pesticides, and other inputs. Tobacco processors lend both in kind for inputs and in cash for wage payments against the delivery of a certain quality of tobacco at harvest. Cash loans cost 13 percent per year, but in-kind loans carry no interest.

Tobacco farmers in Salta and Jujuy do not lack of access to credit. Each of the four processors will advance up to 25 percent of the estimated expenditures of the crop. In addition, independent input suppliers sell on credit, and the FET (Box 8) not only lends itself but also provides other lenders such as implement dealers or commercial banks with automatic deductions from a nearly certain cash flow. Many tobacco farmers can borrow from the BNA for durable expenditures.

Access results from strong international demand for tobacco and from competition among processors. Expanding production means converting farms to tobacco, and the convertible farms are smaller than existing tobacco farms. Getting satisfactory quality requires boosts from credit and technical assistance. Still, small tobacco farmers are larger than small farmers in general.

iv. Credit from NGOs

NGOs have at least four advantages in the supply of financial services to small, rural households. First, their costs are low because they are unregulated, tax-exempt, and often funded by donations. Second, they are flexible organizationally and can adapt to local conditions and to grassroots demands. Third, they have experience with organizing groups, and group-based financial technologies may decrease the costs of supplying finance in rural areas. Fourth and finally, they do not spurn tax evaders or insist on traditional guarantees.

Thus NGOs can make agile, flexible loans based on appropriate evaluations of creditworthiness. The best financial NGOs do not distinguish between the household and the enterprise. The lack of collateral limits them, however, to small, short loans.

Box 9: FONCAP, an apex to strengthen finance NGOs

FONCAP would strengthen NGO microfinance organizations. It would be the private administrator of an endowment of \$60 million from the Secretary of Social Development. The government could own only 49 percent of the administrator, and it is thought that international organizations such as CGAP or Acción International would own the rest and would lend their experience and hard-nosedness to its governance.

As an apex wholesaler, FONCAP would lend its endowment to retail microfinance NGOs. Since Emprender (Annex I) is the only existing creditworthy retailer, FONCAP would use the earnings of the endowment to buy technical assistance to strengthen fledgling NGOs. These institution-building subsidies would decrease on a fixed schedule, motivating NGOs to become self-sufficient.

Strengths

The idea behind FONCAP has several strengths. It recognizes that an apex is only as strong as its borrowers. It also recognizes that since those borrowers do not yet exist, they must be developed. It plans to take advantage of international experience by promoting technologies proven elsewhere. It hopes to curb political lending through a quasi-private ownership structure. Its director was a private banker and worked with Emprender.

Weaknesses

Despite these strengths, there are doubts about FONCAP's possible effectiveness. In the first place, it does not formally exist yet. There is no guarantee it will receive the \$60 million proposed endowment. Furthermore, there are no firm commitments from the would-be international shareholders. In any case, the international shareholders would not be individuals with their own resources at stake. The Argentine government could dominate the board even with minority ownership because 51 percent divided between many owners is sometimes less than 49 percent controlled by one owner.

It is not clear if FONCAP espouses market principles. Its theoretical framework is mumbo-jumbo, and it does not seem committed to cost-covering pricing. For some reason, only NGOs would be eligible partners. No one knows if FONCAP can find and hire personnel capable of strengthening a gaggle of freshman microlenders. Finally, the budgeted administrative costs are enormous: \$1.5 million per year.

The best example of the potential of NGOs as suppliers of financial services in Argentina is the urban NGO Emprender (Annex I). It adopted a proven technology, kept its focus, avoided fads, and charges prices that almost cover its costs. Still, its technology imposes excessive transactions costs on users, it reaches few clients, and it is not self-sufficient. Like all NGOs, Emprender is not regulated and so cannot mobilize deposits.

For a variety of reasons, NGO finance has not mushroomed in Argentina as elsewhere. Donors prefer lower-income countries. Argentina itself took time to recognize its pockets of poverty. Political concern with unemployment usually precedes waves of NGO finance, but unemployment became critical only recently in Argentina. Finally, some early attempts at finance by NGOs failed utterly.

There are perhaps 30 NGOs in Argentina supplying financial services (Fiorentino, 1996). FONCAP (Box 9) hopes to nurture and strengthen them. From the point of view of small, rural producers, however, financial NGOs might as well not exist. This will not change for years, even if FONCAP is unusually successful.

3. Unregulated, formal, public credit

Argentina has some special credit programs. In general, those administered by the government have reached many small, rural producers but have high arrears. Those administered by banks have not reached many new small, rural producers but have low arrears.

a. PSA

The PSA is a special government credit program targeted at small, rural producers throughout Argentina. Beneficiaries must meet five requirements. First, they must own a small amount of land. This rule excludes wealthy households, but is also excludes landless agricultural laborers, the largest and the poorest category of rural households.

Second, household income must be less than about \$600, twice the monthly wage of unskilled agricultural labor. This implies an income of about \$5,000 per year per household. Per capita income in Argentina is about \$8,000 per year, so the PSA targets poor families.

Third, the household cannot hire permanent labor. Many PSA beneficiaries do hire temporary labor when, for example at harvest, agriculture demands a lot of labor in a short time. But PSA households are not *patrónes*; most also work for wages during some seasons.

Fourth, household assets must be less than \$20,000, including tractors and vehicles but not land, housing, nor livestock. In practice, wealth varies. Most PSA households own their house and some basic appliances such as electric refrigerators or gas stoves. Some also own old tractors or cars that may not work. At least one PSA household was headed by a government pensioner who ran a small convenience store (*boliche*).

Fifth and finally, potential beneficiaries must organize themselves in a group, choose an extension agent, and present agricultural projects for financing and technical assistance.

The program reaches about 21,000 people via about 2,100 groups of about 10 people each. Berger (1996) estimates that 160,000 households would qualify for the PSA. Unlike most medium and large farmers, PSA farmers have not had government credit before. Most have had, however, government subsidies. For good or ill, PSA borrowers are used to subsidies, not loans (Box 10).

i. Lending technology

The PSA makes two kinds of loans. The first kind is for working capital or investment and may be as large as \$1,200. Price and opportunity costs are low. Interest rates are 4 or 6 percent per year. Working capital loans are usually repaid in one year, but investment loans can last up to seven years, with one year of grace.

Upon disbursement, the borrowers themselves fix the dates of repayment to match their anticipated cash inflows. For example, fruit orchards generate revenue once a year and so have annual repayments, but goats give birth twice a year and so have semiannual repayments. Repayments are made in cash in banks, but often the extension agent combines the group's payment with other errands.

The second kind of loan is for consumption and usually does not exceed \$100. Repayment is flexible. Borrowers must repay, but they can repay in cash or in kind. Repayments

Box 10: A PSA borrowing group in Cachi, Salta

With an river running through it and an irrigation system built in the era of haciendas, Cachi, Salta is a green oasis at the end of 200 kilometers of an unpaved road that begins in the provincial capital and winds through forsakenly beautiful river valleys, cactus deserts, and rocky hills. Rene Reyes farms there and belongs to a PSA group.

Even though the Banco de Salta has a branch less than two kilometers away, Reyes does not own a savings account. When there is a good harvest and good prices, he saves by buying real goods. He has bought a television, a VCR, and a refrigerator. In one good year, he bought a beat-up pick-up truck. The truck might not be able to carry an ill child to a doctor, but it could be sold to finance other transportation.

The government redistributed 5 hectares to Reyes' father in 1956. Reyes' father, however, redistributed this land among his nine children. Reyes farms all the land in a sharecropping arrangement with his migrant siblings. But he cannot mortgage the land, and so he probably could not qualify for a bank loan.

The PSA loaned Reyes \$1,200 to buy seeds, tools, fertilizer, and pesticides to plant peach and plum trees on one-fourth of a hectare. The other six members in Reyes' group borrowed for pears, apples, and walnuts. The loans are for seven years with an annual interest rate of 3 percent.

Reyes paid \$72 in the first year, \$36 for interest on the loan for fruit trees and \$36 of interest on a previous PSA loan for a garlic project that went bad. The second installment this year includes \$72 of interest and \$12 of principal. The timing of principal repayments is matched to the gestation of the fruit trees.

The PSA group

Reyes' PSA group congealed from a larger association of 100 farmers. The group formed with the hope of gaining access to finance, technical assistance, group-owned machinery, and group marketing. Members are supposed to be liable for each others' debts, although no one has repaid anyone else's debt yet.

The PSA group owns and operates a small fruit processing plant that was donated two years ago by the GTZ and others. Members of the group donate their labor to process peaches in the plant, although they have yet to turn a profit because they are paying 12 years of backtaxes that had accumulated on the building and its land, water, electricity, and sewer. One year of peaches covered four years of taxes, so the group hopes to be free of tax debt in two years. The members themselves, however, evade taxes.

go not to the PSA but to local community organizations such as schools or medical dispensaries. This not only reduces transactions and opportunity costs, but it also creates a social asset as the community owes a debt of gratitude to the group.

Working capital/investment loans have been used to buy several beehives and beekeeping equipment, a small grain mill, the removal of tree trunks from land to be planted to agriculture, livestock, or a tub to kill parasites on cattle. Consumption loans have been used to buy laying hens, sugar for candy, one beehive, medical care, or a sow.

Both types of loans are made through groups that, at least in theory, assume joint-and-several liability for each others' debts. In practice, The PSA seems to overlook default by some

Box 11: Sources of cash for repaying PSA loans

The cash inflows from PSA-financed projects may not cover repayments. This could occur because PSA households do not have opportunities with cash flows that could cover even the low, flexible payments of the PSA. It could also occur because households and extension agents make poor technical choices for projects. In any case repayments must often be financed partly by cash inflows from activities not funded by the PSA.

For example, a group of woodcutters in Santa Fe sold three veal calves for cash to pay an agroforestry loan. In another group, beekeepers with \$1,100 of debt can produce about 600 liters of honey in a year. At \$3 per liter, revenue is \$1,800, leaving little to compensate the household's labor. Likewise, a group that built a tub to deparasitize cattle has an annual repayment of \$2,800 but earns \$4,000 a year, not counting labor costs. Last year, the group sold veal calves to meet their repayment. This year, like the beekeepers, they asked for a deferment.

In Salta, one farmer borrowed \$400 for inputs for two plantings of one-fourth hectare with kidney beans (*porotos*). If harvest is good, each planting should produce 10-15 bags worth about \$20 each. The total income of \$400 to \$600 is barely enough to pay the loan, let alone the costs of labor and other non-financed inputs.

members as long as repeat borrowers repaid their personal debts. The PSA also forgives and refinances entire groups if it believes that default was involuntary. The PSA has incentives to forgive default because it has made big investments in forming the group.

ii. Strengths

Both types of PSA loans are agile, flexible, and inexpensive. They are small, yet long for their size. Even though the PSA is a government program, it ignores tax evasion. No collateral is required beyond participation in the group. Credit is coupled with unusually capable technical assistance. In fact, many groups may view borrowing as a way to access technical assistance, rather than vice versa.

Overall, PSA loans reach small, isolated farmers with loans well adjusted to their cash flows. The consumption loans may also open some access to credit to women.

iii. Weaknesses

The PSA has several weaknesses. It reaches only 21,000 households. Technical assistance is tied to the amount loaned, tempting extension agents to encourage groups to apply for the largest loans possible. Disbursements can be dangerous and politicized; Berger (1996) notes that cash is transported from the capital to the provinces, and the director of the PSA in one region hands out loan checks personally.

The transactions costs of the group-based lending technology are staggering, especially if borrowers do not value the technical assistance. For example, the group meets with the extension agent 10 to 15 times before the loan is disbursed. In many cases, cash inflows from financed projects were not enough to cover loan repayments (Box 11).

Arrears are atrocious. The PSA has tried to reduce arrears by the slowing the addition of new groups and by avoiding projects, such as horticulture, with exceptionally poor repayment histories. In addition, average loan size and term have also been reduced.

The PSA does not track arrears well. The national office did not provide arrears data, and it can take up to five months to determine what groups have paid (Berger, 1995). The program does not know what consumption loans have been repaid at all. Even the accounting system of the PSA counts disbursements as expenses, not as assets, as if recuperation is not expected. The available evidence suggests that up to 75 percent of the principle outstanding may be at risk.

In practice, the PSA is less of a credit program and more of a subsidy program. There is nothing wrong with subsidy programs, given that targeted households often do not have opportunities that generate cash flows that would enable repayment even though loans are cheap, flexible, and uncollateralized. But subsidy programs should not be called credit programs.

As a subsidy program, the PSA has performed remarkably well. With \$4.5 million of administrative expenses, it has disbursed \$14.5 million to beneficiaries and paid for \$4 million of highly valued extension. Given the poverty and ruralness of these households, this ratio of outputs to costs is not too shabby.

b. PPRNEA

The PPRNEA is a special credit program financed by IFAD and the IDB. It targets small, rural producers in the provinces of Chaco, Corrientes, Formosa, and Misiones in the NEA region.

Compared to the PSA, the PPRNEA targets wealthier households with larger, longer loans. PPRNEA households may own up to 25 hectares, and loans may be as large as \$4,000. Borrowers have 10 years to repay, with four years of grace.

Like PSA loans, PPRNEA loans have low prices, low opportunity costs, and high transactions costs. Borrowers must form solidarity groups and receive technical assistance coupled with the credit.

Unlike the PSA, the PPRNEA requires collateral and handles both disbursements and collections through banks. Loans are directed toward technological modernization rather than toward traditional production and consumption.

The PPRNEA hopes to introduce small, rural producers to banks. This goal seems to have backfired for two reasons. First, banks refused to accept payments of less than \$50 on behalf of the program. Instead, groups must open sight accounts and accumulated lumpy sums that will be automatically deducted. These sight accounts raise the price of credit because they carry monthly fees of \$10. Second, arrears in the PPRNEA are probably even worse than in the PSA. Banks are learning that small, rural producers are uncreditworthy.

Like the PSA, the PPRNEA is less of a credit program and more of a subsidy program. Unlike the PSA, however, the PPRNEA provides its subsidies inefficiently and to fewer small, rural producers. With a budget of about \$20 million, the PSA lent to more than 20,000 households. With a similar budget, the PPRNEA hopes to reach 4,800 households.

c. The micro-global of the IDB

The IDB micro-global program started in 1994 with the goal of providing access to large, medium-term loans to small businesses. The program operates through private, regional banks outside of Buenos Aires. These banks participate in order to get cheap (interest is about 10 percent per year), long-term funds (4 years). Participating banks are often on the ropes financially and are therefore unusually desperate for long-term funds.

Micro-global loans are targeted to small businesses. Borrowers must have fewer than 20

employees and annual gross revenues of less than \$200,000. Loan size is capped at \$20,000, and the average loan for a given bank must be less than \$10,000. The program has disbursed 8,000 loans for a total of \$57 million.

The average loan has been for \$7,125, although the distribution is skewed; 80 percent of loans have been for less than \$10,000, and 20 percent have been for less than \$5,000 (Programa Global de Crédito para las Micro y Pequeñas Empresas, 1996a). Loans are not targeted by sector nor sex. Women received 18 percent of the loans; agriculture received 11 percent (*ibid.*, 1996b).

The micro-global worked through banks, and banks usually require collateral of mortgages, pledges, or endorsements of real estate. Banks are regulated, so tax evaders are not eligible. Annual interest rates are capped at 16 percent per year. Similar loans without the benefit of the funding of the micro-global would probably cost borrowers 20 percent or more.

Most borrowers were attracted to the program by the low interest rate (*ibid.*, 1996b). This fact, combined with banks' collateral requirements, suggests that borrowers who did not borrow from banks before the micro-global program were probably constrained not by lack of collateral but by high interest rates. In turn, this suggests that at least some of the lack of access for this niche results not from a lack of effective demand but from a lack of effective supply caused by unreasonably high costs caused by inefficiency and lack of competition.

Performance has been encouraging in that the program has increased the size and maturities of some loans to small businesses while keeping arrears under 10 percent

Performance has been discouraging in that the micro-global portfolio is not a significant proportion of the overall portfolio at any participating bank. Banks have not opened departments specialized in this niche. Additionality has also been disappointing; 77 percent of micro-global clients were already bank customers, and about 50 percent had already borrowed from the bank (*ibid.*, 1996b). Few small, rural producers were reached, and the borrowers were hardly poor.

d. Others

Some other special credit programs lend to organizations that then on-lend to final borrowers. The IDB lends to several cooperatives of small farmers who then on-lend to their members. The Ministry of the Interior has a credit line for municipalities which then on-lend to local borrowers. These programs are small. They reach few small, rural producers.

Other public organizations do not lend but rather attempt to help small, rural producers identify projects and apply for financing. Cambio Rural and the Unidad de Minifudios do this for small farmers, and FINAGRO does this for large farmers.

4. Regulated credit

Public and private banks supply regulated credit. The BCRA requires all regulated intermediaries to check that their customers are in good standing with the tax authorities before borrowing or opening any type of account. This, more than anything else, blocks access to formal financial services from banks for small, rural producers.

This is unfortunate. Regulated banks have the most branches. They offer a wider gamut of services than any other intermediary. They mobilize deposits and offer deposit insurance. They also offer current accounts which can provide savings, credit and payment services all at once.

a. Credit cards

Credit cards are offered by banks, unregulated finance companies, and unregulated credit-card companies. Although the one-shot transactions costs of establishing creditworthiness

are high, the on-going transactions costs of using a credit card are low.

Credit cards are widely accepted, at least by large, formal retailers. Credit cards are also widely used, at least by salaried members of the upper and upper-middle classes (World Bank, 1994). In spite of retailer fees that average 10 percent of the credit purchase, retailers are driven to accept credit cards by competition combined with the hassle and expense of providing credit themselves (Box 7). Although credit-card debt is a significant amount of overall consumer credit, most credit cards seem to be used not for credit but for transactions convenience and for prestige.

Credit cards imply low opportunity costs because they are agile and flexible. The borrower chooses what to buy, when to borrow, and the amount to borrow. A common credit limit is 80 percent of monthly income. Subject to monthly minimums, the borrower also chooses the sizing and timing of repayments. Households or enterprises can use credit cards to buy almost anything except large durables.

Credit cards are risky because they are uncollateralized. Default is high, so prices are high. Annual interest rates are about 40 percent for pesos and 20 percent for dollars. Annual fees of \$50 and/or monthly fees of \$10 are not uncommon. In some cases, users must visit the issuer because bills are not mailed. In other cases, grace periods are 12 days rather than 30. Banks often collect additional fees by linking access to credit cards to ownership of savings accounts and current accounts. Competition is only beginning to reduce the extraordinary profits of issuers.

Banco de Galicia is an example credit-card issuer. It requires an unusually low minimum monthly income of \$500. In contrast, Banco Bisel requires a monthly income above \$8,000. Galicia charges retailers 1 to 10 percent of the amount financed, depending on the retailer's bargaining power. Interest is 3.5 percent per month, and the annual fee is \$65. If a user maintains a \$500 average balance, the monthly effective interest rate is about 4.5 percent.

If small, rural households had access to credit cards, they would probably use them for transactions convenience and to finance purchases of fuel, non-durable production inputs, and some small consumption items. But most small, rural households do not have access to credit cards. They cannot and/or will not demonstrate steady monthly cash inflows, bear the transactions costs of proving creditworthiness, nor pay taxes and high prices.

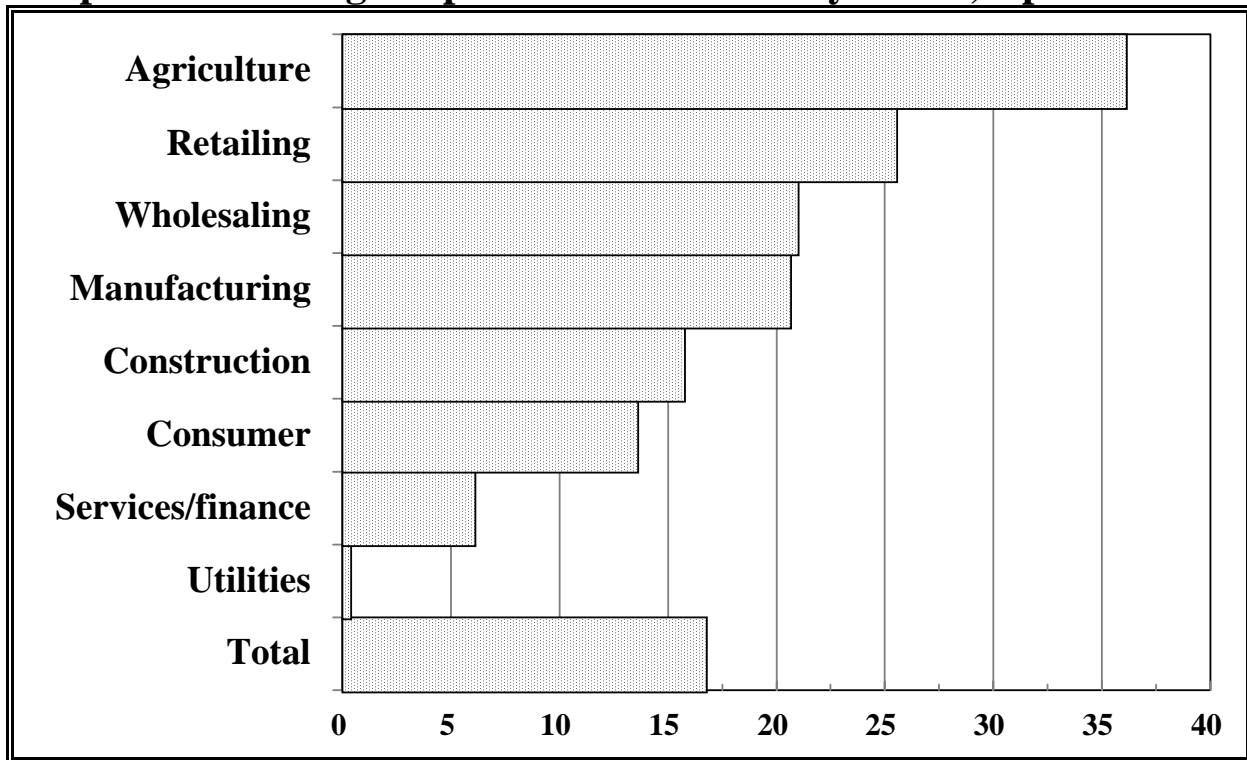
b. Overdrafts

Overdrafts function like credit cards except that they may provide larger lines of credit, are more widely accepted, and do not imply fees for retailers. Transactions costs are low once the user has sunk the high initial costs of qualifying for the line of credit and opening a current account. Overdrafts are agile and flexible, so opportunity costs are also low.

As with credit cards, prices are high. Besides interest rates on negative balances comparable to those of credit cards, current accounts with positive balances usually do not pay interest. Whatever the balance, current accounts carry both monthly fees and transactions fees. For example, Banco de Galicia charges fees of \$10 per month and of \$1.50 per check. Its interest rate is about 34 percent per year.

Overdrafts are a fairly common form of consumer credit. Still, they are not for the poor, who usually do not have access to current accounts to begin with. In addition, banks require users to demonstrate large, steady monthly incomes. Galicia, for example, requires a minimum monthly income of \$1,200.

Graph 1: Percentage of portfolio in arrears by sector, April 1995



Source: ADEBA, 1995.

c. Personal credit

Personal credit from banks involves small, short, cash loans guaranteed not by collateral but by character and cash flows. Usually monthly income must be four times larger than the monthly repayment. Although a mortgage is not required, the potential borrower must demonstrate an intention not to skip town by proving ownership of real estate.

The size and length of personal loans limits them to purchases of non-durables by either households or enterprises. Flexibility, risk, and transaction costs are moderate, and prices are high.

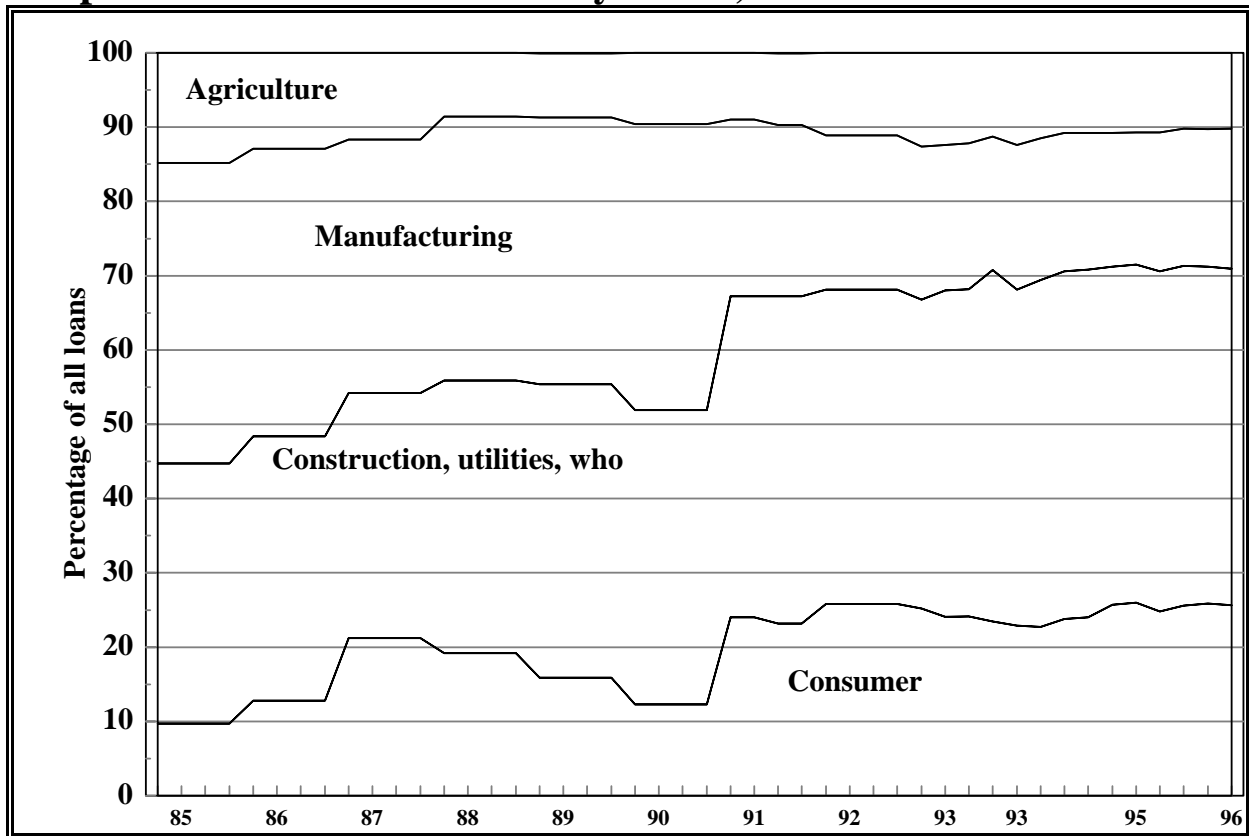
Personal loans may be accessible to some small, rural producers because the sizes are small; the average one from Banco Bisel is about \$2,000. In addition, non-traditional collateral is used. But tax compliance is required, and most small, rural household cannot demonstrate large, steady cash inflows.

d. Agricultural loans

Three facts describe bank loans for agriculture in Argentina. First, the portion of agricultural in the overall portfolio has fallen recently. Second, most agricultural loans are concentrated in La Pampa. Third, most agricultural loans are concentrated in public banks.

Although other factors matter, risk is the most important explanation for each of these three facts. Agriculture has high arrears relative to other sectors (Graph 1), and this risk and the three facts mentioned above combine to explain why few small, rural producers have access to bank loans for agriculture.

Graph 2: Distribution of loans by sector, 1984-1996



Sources: ADEBA, 1995 and 1993; BCRA, 1996d.

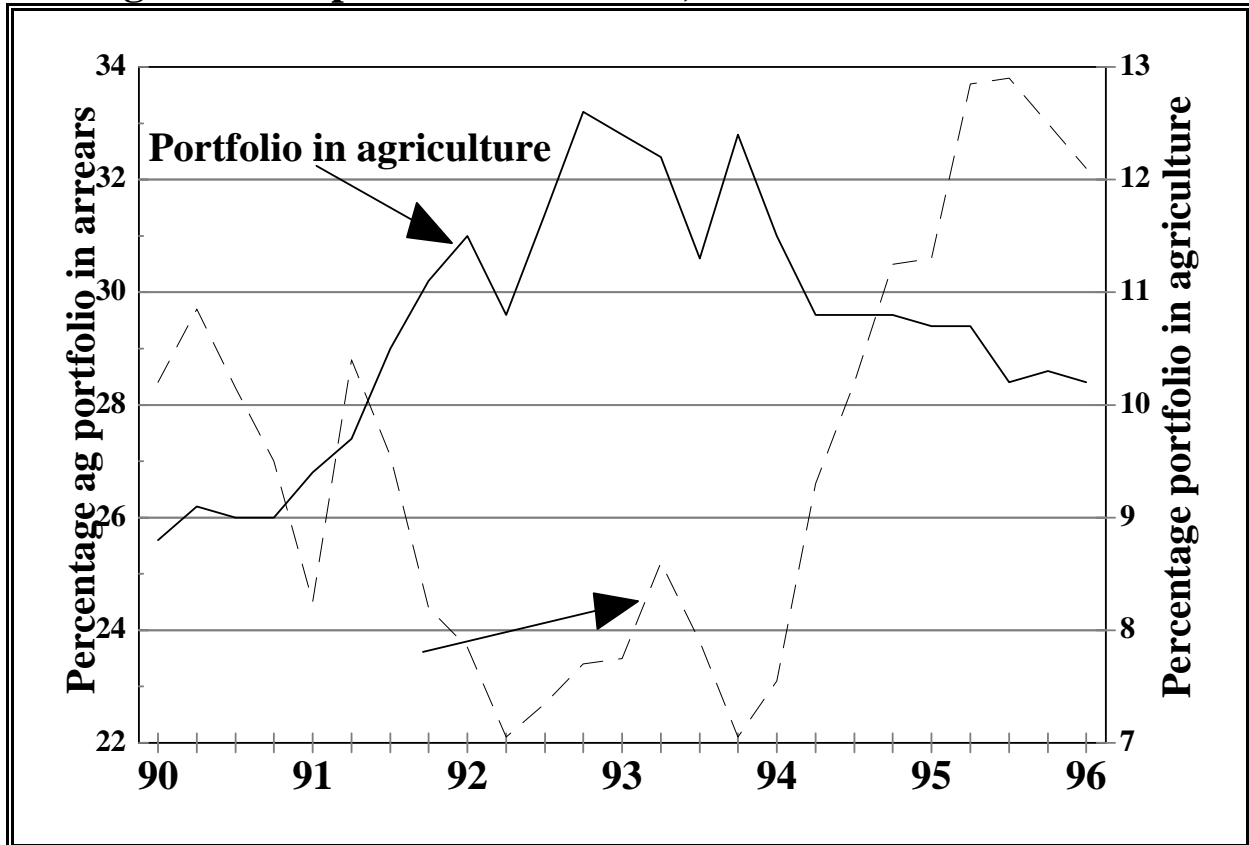
i. Share of the overall portfolio

Since 1985, the share of agriculture in the overall portfolio has hovered between 9 and 15 percent (Graph 2). This share was virtually unaffected by the sharp increase in consumer lending in the middle of 1990. Almost all of the share of the portfolio claimed by consumer lending was taken from the share of lending to manufacturing.

Since Convertibility, however, agriculture's share has increased from a low of 9 percent in 1990 to high of about 12.5 percent in 1993 before decreasing to barely 10 percent in 1996 (Graph 3). Although the initial increase in the share of consumer lending was absorbed almost completely from the share of manufacturing, after 1991 the movements in the share of agriculture seem to roughly follow the movements in the share of consumer lending (Graph 2).

Concerns that lending once destined for agriculture are being diverted to consumption are probably unfounded. Movements in agriculture's share of overall lending seem to depend mostly on movements of agricultural arrears. In particular, arrears were high in 1990-91, fell from 1992-1994, and skyrocketed in 1995-96 (Graph 3). These changes mirror those of the share of agriculture in overall lending.

Graph 3: Percentage of portfolio in agriculture and percentage of agricultural portfolio in arrears, 1990-1996



Source: BCRA, 1996d.

ii. Concentration in La Pampa

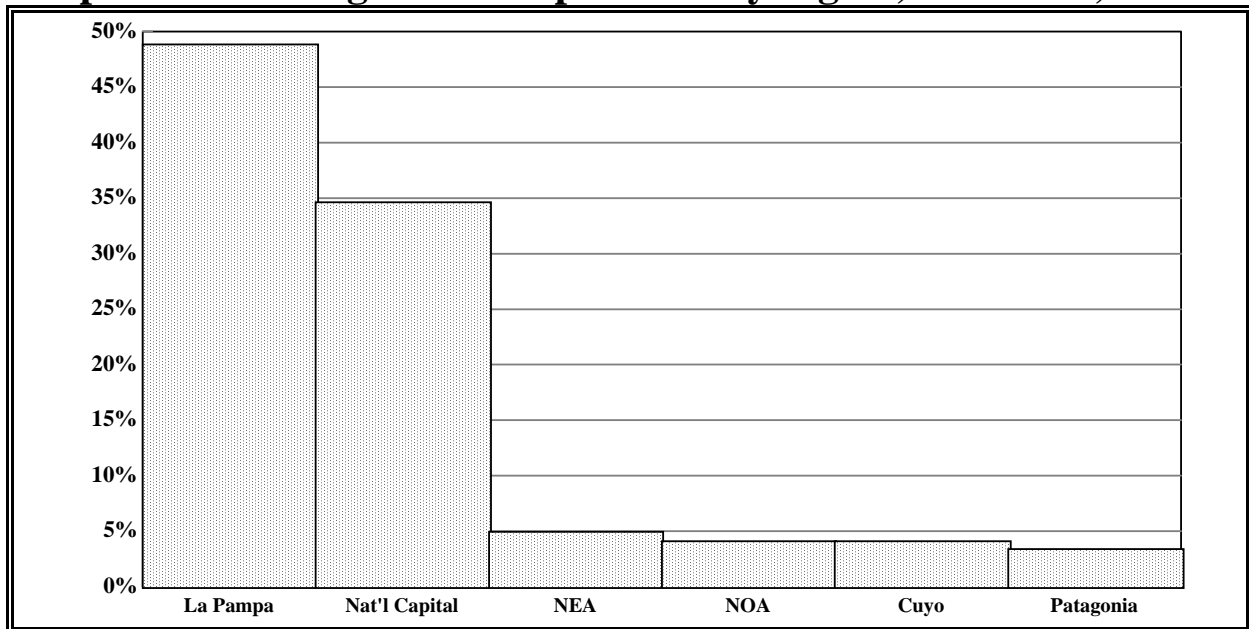
Almost 85 percent of agricultural debt is in the region of La Pampa, including the national capital (Graph 4). Although some of the agricultural credit assigned in the capital undoubtedly is used in enterprises in the non-Pampian interior, any division of this credit among the regions for this analysis would be arbitrary and would not affect the pattern of concentration.

Risk also explains the geographic concentration of agricultural loans. Except for the NEA, agricultural portfolio in non-Pampian regions have more than double the rate of arrears of La Pampa and the national capital (Graph 5). Agricultural lending is concentrated in La Pampa not only because most agricultural production is concentrated there but also because lending there is less risky.

iii. Concentration in public banks

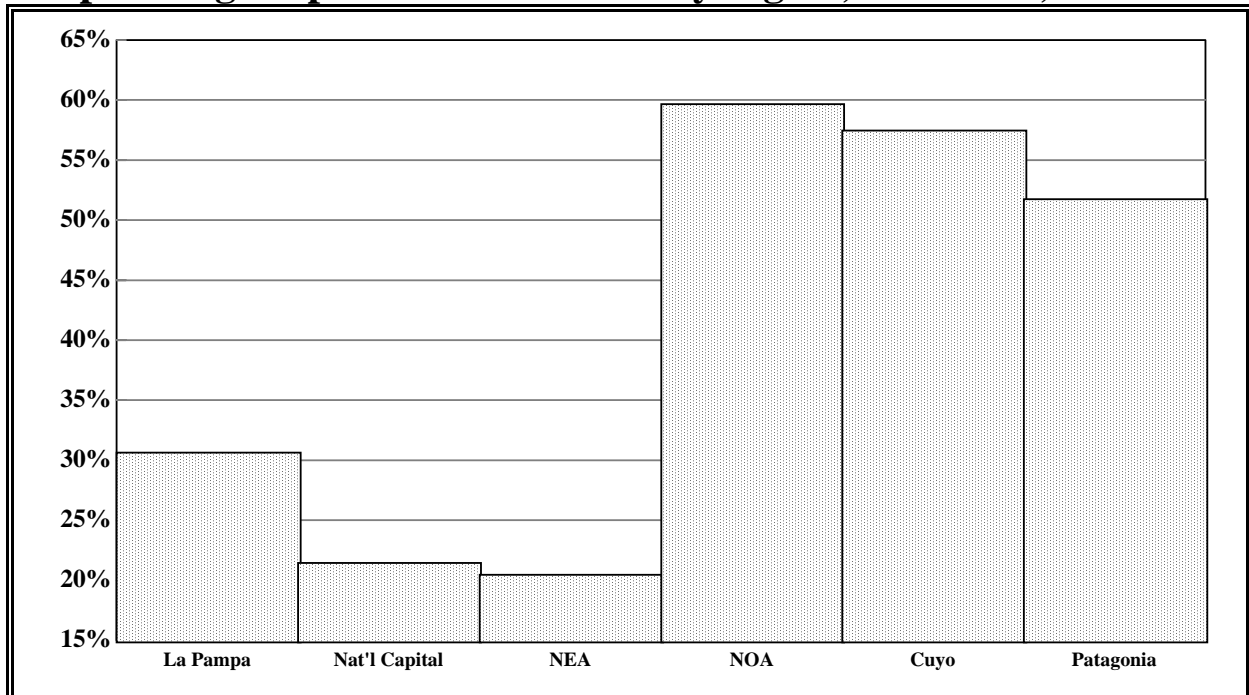
Most farmers, be they large or small, with access to loans for agriculture borrow from public banks (Graph 6). Private banks lend only to the best and the largest farmers. For example, Banco de Galicia makes what it calls small agricultural loans of \$100,000 to farmers who mortgage land and who qualify for the prime rate.

Graph 4: Dist. of agricultural portfolio by region, March 31, 1996



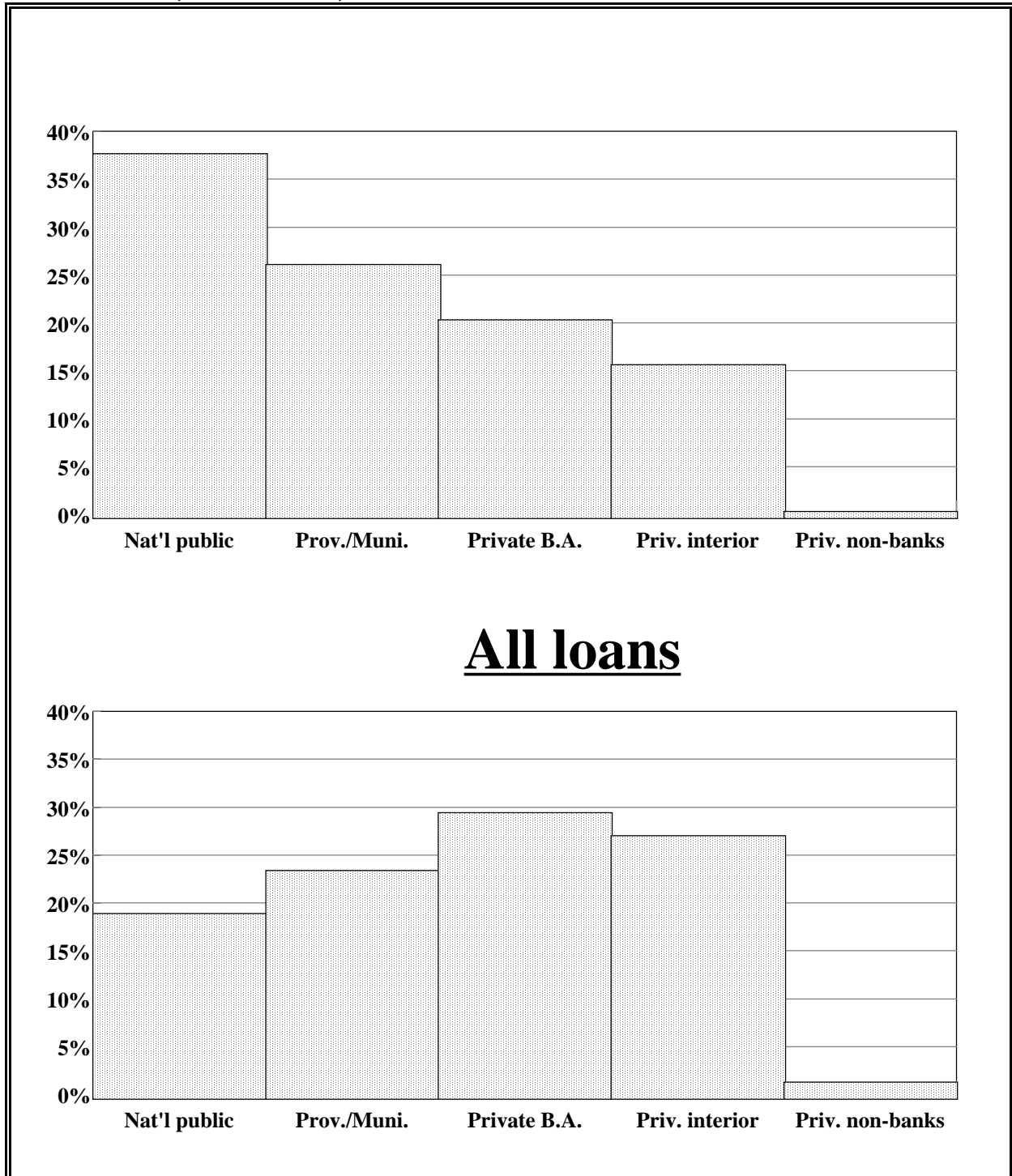
Source: BCRA, 1996d.

Graph 5: Agric. portfolio in arrears by region, March 31, 1996



Source: BCRA, 1996d.

Graph 6: Distribution of agricultural loans and of all loans by lender, March 31, 1996



Source: BCRA, 1996d.

Box 12: BNA mortgage bonds for agriculture

Mortgage bonds (*cédulas hipotecarias*) account for about one-fourth of the agricultural portfolio of the BNA. More than \$1.1 billion have been issued against mortgages of land and without any other analysis. Repayments are annual, terms may be for up to seven years, and the interest rate is pegged to LIBOR plus two percentage points. There is also a 2 percent commission.

Few small, rural producers have mortgage bonds. About 70 percent were used to refinance debts, and most small, rural producers did not have any bank debt to refinance. The remaining 30 percent financed new investment. The investment loans have been collected much better than the refinancing loans.

Public banks held more than 60 percent of agricultural debt and about 40 percent of all debt. Agricultural finance is concentrated in public banks because agriculture is extraordinarily risky and because large farmers wield extraordinary political power because they are a small, well-defined group whose lifestyles represent a myth sentimentalized by all Argentines.

Public banks are sensitive to political influences and so are willing to lend to less creditworthy customers. Even though public banks lend to worse borrowers, they charge less interest than private banks (interview with Bartoletti). Thus, the concentration of agriculture with public banks results not from excessive conservatism by private banks but from excessive liberalism by public banks.

The BNA is the largest public bank and the most important agricultural lender. Most small, rural producers who have bank loans have them from the BNA (interview with Nava). Still, the average size of the 64,000 loans in the BNA's \$4 billion agricultural portfolio is \$60,000. The BNA's mortgage bonds for agricultural finance missed small producers (Box 12).

The BPBBAA is the second-largest public bank and the second-most important lender for agriculture. Both the BNA and the BPBBAA are unlikely to be privatized. While they are large and strong relative to other public banks, they are absolutely weak, and both have had to refinance their portfolios.

iv. Lack of access

Few small, rural producers have access to bank loans for agriculture. The average bank loan for agriculture is for about \$50,000. The loan-to-value ratio is about 15 percent, and borrowers usually own more than 1,000 hectares (World Bank, 1994). These magnitudes exclude small producers.

The decreasing share of agriculture in the overall portfolio due to agriculture's extraordinary risk decreases access to small producers. It means they must compete with larger farmers for a decreasing portion of finance. Concentration in La Pampa reduces access to small producers because although the majority of them live in La Pampa, they are a larger proportion of the population in the other regions. Finally, concentration of agricultural lending in public banks has poisoned future possibilities of lending for small, rural producers. Banks avoid agriculture because it appear extraordinarily risky, but the arrears rate would be lower if public banks had not made loans for refinancing and for political reasons at interest rates that do not cover costs.

Box 13: Agricultural mutual funds

Agricultural mutual funds (*pooles de siembra*) involve private investors who pay a fee to banks for intermediating loans for working capital to large farmers who forward-contract the delivery of their harvest with large agroprocessors (Gudger, 1996). The investors bear the brunt of the credit risk. Default has been unusually low, although Gudger attributes this to an unusual combination recently of high yields, low incidence of floods and hail, and high prices.

Although the typical borrowers from a mutual fund are landless, they are not small. They grow internationally traded grains on rented land with leased machinery. The delivery of the grain is forward-contracted. Usually, the pledge of this contract is the only guarantee on the loan. The agroprocessor usually pays the farmer's debt to the mutual fund before paying the farmer.

The annual rate of return has been 15 to 20 percent, more than double the return on deposits of similar maturities. The banks get riskless fee income, and the farmers get access to loans for working capital (Gudger, 1996). Small farmers do not participate because they do not forward-contract and because they are perceived as being more risky (Gudger, 1996).

Mutual funds for grain farmers illustrate many of the characteristics of rural finance in Argentina. Credit is available for agriculture, but only for the production of internationally traded commodities, only for working capital, only for large farmers, and only when repayments are deducted automatically by the intermediaries receiving the harvest. Unlike banks, private investors are willing to bear the risk of these loans.

e. Warrants

Warrants can finance some non-durable expenditures for agricultural production. Like agricultural mutual funds (Box 13), warrants are useful only to large farmers. Warrants allow using stored produce as collateral by depositing it with an authorized warehouse. The warehouse charges a commission and for insurance, and the bank evaluates the warehouse as well as the borrower. Warrants are not useful for perishable produce.

Loans against warrants are usually short and small. The bank values the stored produce at 50 to 75 percent of its market value. Terms range from 3 to 6 months. Loans against warrants have high transactions costs and high opportunity costs, but they are agile and have low prices, with interest rates for dollars of about 12 percent per year.

Few small farmers use warrants. The most common users are large farmers of soybeans or of sugar cane who want to store produce because prices are expected to rise in the near future but yet needs liquidity now for the next production cycle.

f. Motor vehicles

Loans for motor vehicles are common because they self-collateralize. Most loans for motor vehicles are for cars, but some are for tractors or other farm machinery.

i. Cars

Large, long loans linked to cars are common. They may be supplied by ROSCAs (Annex II), dealerships, manufacturers, finance companies, or banks. Transactions costs are low because the car serves as collateral and because the lending process is standardized. Often, the dealership applies to a bank on behalf of the buyer. Opportunity costs are high because repayments are fixed and repossession is possible.

Prices are high, and loan-to-value ratios are low. In Salta, one man described how he

could borrow \$26,000 for a \$46,000 truck for 48 monthly repayments of \$1,200. The effective interest rate is about 47 percent per year.

ii. Tractors

Until the recent expansion of the pledge registry for cars to all motor vehicles, loans for tractors backed by the tractor itself were rare. Loans for tractors or other farm machinery are not completely analogous to loans for cars. Repayments for loans for tractors come at least in part from cash inflows generated by the tractor itself. In contrast, car loans are usually repaid with cash inflows from production involving the car only indirectly.

Although tractors generate cash inflows, those cash inflows are unlikely to cover all repayments. This is because loans for tractors are both larger and shorter than loans for cars. Therefore, the repayments are larger.

Most small farmers do not have access to loans for tractors unless they are part of a group of small farmers or borrow with the help of a cooperative. Dairy cooperatives, for example, sometimes facilitate finance for their members through private banks and/or tractor manufacturers. In other cases, groups of small farmers purchase expensive implements together and then share the machinery and the repayments.

g. Housing

Although mortgage lending for new housing is booming, few small, rural producers have access to it. Markets for rural housing are thin, and most rural housing is small, old, and non-modern. In addition, mortgage lenders usually undervalue the house, lend a maximum of sixty percent of this undervaluation, and require demonstrations of steady income four to five times the monthly repayment.

All forms of cost are high for housing loans even though they self-collateralize. Transactions costs are high. Insurance and fees can add up to 15 percent of the sale price, excluding the VAT charged on new homes (World Bank, 1994). Opportunity costs are high because payments are large and fixed. Prices are high. Interest rates are 12-16 percent per year for 6-12 year dollar loans backed by real estate, in spite of default under 1 percent.

D. Supply of payment services

Payment services reduce transactions costs in two ways. First, payment services enable non-barter exchanges without the risk of theft and loss that haunts cash. Checks are more useful than cash for some payments because they do not have fixed denominations and they can be mailed or entrusted to couriers. Likewise, payments for harvests that are deposited directly into bank accounts and loans payments made by automatic deductions cannot be thwarted by the demands for cash of mother-in-laws.

Second, payments services enable non-barter exchanges without first going to the bank. ATMs allow deposits and withdrawals whether or not the bank is open. In addition to reducing the need to go to the bank, checks and credit cards are decentralized. Any household can write a check from wherever its checkbook is.

Much of the lack of access to savings and credit services for small, rural producers is explained by the lack of payment services. The complement is also true, as the most useful savings and credit services also serve as payment services that reduce transactions costs for both users and suppliers. Without payment services, banks cannot get close to small, rural producers without building new branches. Without payment services, small, rural producers cannot use loans or deposits from banks because of the cost of getting to town and back.

Passbook savings, current accounts, credit cards, and ATMs should develop as competition makes the banking sector more efficient. Unlike credit, payment services do not require personal knowledge of the user nor guarantees. Therefore, payment services can be mechanized, so cheap, widespread access is possible. The technology exists, and Argentina has the infrastructure and the income to use it.

But competition is only beginning to force banks to embrace modern technology. Passbook deposits are not available to all only because ATMs, mail transactions, and mobile branches are not well developed. Therefore, handling deposits and withdrawals is labor-intensive and expensive. If Argentina is wired for credit cards, there is no reason why even the uncreditworthy could not use debit cards. Likewise, even the uncreditworthy can use current accounts without overdrafts.

Banks cash paychecks and handle tax and bill payments, but the hassles are epic. Everyone, including small, rural producers, pays bills and are depositworthy. Some people also pay taxes. Technology is all that should stand between automatic deductions of bill payments from deposit accounts for everyone.

Payment services are riskless, agile, and flexible. Tax evaders make payments just as taxpayers. Although opportunity costs are low, few small, rural producers have access because prices and transactions costs are high using current technology.

E. Mismatches of supply and demand

1. Savings

All households, even small, rural producers, are depositworthy and have effective demands for savings. Inefficiency due to lack of competition has precluded an effective supply of savings. Most small, rural producers usually do not have access to sight, time, or current accounts.

Prices are high because fees are high because competition is low and inefficiency is high. Transactions costs are high because of fossilized deposit technology, because of distances between rural households and branches or ATMs, and because of bank culture—only laziness can explain why banks are open only five hours from mid-morning to early afternoon.

Monthly maintenance fees for sight deposits are so high that effective returns are usually negative unless average balances exceed \$1,000 to \$3,000. Time deposits lack monthly maintenance fees but have similar minimums. All deposits require tax compliance. Small, rural producers save and could buy deposit services if tax compliance were not required and if price and transactions costs were reasonable.

Ineffective supply of deposits has social consequences. Lack of access to deposits means that liquid savings are held as small livestock or as cash stuffed a mattress. Illiquid savings are held as home improvements or educated children. But livestock can lose weight or die, and inflation can erode the value of cash. Moreover, it is difficult to convert savings held in forms such as home improvements into cash to buy inputs. The low returns and lack of agility of non-financial savings discourage households from lending to themselves across time.

There is a market failure in the supply of formal deposits; the market has not been competitive. The remedy is time and competition driven by increased demand for loanable funds and by continued strong prudential supervision and regulation.

2. Credit

Small, rural households are not as creditworthy as they are depositworthy. There are no quick technological fixes for the transactions costs and asymmetric information generated by rural distances, lack of traditional collateral, and tax evasion.

The microfinance technology that has been developed elsewhere must be learned, not bought. Given Argentina's current wealth and prospects for rapid, sustained growth, overall economic development and modern technology probably could increase access more than specific projects aimed at developing organizations dedicated to microfinance. This is especially true since bankers probably will not strain to adopt microfinance technologies. Competition and work-ethic will probably never be frenzied enough.

No one in Argentina has access to long-term loans because intermediaries cannot find long-term funding. Short loans for land, housing, or motor vehicles are self-collateralizing, but small, rural producers often cannot use such large investments to their full capacity because of a lack of complementary inputs. If long-term funds were available, there are many potential borrowers with existing unsatisfied demands who are much more creditworthy than small, rural producers. Small, rural producers lack large, long-term loans because of a lack of effective demand as well as a lack of effective supply.

Many small rural producers have access to short, small loans for non-durable production inputs through rigid linked transactions. Thick networks of marketing intermediaries supply inputs on credit in exchange for the delivery of produce. These loans do not require tax compliance. They exist because of competition. Still, loans linked to production are not useful for consumption expenditures.

The few small, rural households who earn salaries or who can otherwise demonstrate steady monthly cash inflows also have access an effective supply of small, short loans linked to consumption expenditures. Retailer loans for consumption are available but linked to only to housing, motor vehicles, and all but the smallest consumer durables.

Credit cards and overdrafts supply unlinked consumption credit but are available only to the upper and upper-middle classes. Increased efficiency from competition will reduce the price of this credit and expand it to middle-class, salaried households whose existing effective demands are unmatched. But small, rural producers who cannot offer traditional collateral will wait a long time for unlinked loans that are matched to the cash flows of agriculture.

Agile credit with low transactions costs through credit cards and overdrafts is scarce among small, rural households because banks require tax compliance and monthly wages higher than those in agriculture. Even if unsalaried households have large, regular net cash flows to support consumption credit, it is difficult to demonstrate their amount and regularity.

In summary, small, rural producers in Argentina can borrow for linked consumable production inputs and for linked durable consumption. They cannot borrow for non-consumable production inputs nor for unlinked and/or continuous consumption. Still, the gap between effective demand and effective supply is narrower for credit than it is for savings. This is due more to less effective demand than to more effective supply.

3. Payment services

Small, rural households do not have access to payment services. Their effective demand is not matched by an effective supply. Again, the only feasible solution is the maintenance of the competition and consolidation that motivates the adoption of modern banking technology.

Lack of access to payment services is the complement of lack of access to savings and

credit. If small, rural households had access to passbook deposits, ATMs, current accounts, and/or debit cards, then they would have access to both savings and payment services. Likewise, access to credit cards or overdrafts would mean access to both credit and payment services.

The first to invade the frontier to serve small, rural producers should be sight deposits. Everyone is depositworthy, and sight deposits can partially substitute for credit and payment services. Regulated intermediaries should be able to supply sight deposits at low costs by using non-traditional technologies such as mobile and/or limited-service branches.

The trespass of sight deposits across the frontier should be reinforced by the payments services embodied in passbook accounts, ATMs, current accounts, and debit cards. Credit can follow via credit cards and overdrafts, but the savings and transactions accounts will be necessary to establish the creditworthiness of small borrowers who want small, short, agile, flexible loans for both production and consumption.

Universal accounts modeled on those observed in some agricultural cooperatives would be an ideal vehicle for reaching small, rural producers. The account could be linked to debit cards, checks, and ATMs for deposits and withdrawals. Use would create a history of cash flows and a value of a banking relationship that could entice banks to offer credit cards or overdrafts. Universal accounts already exist in South Africa, a country comparable to Argentina in population density, in agriculture, in infrastructure, and in wealth and income.

Long-term, unlinked cash credit will arrive last. Its arrival depends on demand from other borrowers and progress in consolidating confidence and competition in the banking system.

The government and donors should not force exploration beyond the frontier of formal finance by creating special credit programs. Instead, the lure of less-fierce competition should entice existing intermediaries to adopt the necessary technology. Strengthening competition requires strengthening the institutions that lubricate the market. The next section examines what institutions are ill, and what the illnesses are, and which illness are treatable.

Table 2: Suppliers of financial services

	Supplier	Formality	Regulation	Ownership	Competition
Savings	Household	Informal	No	Private	None
	Banks: sight deposits	Formal	Yes	Private and Public	Low
	Banks: time deposits	Formal	Yes	Private and Public	Medium
Credit	Family and friends	Informal	No	Private	Medium
	In-kind	Informal	No	Private	Low
	Durable retailers	Formal	No	Private	High
	Non-durable retailers	Formal	No	Private	Medium
	Finance companies	Formal	No	Private	High
	Input suppliers	Formal	No	Private	High
	Agricultural coop.	Formal	No	Cooperative	Low
	NGOs	Formal	No	Non-profit	Low
	PSA	Formal	No	Public	Low
	PPRNEA	Formal	No	Public	Low
	IDB micro-global	Formal	Yes	Public and private	Low
	Credit cards	Formal	Yes	Private and public	Low
	Personal loans	Formal	Yes	Private and public	Low
	Agricultural loans	Formal	Yes	Private and public	Low
	Warrants	Formal	Yes	Private and public	Low
	Motor vehicles	Formal	Yes	Private and public	Low
	Housing	Formal	Yes	Private and public	Low
Payment services		Formal	Yes	Private and public	low

Table 3: Users of financial services

Supplier		Access for small, rural producers	Household or enterprise	Durable or Not	Costs		
					Price	Tran.	Opp.
Savings	Households	Always	Both	Durable	Low	High	High
	Banks: sight deposits	Some	Both	Both	Low	High	Low
	Banks: time deposits	Few	Neither	Durable	High	Low	Medium
Credit	Family and friends	Always	Both	Both	Low	Low	Medium
	In-kind	Often	Enterprise	Both	High	Low	High
	Durable retailers	Some	Household	Durable	High	Low	Low
	Non-durable retailers	Some	Household	Not	Low	Low	Low
	Finance companies	Few	Both	Both	High	Low	Medium
	Input suppliers	Some	Enterprise	Not	Low	Low	High
	Agricultural coop.	Some	Both	Not	High	Low	High
	NGOs	Few	Both	Not	Low	High	High
	PSA	Some	Both	Both	Low	High	Low
	PPRNEA	Few	Enterprise	Durable	Low	High	Low
	IDB micro-global	Few	Enterprise	Both	Low	Medium	Medium
	Credit cards	Few	Both	Both	High	Low	Low
	Personal loans	Few	Both	Both	High	Medium	Medium
	Agricultural loans	Few	Enterprise	Durable	Low	High	High
	Warrants	Few	Enterprise	Not	Low	High	High
	Motor vehicles	Few	Both	Durable	Low	Low	High
Housing	Few	Household	Durable	High	High	High	
Payment services		Few	Both	Both	High	High	Low

Table 4: Characteristics of financial services

	Supplier	Guarantee	Size	Term	Risk
Savings	Household	None	Any	Any	High
	Banks: sight deposits	Insured	>\$1,000	Any	Low
	Banks: time deposits	Insured	>\$5,000	≥30 days	Low
Credit	Family and friends	Character	Small	Any	Low
	In-kind	Future delivery	Any	Production cycle	Low
	Durable retailers	Lien and salary	Medium	6 to 12 months	High
	Non-durable retailers	None	Small	1 month	High
	Finance companies	Non-traditional	Medium	Few months	High
	Input suppliers	Delivery of harvest	Medium	Production cycle	Low
	Agricultural coop.	Delivery of harvest	Medium	Production cycle	Low
	NGOs	None	Small	Few months	High
	PSA	Group solidarity	Small	1-7 years	High
	PPRNEA	Collateral, group	Medium	10 years	High
	IDB micro-global	Trad. collateral	Medium	30 months	Low
	Credit cards	Salary	Medium	Any	High
	Personal loans	Salary	Small	Few months	Medium
	Agricultural loans	Land	Large	Years	High
	Warrants	Stored produce	Medium	3-6 months	Low
	Motor vehicles	Vehicle	Large	2-4 years	Low
	Housing	House	Large	6-12 years	Low
Payment services		None	Any	Instant	Low

Table 5: Agility and flexibility of financial services

Supplier		Agility	Flexibility					
			Inflow			Outflow		
			#	Size	Time	#	Size	Time
Savings	Household	Linked	Any	Any	Any	Any	Any	Delay
	Banks: sight deposits	Cash	Any	Any	Any	Any	Any	Any
	Banks: time deposits	Cash	One	Large	Any	One	Large	Fixed
Credit	Family and friends	Cash	Any	Small	Any	Any	Small	Any
	In-kind	Linked	Any	Any	Any	One	Large	Fixed
	Durable retailers	Linked	One	Med.	Any	6-12	Small	Fixed
	Non-durable retailers	Linked	Any	Small	Limited	One	Small	Fixed
	Finance companies	Cash	Any	Small	Any	Few	Med.	Partly fixed
	Input suppliers	Linked	Any	Med.	Any	One	Med.	Fixed
	Agricultural coop.	Linked	Any	Med.	Any	One	Med.	Fixed
	NGOs	Cash	One	Small	Any	Few	Small	Fixed
	PSA	Cash	One	Small	Any	Varies	Small	Any
	PPRNEA	Cash	One	Med.	Any	Many	Med.	Fixed
	IDB micro-global	Cash	One	Med.	Any	Many	Med.	Fixed
	Credit cards	Cash	Any	Any	Any	Any	Any	Any
	Personal loans	Cash	Any	Small	One	Few	Small	Fixed
	Agricultural loans	Linked	One	Large	Any	Many	Large	Fixed
	Warrants	Cash	One	Med.	Any	One	Med.	Fixed
	Motor vehicles	Linked	One	Large	Any	Many	Large	Fixed
Housing	Linked	One	Large	Any	Many	Large	Fixed	
Payment services		Cash	Any	Any	Any	Any	Any	Any

IV. Inefficiency in Financial Institutions

Argentine banks are inefficient—intermediation margins are wide. Competition shrinks margins. This first part of this section examines measures of inefficiency. The next parts examine some of the institutions that lubricate the market and thus affect competition. These institutions include the framework for prudential supervision and regulation, the framework for security interests, and the process of privatizing provincial banks. Efficiency is improving as competition shrinks intermediation margins (Box 14).

A. Inefficiency in the supply of financial services

Efficiency is the cost of producing a given level of output. Banks in Argentina are inefficient because it costs them more to supply a given amount of financial services than it would cost banks in comparable countries.

High inefficiency leads to high prices. Because the cost to users of financial services includes price, transactions, and opportunity costs, inefficiency increases the cost of use and thus decreases access. This increase is especially important to small, rural producers because their costs of use are already extraordinarily high because of the extraordinarily high transactions and opportunity costs implied by rural distances and by agricultural production.

In general, provincial banks are the most inefficient, followed by cooperatives and small private national banks. Large private national and foreign banks are the most efficient (Box 15; World Bank, 1994). The BNA and the BPBBAA appear efficient, but this is misleading. The large loans of these banks reduce average cost and so mask inefficiency.

1. Spreads

a. Intermediation margins

The intermediation margin is the difference between the average lending rate and the average deposit rate. Table 6 shows the average intermediation margin for the banking system from 1991 to 1996. Graphs 7 and 8 show the real interest rates for dollar loans and deposits over a similar period. The intermediation margins in Table 6 and the margins implied by Graphs 7 and 8 differ because the graphs are in real terms and do not show portfolio averages.

Real interest rates are high but they are falling. The intermediation margin—that is, the difference between lending and deposit rates—is also high but falling. The spread would widen 3 to 4 percentage points if fees and commissions were included (World Bank, 1994).

Table 6:
Intermediation margins,
1991-1996

Year	Intermediation margin
1991	0.40
1992	0.28
1993	0.15
1994	0.11
1995	0.076
1996	0.037

Sources: World Bank, 1994 and 1995; BCRA, 1996b.

Box 14: Progress in the financial sector

Even though the financial sector is still the Achilles' heel of the Argentine economy, it is improving slowly. Consolidation and regulation are improving confidence, competition, and efficiency. Deposits are getting larger and longer, and credit is expanding.

Foreign banks do not have a strong retail presence in most developing countries because they cherry-pick the crème-de-la-crème of the prime-rate borrowers. This is not the case in Argentina, where they compete on a retail level (interview with Susmel). This, along with the fact that some large prime-rate customers can place their paper abroad directly, has forced national banks to compete more fiercely for retail customers.

Private banks and financial cooperatives are discovering agriculture, once the sole domain of the BNA. According to SAGyP (1994), the credit situation is improving because of "the reduction of real interest rates and the lengthening of terms to maturity that have been occurring slowly since 1992 as a result of economic stability."

Confidence, competition, and efficiency are improving. Banks are producing more services with fewer employees. They are exorcizing bad loans and capturing more deposits. Terms structures are lengthening, and Argentines are repatriating their dollars.

Bank restructuring has come at a fortunate time. The economy is growing rapidly, and there is a strong demand for consumer credit. The regulatory authority is becoming more demanding and more forceful in enforcing its demands. Capital requirements exceed the Basel minimum. Foreign banks are creeping in slowly, and restrictions on branch expansion are being lifted.

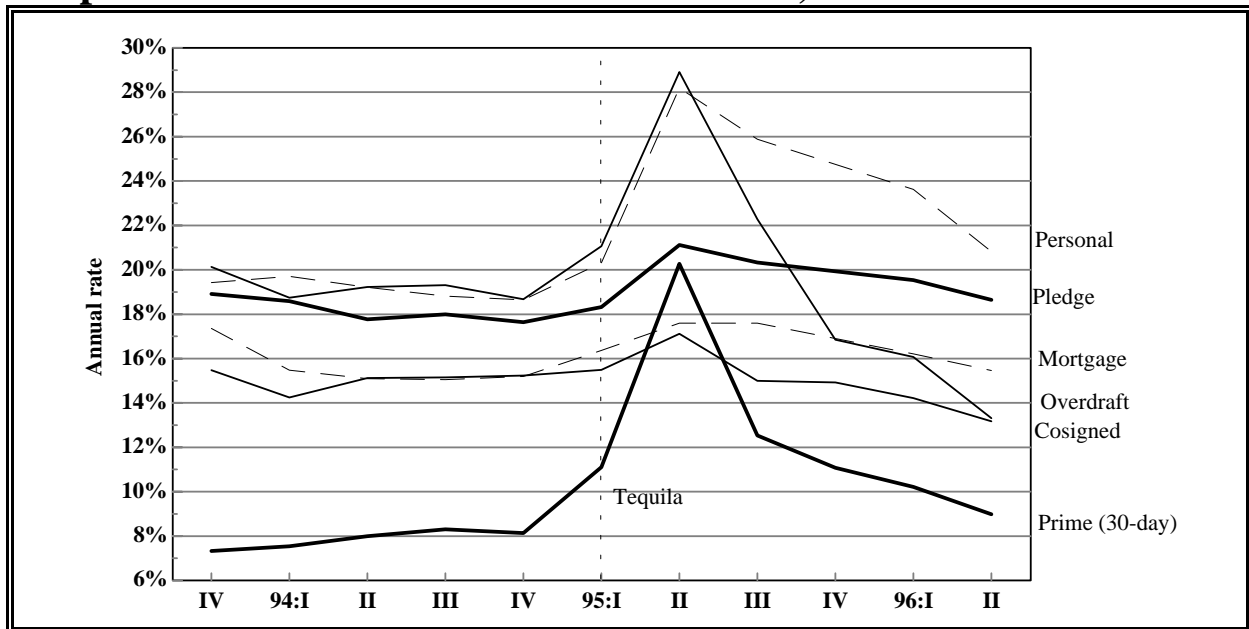
b. Ratio of operating costs to assets

The ratio of operating costs to assets is another measure of efficiency. In well-developed financial markets, the ratio is about 60 percent of the deposit rate, but in Argentina it is closer to 100 percent.

The ratio of operating costs to assets is below 2.5 percent in developed countries, and several developing countries are below 3.5 percent (World Bank, 1994). Most of Latin America is below 6.5 percent. In 1996, the ratio for Argentina was about 6.3 percent (Table 7).

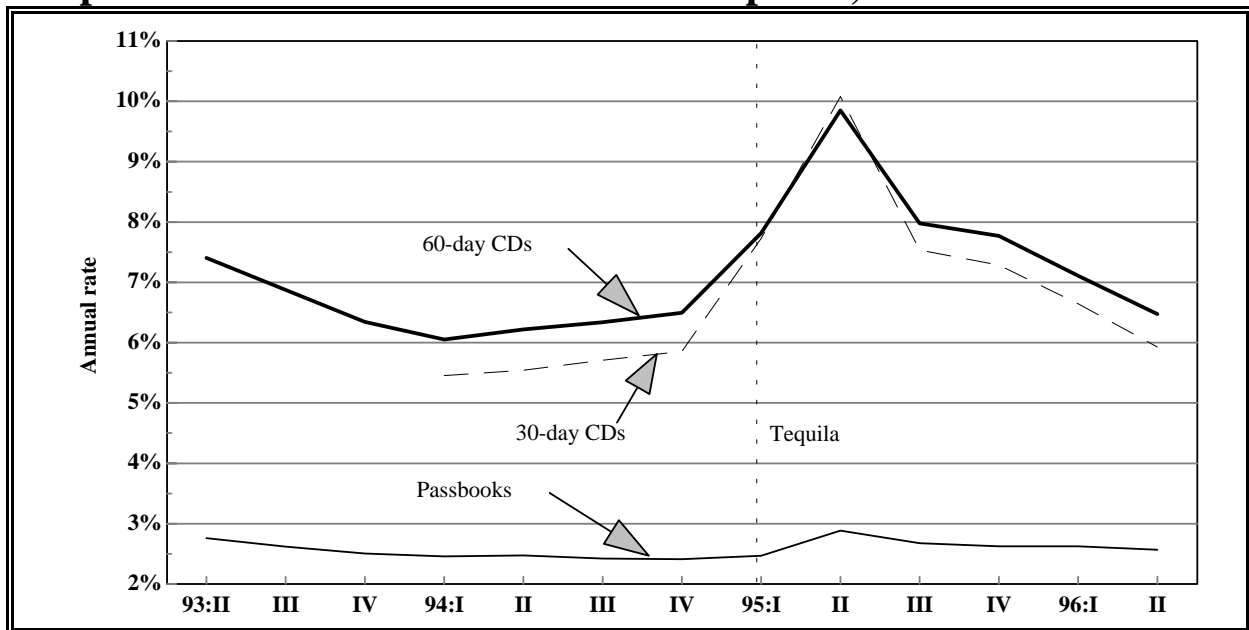
The measure in Table 7 is subject to bias for two reasons. First, it is not based on a full year of expenses but rather on an annualization of first three months of 1996. Second, it is not based on average assets over a year but rather on assets outstanding as of March 31, 1996. Still, it is costly to have assets managed by Argentine banks.

Graph 7: Real interest rates on dollar loans, 1993:IV-1996:II



Source: BCRA, 1996d.

Graph 8: Real interest rates on dollar deposits, 1993:IV-1996:II



Source: BCRA, 1996d.

Box 15: Efficiency at a sample of banks

A sample of banks conform to the pattern that public banks are the most inefficient, followed by cooperatives, with private banks being the most efficient. In 1995, the public Banco Santafesino de Inversión y Desarrollo had an intermediation margin of almost 9 percent and a ratio of operating costs to assets of almost 12 percent (Banco Santafesino de Inversión y Desarrollo, 1995). Banco BICA, an amalgamation of former cooperatives, fared slightly better in 1995-1996: it had an intermediation margin of almost 7 percent and a ratio of operating costs to assets of almost 11 percent (Banco BICA, 1996). Finally, the privatized Banco de Salta in 1996 registered an intermediation margin of about 4 percent and a ratio of operating costs to assets of about 10 percent (Pistrelli, Diaz, y Asociados, 1996). At the same time, ROE was about 56 percent.

c. Profit

Wide spreads imply inefficiency; inefficiency combined with high profits implies a lack of competition. ROA for banks in OECD countries is about 0.7 percent (World Bank, 1994). Average ROA for banks in Argentina is triple that, even though many public banks have negative ROA. The largest private banks have ROEs of more than 20 percent. This is even more remarkable given that these banks are underleveraged and that inflation is low (Jones and Schonberger, 1994).

2. Reasons for inefficiency

Lack of competition has allowed Argentine banks to stay inefficient. Clienteles are fragmented. Market penetration is shallow, and only about 20 percent of the population has a bank account.

Although there are many banking firms, even the relatively large banks are absolutely small. Banks do not take advantage of economies of scale. Banks are even smaller than they appear because they have too many fixed assets as a legacy of hyperinflation. Argentina has too many banks but not enough banking.

Many of the smallest banks were born in an age of easy entry and remain family owned and operated. Family management is inefficient management because banking is not genetic. These banks are slow to innovate and extraordinarily risk averse.

Most inefficiency results from low productivity of labor (Table 8). Not only are bank payrolls bloated, but technology is Cretaceous and labor-intensive. The payroll accounts for 62 percent of the spread (World Bank, 1994). Loan losses are only 23 percent, and taxes and liquidity requirements are 9 and 5 percent. The reduced spreads since 1995 were largely driven

Table 7: Ratio of bank operating costs to assets, 1996:I

Type of bank	Operating costs/ Assets
National public banks	0.039
Provincial/ municipal public banks	0.091
National private banks	0.064
Foreign private banks	0.054
All banks	0.063

Source: BCRA, 1996e.

by a 30 percent reduction in payroll costs (BCRA, 1996b).

3. Inefficient lending technology

The existing lending technology is inefficient because it ignores information. Almost all banks use monitoring and screening technology geared to huge firms and toward collateral. They usually ignore character and cash flows.

In many cases, loan officers are too lazy or too ignorant to analyze cash flows. Lending through narrow lines of credit discourages analysis and the exploration of market niches (Larrory, 1996). The agronomists in banks do not analyze the feasibility and cash flows of proposed projects. Instead, they appraise land offered as collateral. Even if a local branch were willing and able to analyze the character and cash flows of a potential borrower, the lending decision is almost always made in the bank's central office where nothing is visible but collateral.

Hyperinflation destroyed any ability to analyze cash flows. Banks stopped analyzing cash flows because, with hyperinflation, slight changes to arbitrary assumptions drove all the results. The skill has been lost, even though the assumptions are less arbitrary now.

During hyperinflation, some banks lent mostly to the government and "the technological architecture of most local banks [was] directed toward managed accounts, not clients" (Berger, 1996). It takes work to learn to lend to retail borrowers and to allocate resources between surplus and deficit units. Until pushed by competition, banks will approach this work gingerly.

B. Effects of prudential regulation and supervision

After Tequila, the BCRA was strengthened in its powers of prudential regulation and supervision. The goal was to avoid the situation where the collapse of weak, small or medium banks could trigger a generalized run on deposits. Regulation walks a tightrope between allowing profits and thus promoting competition and efficiency while constraining risk-taking in order to prevent generalized financial collapse.

Regulation does not come without costs. It increase expenses and decreases the flexibility of the decision-making of bank managers. Inasmuch as regulation increases the costs of financial intermediation, it decreases access to small, rural producers. This especially true since regulation aims to decrease risk, and small, rural producers are risky given traditional lending technologies. The costs of regulation, however, are overwhelmingly outweighed by the benefits of widespread confidence in the financial system. After all, the most important cause of lack of access to credit is lack of deposits (Carrizosa *et al.*, 1996). Confidence cures this.

Table 8: Average labor productivity in Latin American banks

Country	U.S. 1992=100
Brazil	31
Colombia	30
México	28
Venezuela	25
Argentina	19

Source: World Bank, 1996a.

Table 9: Classification of loans by risk for provisions for loan losses

Classification		Days in arrears	Required Provisions for Loan Losses (%)	
			Preferred Guarantee	Non-preferred Guarantee
1	Normal	0-31	1	1
2	Potentially risky	32-90	3	5
3	Problematic	91-180	12	25
4	High risk	181-365	25	50
5	Uncollectible	more than 365	50	100

Source: BCRA, 1994a and 1994b.

The BCRA was strengthened in its capacity to regulate and supervise the capital adequacy of banks and the provisions for bad debt in three ways (Carrizosa *et al.*, 1996). First, provisions were linked to the riskiness of assets. Second, a CAMEL system was installed. Third, the BCRA increased its workforce and its training.

There are two purposes behind the requirements of minimum provisions for loan losses and levels of capital adequacy. The first purpose is to force banks to recognize adequately the risk of loan losses inherent in lending. The second purpose is to provide a cushion against the risk of extraordinary loan losses.

1. Minimum loan-loss provision requirements

The BCRA divides loans into two types, commercial and personal. Any loan greater than \$200,000 is a commercial loan. Personal loans include loans for housing, loans for consumption, credit-card loans and, in general, any loans whose repayment does not come from an asset purchased with loan proceeds but rather from another source, such as wages for labor. In addition, a bank may choose to classify all its loans smaller than \$200,000 as personal loans (BCRA, 1994a).

a. Risk classification

Both personal and commercial loans are classified by risk into five categories. Category 1 represents the least risk, and category 5 represents the most risk.

The requirements for the provision of loan losses are based on two factors. The first factor is the guarantee. The second factor is the risk classification as indicated by the guarantee and by the borrower's repayment and financial performance.

Table 9 shows the five risk classifications, their designations, the number of days of arrears represented by the classification, and the required loan-loss provisioning as a percentage of the outstanding balance and as a function of the guarantee.

b. Factors in risk

Although both commercial and personal loans have the same required provisions for loan losses for a given risk classification and a given guarantee, the distinction between the two types matters because risk is evaluated differently for each. The risk classification of personal loans depends only on repayment performance. For example, loans in good standing or in arrears for

Table 10: Factors in analysis of risk classification of commercial loans

Factor	Typical Evaluation of small, rural producer
1. Guarantee	1. Not offered
2. Intrinsic default risk	2. Greater than average
3. Liquidity	3. Illiquid
4. Debt/equity ratio	4. Relatively high
5. Financial statements	5. Not available or not impressive
6. Risk of future cash flow	6. High
7. Requirements of refinancing	7. History of refinancing
8. Management and internal control	8. Not formalized
9. Information systems	9. Not present
10. Sector	10. Some crops competitive, others not
11. Above median in sector	11. Below the median

days or less are put in classification 1 (normal), while loans in arrears for more than a year are put in classification 5 (uncollectible). Personal loans are classified monthly.

The risk classification of commercial loans depends not only on the repayment performance but also on the bank’s analysis of several factors related to the borrower’s financial performance and future business prospects. Eleven of these factors appear in the first column of Table 10. The second column of Table 10 speculates on how small, rural producers might fare when evaluated by these factors. Commercial loans are classified periodically.

Small, rural producers probably appear more risky when evaluated as commercial loans than when evaluated as personal loans. In practice, however, most loans to small producers would be personal loans. This is not only because these loans would be for less than \$200,000, but also because classifying commercial loans requires significantly more analysis before and after disbursement. Therefore, classifying personal loans by repayment performance is cheaper. In addition, commercial loans that are not evaluated according to the framework in Table 10 require 100 percent provisions (BCRA, 1994a).

More importantly, small, rural producers may not be able to offer preferred guarantees, and the BCRA requires greater provisions when loans with non-preferred guarantees fall into arrears (Table 9). The preferred guarantees and their risk weights for minimum-capital requirements are listed in Table 9 and will be discussed later.

c. Appropriate provisioning

If small, rural producers usually do not offer preferred guarantees and if their riskiness is not, in fact, signaled by their guarantees, then these regulations inappropriately discourage lending to small, rural producers. It is more likely, however, that loans without preferred guarantees are indeed more risky, especially when the lending technology is based mostly on the

quality of the guarantee. Still, this does not imply that lending to clients with preferred guarantees under the current guarantee-based technology is less risky than lending to small, rural producers with non-preferred guarantees under a client-based technology. Such a technology would evaluate the client based not only on the guarantee but also on character and on cash flows.

Current regulations may or may not accurately reflect the risk of loans with non-preferred guarantees. The required provisions for loan losses seem to be based not on historical repayment performance but on rules of thumb. Therefore, it is possible that the regulations of the BCRA overestimate the risk of lending, inappropriately increasing the costs of lending to borrowers with non-preferred guarantees. This is also possible for borrowers with preferred guarantees. Of course, the rules of thumb may underestimate the risk of lending, both with preferred guarantees and with non-preferred guarantees, thus inappropriately decreasing the costs of lending .

In the long term, inappropriate provisioning need not affect the profits of the lender. Over time and if loans are made in spite of arbitrary misestimations of risk by the BCRA, then the lender observes the actual risk of all loans and corrects for any over-provisioning or under-provisioning. Thus, inappropriate requirements for provisions for loan losses need not affect lending to small, rural producers. In the short term, however, inappropriate provisioning does affect profits, and this could lead to the avoidance of certain types of loans in the long term. Thus, the regulations of the BCRA could affect lending to small, rural producers.

It is also possible that lenders take both the risk evaluations and the risk-evaluation technique of the BCRA as accurate and appropriate even if it is, in fact, not appropriate. This would perpetuate a lending technology based on traditional guarantees and would ensure that loans based on non-traditional guarantees are perceived as more risky.

The BCRA's requirements for loan-loss provisions should not be based on rules of thumb but rather on historical repayment performance. This would ensure that the perceptions of risk held by lenders are accurate.

Even if the BCRA's current rules of thumb are accurate, the increase in the costs of lending caused by the greater risks of personal loans to small, rural producers with non-preferred guarantees should not be so great as to preclude this type of lending (Annex III). Indeed, one of the most profitable niches for lenders is short-term, unsecured, personal loans, although these loans usually finance urban consumption rather than investment by small, rural producers. Perhaps the most important effect of BCRA's regulations is its imprimatur on a lending technology based only on the client's collateral rather than also on character and cash flows.

2. Minimum-capital requirements

The capital requirements provide a minimum cushion against extraordinary loan losses. The requirements for a given loan are based on three factors. The first factor is the outstanding balance. Larger loans require thicker cushions. The second factor is the interest rate. The likelihood of default increases as the interest rate increases, so higher interest rates require thicker cushions. The third factor is the guarantee. A guarantee valuable to the borrower reduces the likelihood of voluntary default, and a guarantee valuable to the lender reduces the cost of default to the lender.

Table 11: Preferred and non-preferred guarantees and their risk weights for minimum capital requirements

Type of guarantee		Risk wt. (%)
Preferred	Mortgage over real estate	50
	Mortgage over motor vehicles	50
	Pledge of other movable property	75
	Pledge of other goods	75
	Warrants	30
	Cash or certificates of deposit	0
	National govt. bonds or other short-term bonds	0
Non-preferred	Municipal, provincial, or long-term bonds	50
	No guarantee	100

Source: BCRA, 1993a.

Guarantees also signal a borrower's income and wealth and thus indicate something about the likelihood of involuntary default. For example, loans with guarantees that are valuable both to borrowers and to lenders require thinner cushions. Loans without guarantees, on the other hand, require thicker cushions because the lack of a guarantee not only signals lower levels of income and wealth and therefore a higher likelihood of involuntary default, but it also decreases the cost of default to the borrower while increasing the cost of default to the lender.

a. Capital-adequacy formulas

The average marginal minimum capital requirement for a loan is the product of a coefficient given by the BCRA (1.00 for a strong bank that is not one of the strongest), a second coefficient given by the BCRA (0.115, even more conservative than the 0.08 required by the Basel Convention), the average balance of the loan, a risk factor based on the interest rate, and a risk factor based on the guarantee (BCRA, 1993a).

The interest-rate risk factor for dollar loans is 1.00 for loans with annual interest rates of 18 percent or less, with 0.20 added to the risk factor for every 3 percentage points of interest above 18 percent. The risk factor based on the guarantee appears in Table 11.

b. Capital-adequacy formulas and guarantees

Three points from Table 11 deserve discussion. First, mortgages on real estate and mortgages on motor vehicles receive the lowest risk weighting of all non-cash, non-government backed guarantees. This implies that if there is an efficient registry system for movable property, as there is for motor vehicles, then the BCRA does not disfavor guarantees of movable property.

Second, pledges of movable or other goods receive a higher risk weighting than mortgages, but it is not much higher (75 vs. 50 percent). The difference between the average marginal minimum capital requirement for a loan guaranteed by a mortgage on real estate and

for a loan guarantee by a pledge on movable property is very small (Annex III). This suggests that the BCRA's minimum-capital regulations do not constrain lending guaranteed by pledges of movable property. Instead, this type of lending is probably constrained more by the inefficient registries and the inappropriate legal framework documented by Fleisig *et al.* (1996) and discussed later.

Third, loans without guarantees or loans whose values exceeds the value of their guarantees receive the highest risk weighting possible (100 percent). This is probably appropriate. In any case, the calculations described in Annex III suggest that the average marginal minimum-capital requirement has only a small effect on the interest rate required for cost-coverage.

The minimum-capital requirements imposed by the BCRA do exceed those stipulated by the Basel Convention, but this is probably appropriate given the current weakness and instability of the Argentine banking system. The Argentine regulations do penalize non-mortgage guarantees, but only slightly. Although it probably would be more appropriate for the minimum-capital requirements to be based on a borrower's character and cash flows as well as a borrower's collateral, the main effect of this shortcoming is not to increase in the cost of lending so much as it is to repeat the message that nothing matters except collateral.

3. Liquidity requirements

As of Feb. 1, 1997, the BCRA requires that banks hold an amount equivalent to 20 percent of all short-term liabilities in liquid assets. There is no cash requirement at all, and there is no reserve requirement for liabilities with maturities longer than one year (BCRA, 1996e). ADEBA (1995) estimates that the effective liquidity requirement is about 17 percent of total assets.

Even though there is an excess demand for credit, banks are bathed in liquidity. The liquidity requirement is, however, benign. Banks can meet it with interest-bearing deposits, and the reserve provides insurance against runs on deposits. The World Bank (1994) estimated the annual cost of an even stricter reserve requirement at about 0.6 percent of average assets, or, roughly, about one percent of the average portfolio outstanding. The BCRA's liquidity requirement is inexpensive insurance against loss of confidence in the financial system from a run on deposits.

4. Effects of BCRA regulations

In spirit, the BCRA encourages evaluating potential borrowers on character and on cash flow as well as on collateral (BCRA, 1994a and 1994b). In practice, the regulations regarding minimum-capital requirements and provisions for loan losses encourage lenders to focus mostly on collateral.

It may be that this regulatory framework is appropriate given the current excess demand for loans, the current effort to consolidate the banking system, and the banking system's current inability to evaluate the character and cash flows of potential borrowers. This regulatory framework, however, may not be appropriate in the long run if it discourages lenders from learning to evaluate character and cash flows, thus precluding small loans to small, rural producers and others unable to provide traditional guarantees.

The estimates of risk implicit in the BCRA's requirements for provisions for loan losses have an important, if not overwhelming, effect on the costs of lending (Annex III). The allocation of credit in Argentina could only be improved if the rules of thumb currently used to

create these estimates were replaced with estimates based on the historical repayment performance of loans based not only on collateral but also on character and cash flows.

In any case, bankers seem less concerned with the costs of prudential regulation and supervision and more concerned with the costs of maintaining formal financial information about borrowers. Furthermore, it appears that the problems observed in pledging movable property derive not from regulatory framework so much as from the legal and judicial framework governing security interests.

Bank managers interviewed by Fleisig and de la Peña (1995) said that the inappropriate legal framework governing security interests was a more serious problem than was excessively conservative regulation. They also write that changing banking regulations without having first implemented legal reforms would dangerously increase the risk in the banking system. The following part of this section examines these problems and possible reforms.

C. The legal framework for secured transactions

The legal framework for secured transactions in Argentina is such that lenders usually not only ignore non-traditional guarantees of character and cash flows in favor of a single-minded focus on traditional guarantees of collateral, but also that they focus on only two types of collateral, real estate and new motor vehicles.

The legal framework has also meant that most loans are made by banks. Credit is therefore limited because potential borrowers without collateral can borrow only from people they know or from businesses linked to their enterprise. This section describes the shortcomings of the current framework. It draws heavily on the work of Fleisig and de la Peña (1995, 1996). It also examines a law and a decree that attempt to address these shortcomings.

1. Shortcomings of the legal framework

A right of satisfaction held by a creditor against a specific asset of a debtor is a *security interest*. In particular, collateral is a security interest. Most Argentina creditors usually do not accept movable property other than new motor vehicles as security interests. This is because of the high cost of establishing security interest, publicizing and establishing the priority of that security interest over other creditors, and seizing and selling the collateral in the case of default.

These high costs result from the form of Argentine law in general and from the implementation of the Argentine law in the particular case of secured transactions. The high costs also result from inadequate and inefficient registries for movable property, sloth-like judicial proceedings for the seizure and sale of movable goods, and other inappropriate laws.

a. Argentine law and its implementation

In general, Argentine law prohibits anything that it does not expressly allow. The law expressly allows only a few types of creditors to accept only a few types of movable property as collateral in only a few types of transactions. Most of the types of collateral, transactions, and creditors useful to small, rural producers are not mentioned and are therefore forbidden.

The ostensible purpose of these restrictions is to protect debtors from the overzealous seizure and sale of collateral by creditors. The effect, however, has been to restrict credit transactions to only those with real estate or new motor vehicles. Fleisig and de la Peña (1995, 1996) recommend that the law be changed to allow any type of property as security in any type of transaction with any type of creditor, except those specifically excluded by law.

b. Inadequate and inefficient registries

The registries for movable property in Argentina are dysfunctional. They are difficult to use, expensive, and time-consuming for both creditors and debtors. There are two reasons for this.

The first reason is the existence of multiple registries, each a private monopoly in a geographic area with a franchise from the government. Without a centralized registry and without links between the multiple registries, creditors cannot know if a movable good already has a lien against it without checking with all the registries. In addition, owners of registered movable property must re-register it each time they move the property across registry boundaries.

The second reason is that monopoly has bred exploitative pricing and gross inefficiency (Bacchiocchi *et al.*, 1995). Many registries are not computerized, and even those that are computerized still require the manual entry not only of the information that pertains to the movable good being pledged but also of the entire security agreement.

Furthermore, the manual and electronic databases that exist are keyed not by such useful fields as the name of the owner of the pledged property but rather by the identification number of the good itself. Thus, a creditor cannot discover whether a potential debtor has ever pledged movable property before but rather only if a particular movable good has been pledged before in a particular geographic region.

Finally, the information required to register a movable good cannot be transmitted by telephone or by fax but rather must be delivered in person. Because there is only one registry per geographic area and because the process takes more than one day, this implies high transactions costs, especially for small, rural producers who live far from the registry.

Bacchiocchi *et al.* (1995) and Fleisig and de la Peña (1995, 1996) suggest some marginal reforms to increase competition between registries in adjacent geographic areas. The best reform would be to establish a national registry for all types of movable goods along the lines of the national registry that already exists for motor vehicles.

c. Slow execution of movable property after default

The execution of guarantees of movable property is a judicial matter, and it is treated as a trial. It is therefore lengthy, cumbersome, and costly (de la Peña and Muguillo, 1995). On average, the full process requires two to three years, although the vast majority of cases are dropped or settled out of court long before reaching the end of the process. The creditor is not allowed to seize and sell the collateral even if it can be done without disturbing the peace.

d. Other weaknesses

Several other specific shortcomings in the legal framework for secured transactions work against small, rural producers. For example, farmers could use floating security interests to collateralize property of a general description, such as account receivables, stored grain, or cattle. Argentine law, however, only allows floating security interests for commercial or industrial firms.

Even if a farmer is incorporated as a commercial or industrial establishment, it is difficult to use account receivables as collateral because the law requires that the farmer notify all debtors that they are now debtors of the farmer's creditor. In addition, there is no public registry for account receivables, and old debtors who have paid off their debts may not be rotated out for new debtors.

Small, rural producers often buy consumption goods or production inputs on credit from

retailers. By law, such credit sales automatically carry a vendor's lien, and the creditor retains title to the purchased item. While this system does provide some access to credit, it remains expensive because there is no registration system for vendor's liens and because, as with any pledge on movable property in Argentina, the creditor loses security interest if the item is sold or otherwise legally transformed.

Finally, NGOs who might lend to small, rural producers are not expressly allowed to accept movable property as collateral. Even if NGOs were allowed to do so, they could only charge an interest rate equal to or less than 2 percentage points above what is charged by BNA. This precludes collateralized microlending.

2. Why these shortcomings are problematic

The combination of Argentine law, dysfunctional registries, and slow judicial processes has resulted in a strong preference for real estate and new motor vehicles. These two types of collateral can be used because they have separate, national, efficient registries. They also have coherent, rational legal frameworks, strong resale markets, and slow depreciation. Finally, they are difficult to hide or resell without the creditor's knowledge.

a. Movable property

Movable property accounts for one-third of all assets in Argentina. In particular, movable property in the form of farm machinery, inventory, livestock, and stored grain are an important part of total assets for small, rural producers. But guaranteeing loans with movable property is unusually costly. This reduces access to credit, raises interest rates when movable property is used as collateral, and, in general, constrains optimal decisions by borrowers. Movable property is especially important to small, rural producers because they usually cannot offer new motor vehicles. Their tractors are far too old to be used as collateral.

b. Land

Usually small, rural producers cannot offer land as collateral either. Although many small, rural producers own some land, the majority are landless.

Twenty-five percent of all Argentine farmers do not own any land, and another fifty percent own less than 100 hectares, the minimum amount usually required by creditors. Landholdings are skewed, with 3 percent of the farms owning 61 percent of the land. Although the average holding is 469 hectares, the median holding is 50 hectares.

Most smallholders do not have secure title. Some of these people live without title on government land or in indigenous communal arrangements. Others are beneficiaries of land reform and are prohibited from selling their land until after ten years have passed.

The most common form of precarious tenancy occurs when smallholders divide land among children without legally changing the title. Any child cannot mortgage his or her parcel because the legal title encompasses all the land held by all the heirs. The agricultural census of 1988 found that 77 percent of farms of less than 50 hectares owned their own land, but 25 percent had land from informal divisions among heirs (INDEC).

Two factors encourage informal division. The first factor is abusive unionism among the professionals that measure and register land. The guilds charge exploitative prices and do bad work. The second factor is the prohibition in some provinces against subdividing land in parcels below a minimum thought to be needed for the efficient production of a specified crop.

Titling reform would occur, unfortunately, at the provincial level. It would require busting the surveyor's guilds and removing legal restrictions on the subdivision of agricultural

land.

3. Attempts at reform

The belief that it would be worthwhile to reform of the legal framework governing secured transactions is based on the assumption that other forms of collateral could perform nearly as well as real estate or as new motor vehicles if only the law would allow it and if only the registry system would function properly. That is, it is assumed that many borrowers do indeed have some type of collateral, even if the law does not make it practical for lenders to accept the types of collateral that the borrowers do have. Given the experiences with lending against movable collateral in other countries, these assumptions are probably realistic.

There have been two recent attempts at reform. The first brought all motor vehicles under the law that previously had governed only personal passenger vehicles. The second attempted to implement, by decree, most of the recommendations of Fleisig and de la Peña (1995, 1996).

a. Reforms for pledging motor vehicles

Pledging an automobile has been possible for some time in Argentina. Cars had their own legal framework and their own national registry. Execution was rapid. On July 10, 1996, the Senate Chamber of the National Congress published “Orden del día Nro. 723” in *Dirección publicaciones*. The law brought all motor vehicles, including pick-up trucks, trucks, busses, tractors, and combines into the registry system that previously had governed only cars.

In practice, creditors have accepted only new motor vehicles as pledges. This is because potential creditors cannot use the registry to verify the non-existence of a previous lien on a used motor vehicle, because motor vehicles depreciate rapidly, and because used motor vehicles have thin resale markets relative to those for used real estate.

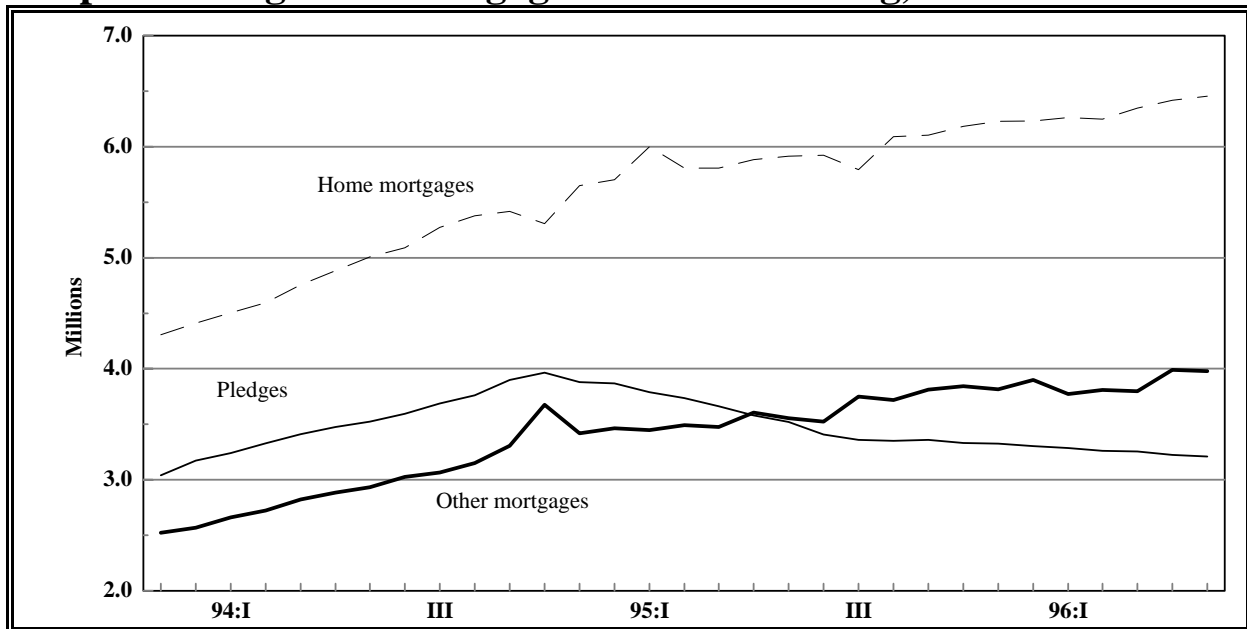
The attempt to reform the legal framework for pledging motor vehicles effectively addressed the problem. It remains to reform the registry itself.

b. General reform for secured transactions

The presidential decree “Decretos: Ley de Prenda” published in the *Boletín Oficial Nro. 28.293* on Dec. 18, 1995 was a remarkable attempt to implement most of the recommendations for the general reform of the legal framework for secured transactions by Fleisig and de la Peña (1995, 1996). The explicit purpose of the decree was to facilitate the use of goods and machinery as guarantees in order to promote the purchase of capital and consumer goods. Its most important provision is to allow for security interests to be taken in any type of assets by any creditor in any type of transaction, subject to some specific exceptions.

The decree tries to remove several constraints on the optimal allocation of credit in Argentina in one fell swoop. It addresses shortcomings due to the form of Argentine law in general, attempts to patch specific gaps in the law, and tries to speed the process of judicial

Graph 9: Pledge and mortgage loans outstanding, 1994:I-1996:II



Source: BCRA, 1996d.

seizure and sale. It does not, however, address the problems of the registry system, and it is unclear how the president's decree, without the authority of a law passed by lawmakers, will be executed.

Unlike Argentine law in general, the decree allows anything that it does not specifically prohibit. It allows, in general, for any type of movable property to be pledged, for any type of loan to be guaranteed by movable property, and for anyone to make or accept pledges of movable property. With some specific exceptions it gives the contract between the borrower and the lender precedence over the decree. It also provides for criminal penalties for several abuses the prevention of which was previously attempted by outlawing certain types of transactions.

c. Reforms of the process of judicial seizure and sale

The decree intends to avoid, at least in some cases, the need to resort to the legal system in the case of default by providing for harmless repossession. That is, the creditor can repossess and sell the pledged movable property without recourse to the judiciary if it can be done peacefully. The decree also attempts to speed those cases that are taken to the judiciary by limiting the times required between certain steps.

d. Other reforms

The decree also addresses several other specific weaknesses in the framework for secured transactions. It allows any type of legal entity to accept or offer a floating security interest, and floating security interests are allowed to guarantee relatively long-term loans. Floating security interests can be taken in cattle, grain, or account receivables as long as the contract describes the interest well enough to allow fungibility with other units of the same class.

The decree also extends security interests over the sale, production, or other transformation of a good. This means that inventory can be rotated or even depleted, as long as a

Box 16: Why provincial banks are for sale

Provincial banks are for sale because poor management, inefficiency, and politicized lending led to crippling arrears and operating costs. Bail-outs were swallowed as if by black holes. Losses were chronic because provincial governments wanted the public banks not only to intermediate between surplus and deficit units but also to (World Bank, 1994):

- Finance government deficits;
- Do development banking;
- Lend at subsidized rates;
- Collect taxes without remuneration;
- Create employment.

The only way inefficient public banks could hope to do all these things that even efficient banks cannot do was with help from the government. The help took the form of:

- Free deposits from the government;
- Relaxed reserve requirements;
- Tax exemptions;
- Government guarantees on deposits;
- Protection from bankruptcy and weak supervision.

The banks were immune to threats of the BCRA of closure for insolvency or illiquidity because they were created under provincial law. But eventually the provincial budgets, strained by newfound discipline, could not give any more. Privatization followed (Carrizosa *et al.*, 1996).

proportionate amount of debt is repaid, and that investments such as orchards can be guaranteed with their fruit.

e. Shortcomings of the reforms

While the decree and the change in the law governing pledges of motor vehicles are positive steps, they do not solve all the problems involved in using movable property to guarantee loans in Argentina. For example, the decree is not a law, and it is unclear what its effects will be in practice. For example, pledge loans have decreased since the end of 1994 even as mortgages has increased (Graph 9). In addition, it is unclear whether the judiciary will follow the decreed changes in the times required for certain judicial processes.

Neither the decree nor the law affect the prudential regulations of the BCRA. In any case, these regulations are probably appropriate anyway, and they have only a small effect on the acceptance of movable property as collateral. Perhaps most importantly, neither the law nor the decree addresses the fundamental problems of the registry system for movable property.

f. Recommendations

The recommendations of Fleisig and de la Peña (1995, 1996) are eminently reasonable and already have the support of the president, as evidenced by his decree. It would seem that, in time, the essence of the decree would become law if it were introduced to the lawmaking bodies.

Other attempts at reform should focus on strengthening the institutions that support the smooth operations of the framework for security interests. Thus would include the introduction

Box 17: Mergers of rural banks in the United States

Argentina is not the first country to fret over the loss of local ownership of rural banks. In the United States since 1979, 2,500 small, rural banks have been in mergers, usually with large, urban banks. The experience is examined by LaDue and Duncan, Neff and Ellinger, Featherstone, Lovonian, and Rose (1996).

Like Argentina, the United States worried that large banks would swallow small, rural banks without salvaging their comparative advantages. As expressed by Neff and Ellinger (1996), "Smaller locally owned banks typically have developed strong relationships with borrowers and have more expertise in local agricultural production processes than do larger regional banks. They are often better able to identify the needs and problems of local-market, small business participants". In addition, urban banks usually emphasize not agricultural lending but rather fee products.

Research has found that mergers have not changed the financial services available to rural people in the United States, at least not much and at least not yet. Featherstone (1996) and Neff and Ellinger (1996) found that mergers did not reduce lending to rural businesses. In addition, mergers may have created economies of scale and helped diversify risks.

of single national registries for pledges of whatever kind, including livestock. Reforming the existing registries could be difficult, given their nature as private monopolies.

Although the attempts at marginally increasing competition described in Bacchiocchi *et al.* (1995) could make marginal improvements, it would seem more effective to create a single centralized registry. The registry need not be publicly owned, but if private, it should be regulated to ensure that its monopoly power does not lead to the same problems it was meant to solve.

If the new registry were computerized with a database keyed on relevant fields, and if the new registry could do business by telephone or by fax as well as in person, it could operate with a small staff and budget. Its prices could be low, and transactions costs to users would also be low. With remote access by telephone or fax, even small, rural producers could access the registry. Local registries would die out unless they could serve as local connections to the national service.

D. Effects of privatizing public banks

Much of the fragility of the banking system in Argentina can be traced to the weaknesses of the national, provincial, and municipal banks (Box 16). An important part of consolidation has been the privatization of most provincial banks (Table 12).

Public banks have been especially important in rural areas. They would often lend to borrowers who could not borrow from private banks. They had branches in remote communities where private banks dared not tread. Finally, they cherished a special vocation for agriculture.

In most cases, privatization will not decrease access to financial services by small, rural producers. This is because the public banks being privatized have been already been moribund for a long time, and access could hardly get worse. For example, only about 2 percent of the portfolio of the Banco de Salta (Box 18) was transferred to its new owner. The rest was in arrears. Likewise, 60 percent of the portfolio of the provincial bank of Santa Fe is unrecoverable.

The World Bank (1995) is a good summary on consolidation and privatization in general. This report focuses on the effects of consolidation and privatization on access to financial

services by small, rural producers. It concludes that, because there is little access to be lost in the first place, privatization will decrease access only slightly in the short run. Consolidation will increase access in the long run because it will strengthen competition and confidence.

Meddling is unlikely to cure the ills caused by meddling. Privatization probably will not increase access to credit by small, rural producers soon. But most people who will lose access due to privatization probably benefitted from interventions that made the rest of Argentina suffer.

Privatization should not discard the infrastructure of rural branches capable of supplying consumer credit and, most importantly, deposit services to small, rural producers. Although these branches may be unviable now, they could serve as laboratories for technological experiments to reduce the costs of supplying financial services in rural areas.

1. Benefits of consolidation

Consolidation in Argentina has meant strong banks acquiring weak banks. The number of banking entities has shrunk rapidly. There were 250 in 1990, 205 at the end of 1994, 158 in Sept. 1995 (Table 13), and 138 in 1996. When consolidation is complete, there will probably be less than 100 entities (Table 14).

Table 12: Provincial bank privatizations (Jan. 1996)

Completed	In process
Chaco	Catamarca
Corrientes	Córdoba
Entre Ríos	Jujuy
Formosa	Mendoza
La Rioja	San Juan
Misiones	San Luis
Río Negro	Santa Cruz
Salta	Santiago del Estero
Tucumán	Tierra del Fuego
Total branches: 195	Total branches: 172

Source: Fiorentino, 1996; BCRA, 1996b.

Table 13: Number of Financial Entities by Type, Dec. 1994 and Sept. 1995

Type of entity	Dec. 1994	Sept. 95	Change
Public national	4	4	0
Public provincial and municipal	29	28	-1
Public total	33	32	-1
Private national	66	58	-8
Private foreign	31	31	0
Cooperatives	38	8	-30
Non-banks	37	29	-8
Total private banks	172	126	-46
Total	205	158	-47

Source: ADEBA, 1995.

The most important function of privatization is restoring the profit motive. The most important benefit of the profit motive is increased efficiency and competition. Private owners will end politicized lending, and competition will increase both among individual banks, among banking products, and between banks and other non-bank financial entities such as insurance companies and finance companies (World Bank, 1994).

Competition will eventually force banks to compete along margins they used to ignore. For example, banks may explore rural deposit mobilization or agricultural lending because the competition there is less fierce than in consumer lending or in prime-rate lending.

Privatization will increase efficiency also because private banks pay higher salaries and attract better managers. It will also spawn niche-lending to sectors such as agriculture. As in the United States (Box 17), consolidation of rural banks in Argentina probably will have the result that “following some amount of short-run adjustment, total rural credit availability should be little affected by bank consolidation” (Lovonian, 1996).

Table 14: Expected number of banks after consolidation

Type of bank	Number
Foreign private banks	30
Large national private banks	20
Small national private banks	12
Public banks	5-10
Cooperatives	5-10
Wholesale banks	5
Total	77-87

Source: World Bank, 1995.

Box 18: Effects of privatizing the provincial bank of Salta

The public Banco de Salta was sold to the private Banco Macro in March of 1996. In many ways, the old public bank represented all that was wrong with public banks. Less than 2 percent of the portfolio (\$6.6 million of \$480 million) could be transferred to the new owners; the rest was in arrears. The bank was bloated with employees, and it had no ATMs. In the year before the sale, the banks did not make any loans.

The privatization rekindled hope. The new owners decreased the number of employees from 480 to 280 and made a plan to install a network of ATMs. Although it is illegal to close any branches, the new owners hope to decrease the costs of rural branches through computerization.

There are some signs that the bank may reach small, rural producers. It is against the law for the new private bank to lend to the province, and management says the portfolio will be concentrated in agriculture and mining. The bank makes uncollateralized loans of \$1,000 to \$1,500 to employees of the province, of the military, or of petroleum companies. In addition, it bundles free passbook accounts, signature loans, and credit cards for public employees who agree to have their salary deposited directly with the bank and to have their loan repayments automatically deducted.

But the problem of access for small, rural producers have yet to be resolved. The bank has yet to lend much to any sector in the province, let alone to agriculture. The bank's commitment to retail service is unknown. As the name *Banco Macro* implies, the new owner is a wholesale bank, and its portfolio consists almost entirely of inter-bank loans.

Retail accounts are attractive relative to other Argentine banks but not attractive absolutely: the 10,000 passbook accounts earn 5.5 percent per year and cost \$3 per month in maintenance fees on an average balance of \$1,000. Checking accounts cost \$20 per month, plus additional fees per check. Credit cards carry no annual fee, an \$8 monthly fee, and an interest rate of about 40 percent per year. More than 60 percent of the bank's deposits come from the province, bound by law not to use other banks.

Maybe the bank is simply being prudent. It must woo depositors, many of whom lost deposits in the old public bank. Inter-bank loans are liquid and protect against a run by depositors or an unexpectedly large withdrawal by the province. Finally, its consumer-oriented products are not unusually expensive by Argentine standards.

2. Worry of loss of intangible assets

The acquisition of a rural bank by an urban bank could decrease access to financial services by small, rural producers if intangible assets are lost (Gonzalez-Vega and Graham, 1995). Intangible assets may include:

- A vocation for agriculture;
- Knowledge of the characters and cash flows of good borrowers who nevertheless do not seem creditworthy when evaluated on collateral alone;
- A network of rural branches;
- A rural focus.

In several ways, worries about these dangers seem to be justified in the case of the privatization of the Banco de Salta (Box 18).

a. Loss of vocation to agriculture

The two banking entities most devoted to agriculture—cooperatives and provincial banks—were those most affected by consolidation. The World Bank (1994) says that “access problems appear to be more difficult in the more remote provinces and in some sectors such as small farmers and sharecroppers. The access problem may have intensified as the directed credit programs of the provincial banks and BNA were curtailed” (p. 13).

Consolidation probably will not affect the agricultural portfolio of cooperatives. Like other private banks, cooperatives lent to agriculture before consolidation because it was their business, not because they were directed to for political reasons.

Consolidation will probably decrease the agricultural portfolio of privatized provincial banks for at least three reasons. First, most of the agricultural portfolio was delinquent. Privatized banks will lend less to uncreditworthy farmers than did provincial banks. Second, provincial banks had a development focus. They made risky loans in the name of social benefits and dipped into the provincial treasury to cover their costs. Privatized banks care only about private benefits and cannot mooch from taxpayers to cover their costs. Third, provincial banks often administered directed-credit programs, often to agriculture. These will disappear with privatization.

Private lenders will slowly be sucked into the vacuum created when provincial banks stopped lending even to creditworthy borrowers one or two years ago. Private lenders will be attracted by less fierce competition. Although this vacuum preceded privatization and results from the same inefficiencies that prompted privatization, it is not a result of privatization. In the short run, some creditworthy borrowers will remain without access. This will change, but the switch takes time.

b. Loss of knowledge

If provincial banks had non-institutionalized knowledge of borrowers' characters and if provincial banks had special knowledge of the cash flows of agriculture, then these intangible assets could be lost in the process of privatization, reducing access to financial services by small, rural producers. But this is not the case. The provincial banks usually lent on the basis of collateral, not character and cash flows. Disbursements and repayments were not especially tailored to agricultural cash flows. Just like their new private owners, the provincial banks made cookie-cutter loans.

Privatized banks have not lost any knowledge of the characters or of cash flows that might have existed. Few branches have been closed. The employees who have been fired are not those who would carry specialized knowledge. In many cases, knowledge was already impersonalized anyway. New owners may move lending decisions from the provincial capital to Buenos Aires, but for most borrowers, bankers in either capital are equally distant from characters and cash flows.

c. Loss of network of branches

Public banks lost 102 branches (6 percent of their total) in the first six months of 1995 (Table 15). Private banks gained 33, so branches disappeared on net. Privatization is reducing the number of rural bank branches. Although new owners are generally prohibited from closing acquired branches for several years, it seems they are allowed to close purchased branches near other branches they already own and which could be claimed to be redundant.

Table 15: Number of Branches by Type of Entity, Dec. 1994 and June 1995

Type of entity	Dec. 1994	June 1995	Change
Public national	550	550	0
Public provincial and municipal	1,116	1,014	-102
Total public banks	1,666	1,564	-102
Private national	2,144	2,166	22
Private foreign	391	402	11
Total private banks	2,535	2,568	33
Non-banks	106	103	-3
Total	4,307	4,235	-72

Source: ADEBA, 1995.

The loss of rural branches is serious because the branches closest to the frontier of formal finance are linked to provincial banks and because these branches supply savings and payment services even if they do not supply credit. For example, the branch of the Banco de Salta in Cachi (Box 10) has only two loans outstanding and 15 overdrafts, but it processes 150 transactions per day and maintains \$455,000 in savings accounts.

There is a strong consensus that new owners should be allowed to close unprofitable branches. Many rural bank branches were created for political reasons (interview with Susmel) or to capture the inflation tax (World Bank, 1994). Argentina has too many bank branches (World Bank, 1994), and “there is a need ... to permit buyers greater leeway in the closure of non-viable branches” (Carrizosa *et al.*, 1996).

In the short run, however, closure is usually prohibited. With or without profits, new owners must keep rural branches open. In the short run, this increases access to financial services by small, rural producers. In the long run, this could also increase access if privatized banks, in an effort to minimize losses, experiment with technology.

Thus privatization is both a threat and an opportunity for rural finance. Without new technology, isolated rural branches will eventually be abandoned. But the short-term moratorium gives the new owners an incentive to develop cost-effective technologies. These could include non-traditional hours, mobile banking, remunerative savings for small deposits, and ATMs.

d. Loss of rural focus

Many of the new owners of privatized banks are wholesale banks (Box 18). There is a fear that, even if rural branches are not abandoned, there will be a giant sucking sound as savings from rural provinces fund credit in Buenos Aires. In the long run, competition should block any leaks of local savings for distant credit. In the short run, new owners may indeed exploit rural savings to fund urban credit.

The volume of savings outside of Buenos Aires exceeds the volume of credit outside of Buenos Aires. But this is not necessarily evidence of urban bias. Some regions may demand more savings than credit or vice versa. Even though every region has some residents who are

surplus units and others who are deficit units, a region as a whole may be in either surplus or deficit.

If a rural region is in surplus, then there is nothing wrong with shifting its savings to credit in the capital. The shift increases the return earned by rural savers while improving the national allocation of capital.

If supply follows demand, then the ratio of the share of a given region in the loan portfolio of the nation to that region's share of deposits is an indicator of a region's being in surplus or deficit. Surplus regions save more than they borrow and have ratios less than unity. Conversely, deficit regions borrow more than they save and have ratios more than unity.

If supply does not follow demand, then the ratio does not necessarily indicate anything about a region's being in surplus or deficit. Regression analysis can be test whether the ratio depends on supply factors as well as demand factors. Regression analysis can also be used to test whether agricultural lending is affected by supply factors. If supply factors make a difference, then urban bias is possible.

It turns out that supply—through the density of branches and the currency of loans—does affect agricultural lending and lending in general. But the urban/Pampian bias is small and probably does not warrant intervention.

i. Surplus and deficit regions

About 80 percent agricultural lending goes to La Pampa (Table 16). Although the ratio of the share of peso loans to the share of peso deposits is less than unity, the same ratio for all loans and deposits is greater than unity (Graphs 10 and 11). This means that people in La Pampa save more in pesos than they borrow in pesos. They also borrow even more in dollars than they save in dollars, and the dollar difference exceeds the peso difference.

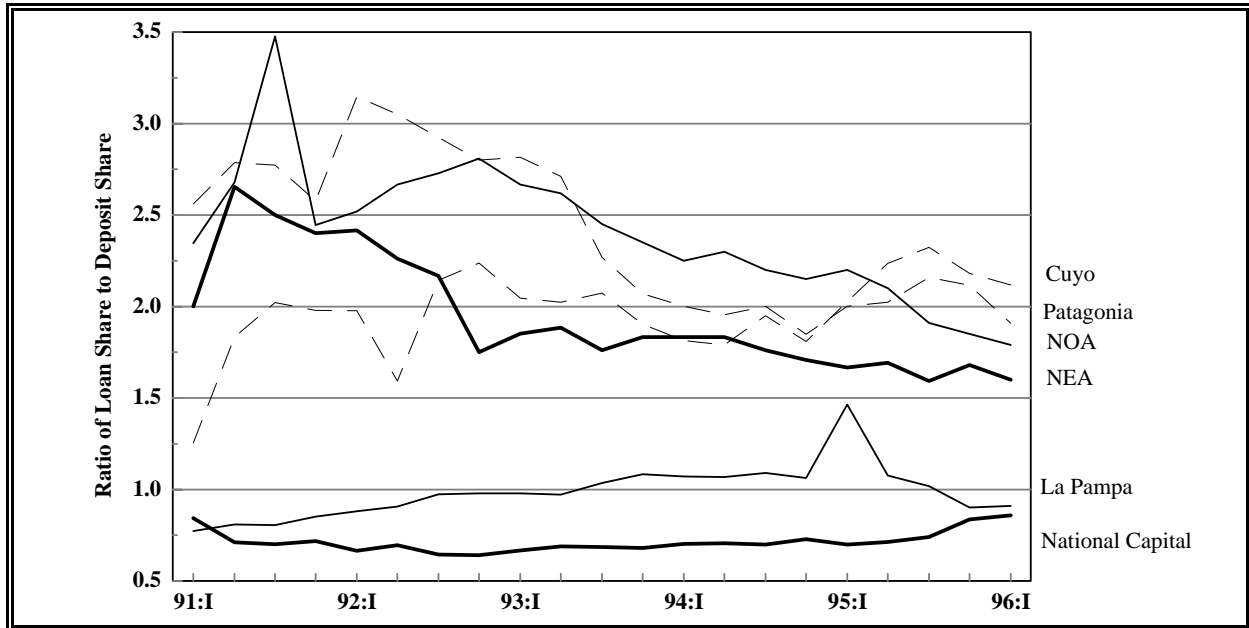
The 1996 ratios differ from those of the previous five years (Graphs 10 and 11). From 1991 to mid-1993, La Pampa was a surplus region in terms of pesos, but from mid-1993 until the end of 1995 it was a deficit region in terms of pesos (Graph 10). For dollars and pesos together, La Pampa has always been a deficit region, but the ratio has fallen from 1.9 in 1991 to about 1.2 in 1995 (Graph 11).

Cuyo, NEA, NOA, and Patagonia mirror La Pampa. They are deficit regions in pesos but surplus regions in pesos and dollars together. While the peso deficit of the non-Pampian regions fell from 1991 to 1996, their overall deficit with pesos and dollars together did not change much between 1991 and 1995 (Graphs 10 and 11). The national capital, whose ratios are also plotted in Graphs 10 and 11, is surplus region for both pesos and for pesos and dollars together.

Financial services in dollars are more desirable than financial services in pesos. Dollar deposits are not subject to devaluation risk. Loans in pesos are usually shorter and more expensive than loans in dollars. Peso loans are short because peso liabilities are short because of depositor's fears of devaluation and their use of pesos in transactions. Peso loans are expensive because of borrower's expectations of devaluation risk and because of high intermediation costs.

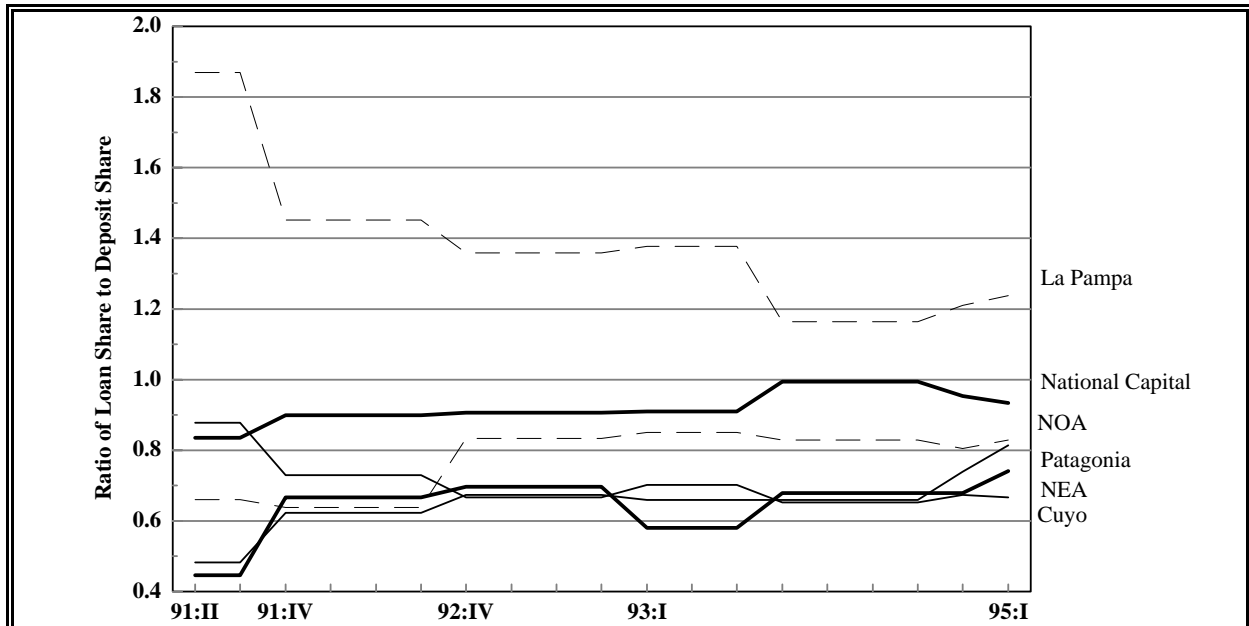
The shortness and dearness of peso loans means that borrowers will use them only when they cannot get dollar loans. Those with peso loans are thus the most undesirable borrowers, creating adverse selection and further increasing interest rates for peso loans. The imbalance of peso loans outside of La Pampa and of dollars loans in La Pampa suggest, unless non-Pampian borrowers are unusually uncreditworthy, a bias in favor of La Pampa.

Graph 10: Ratio of share of peso loans to share of peso deposits, 1991:I-1996:I



Source: BCRA, 1996d.

Graph 11: Ratio of share of all loans to share of all deposits, 1991:II-1996:I



Source: BCRA, 1996d.

Table 16: Check for Pampian bias in agricultural lending

Region	1	2	La Pampa (1)	La Pampa (2)
	Region. Ag. loans/ National ag. loans	Regional Ag. GDP/ National GDP	----- Other (1)	----- Other (2)
La Pampa	0.80	0.0708	1.0	1.0
Cuyo	0.03	0.0028	26.7	25.3
NEA	0.05	0.0048	16.0	14.8
NOA	0.06	0.0055	13.3	12.9
Patagonia	0.07	0.0063	11.4	11.2

Sources: personal communication with FINAGRO for the year 1990.

The data do not reveal, however, if non-Pampian borrowers are worse than borrowers from La Pampa or the national capital. Nor do they reveal if lenders unfairly deny dollar loans to non-Pampian borrowers who are just as creditworthy as borrowers in La Pampa or the national capital. Any risk differential probably is not large enough to explain the difference.

ii. Agricultural lending

The first column of Table 16 is the ratio of agricultural loans in a region to the total agricultural loans made in the nation. The second column of Table 16 is the ratio of GDP from the agriculture of a region to national GDP. If La Pampa gets loans for agriculture in proportion to the contribution of its agriculture to GDP, then the ratios of the Pampian value in column 1 to the non-Pampian values in column 1 should be similar to the ratios of the Pampian value in column 2 to the non-Pampian values in column 2.

In general, this is the case (Table 16). La Pampa does get slightly more (between 2-8 percent) than its share of agricultural loans. Still, this does not necessarily imply bias because Pampian farmers may be more creditworthy and/or have higher effective demands for credit than do farmers in other regions.

iii. Regression analysis

Regression analysis may shed some light on whether demand alone drives the patterns discussed above or whether supply also matters. The dependent variables summarized in Table 17 have been aggregated from the provincial level to the regional level. Most agricultural lending goes to La Pampa. While La Pampa is in surplus with respect to pesos, it is in deficit overall, and so it is in deficit with respect to dollars. The non-Pampian regions have the opposite pattern.

These three dependent variables can be regressed against independent variables (Table 18). The density of branches, whether in terms of population or in terms of land, is controlled by banks and proxies for supply. The importance of agriculture in the regional economy, the size of the regional economy relative to the national economy, and the regional population density proxy for demand. Another proxy for effective demand, the percentage of the agricultural portfolio in arrears, does not appear in Table 18 because aggregation from the province to the region was not possible.

Table 17: Summary statistics of dependent variables by region

Region	Regional ag. loans/ National ag. loans	Share of peso loans/ Share of peso deposits	Share of all loans/ Share of all deposits
La Pampa	0.80	0.9	1.2
Cuyo	0.03	1.9	0.8
NEA	0.05	1.8	0.7
NOA	0.06	1.6	0.8
Patagonia	0.07	2.1	0.7

Sources: BCRA, 1996d; communication with FINAGRO. GDP figures are for 1990.

The test proposed is as follows: if the coefficients on supply variables in a simple regression are large and statistically significant, then it is inferred that supply affects the dependent variable. In this case, rural areas or agriculture are rationed relative to urban areas and non-agriculture. The regressions are run with data at the provincial level.

iv. Agricultural lending

Independent variables for supply have coefficients which are large and which are statistically likely to differ from zero (Table 19). They indicate that regions with denser branch networks have disproportionately large shares of agricultural lending. The rest of the regression inspires confidence because the coefficients on the demand variables have the expected signs and are also statistically likely to differ from zero. R-squared is high.

It seems that agricultural lending depends not only on demand but also on the density of the branch network of suppliers, and that those provinces with relatively few branches are also those provinces with disproportionately small agricultural portfolios. Agriculture seems to be rationed through access to branches.

v. Surplus and deficit regions

The regressions with the ratios indicating surplus or deficit status do not inspire much confidence (Table 19). The R-squared are low, and the coefficients on the demand variables are statistically unlikely to differ from zero. The signs on the supply variables suggest that peso lending decreases and dollar lending increases as branches are more dense in terms of land area. They also imply that peso lending increases and dollar lending decreases as branches are more dense in terms of population. This does not have any obvious interpretation.

In summary, there is some evidence of a slight rationing of rural and agricultural regions. The more rural a region is and the more important agriculture is, the more likely it is to use peso loans and the less likely it is to use dollar loans, relative to its deposits. The more branches a region has, the more likely it is to have a disproportionate amount of agricultural lending.

Privatization will exacerbate this bias if it leads to closing rural branches. But the bias is slight and the evidence is weak. Tweaking the privatization process to try to remedy this bias would undermine rural financial markets more than it would develop them because it would delay the full arrival of competitive forces for only a marginal, uncertain gain.

Table 18: Summary statistics of independent variables by region

Region	Supply		Demand		
	Branches/ 1000 people	Branches/ 100 km ²	Agric. GDP/ Regional GDP	Regional GDP/ National GDP	People/km ²
La Pampa	0.114	0.249	0.12	0.59	21.8
Cuyo	0.100	0.081	0.07	0.04	8.1
NEA	0.077	0.075	0.16	0.03	9.7
NOA	0.065	0.043	0.11	0.05	6.6
Patagonia	0.134	0.033	0.09	0.07	2.5

Sources: Business and Brokers, 1996; BCRA, 1993b; INDEC, 1991; communication with FINAGRO. GDP figures are for 1990. Branches are for 1993. Population is for 1991.

E. Other constraints

Other factors may constrain access to financial services by small, rural producers. Regardless of efficiency, financial services in rural areas cost more than in urban areas. Small, rural producers often have no formal credit history and no way to build one. This perpetuates of the idea that they are extraordinarily risky. Culture and taxes may also be constraints.

1. High costs

Regardless of efficiency, rural financial services cost more than urban financial services. Rural population densities and thus transaction densities are low. This reduces the economies of size that would dilute the fixed costs of branches or ATMs. Likewise, small loans have high average costs because they have large fixed-cost components.

2. Demand competition

Small, rural producers appear risky but they want cheap, long-term, uncollateralized loans. They can hardly compete with urban consumers who appear safe and only want expensive, short-term, collateralized loans. Numbed by hyperinflation, urban consumers are insensitive to interest rates and have a strong demand for credit.

In addition, government deficits are beginning again to crowd out marginal private borrowers. Banks are unlikely to risk rural lending when other sectors offer safer demand and when the banks themselves are adjusting and consolidating.

3. Perceived risk

Banks perceive small, rural producers as extraordinarily risky. Regardless of the lending technology, borrowers without collateral are indeed riskier than those with collateral. But that does not necessarily imply that those without collateral are prohibitively risky. The lending technology used in Argentina requires large and small producers to signal creditworthiness with collateral. Small producers cannot help but appear uncreditworthy.

If small producers cannot offer collateral, banks should lend to them only if they are creditworthy even though they cannot show it. This is the case only if the lending technology requires unnecessary and/or inappropriate signals.

Table 19: Regression results

		Independent variable	Dependent variable					
			Prov. ag. loans/ All ag. loans		Share peso loans/ Share peso depts.		Share all loans/ Share all deposits	
			Coef.	p value	Coef.	p value	Coef.	p value
Continuous	Supply	Branches/100 km ²	0.19	0.02	-4.90	0.16	0.99	0.49
		Branches/1000 people	0.08	0.16	7.39	0.18	-0.62	0.78
	Demand	Ag GDP/Region GDP	0.45	0.14	5.60	0.69	2.57	0.67
		Prov. GDP/Nat'l GDP	-0.13	0.74	-6.78	0.71	-5.53	0.47
		People/km ²	-0.001	0.10	0.03	0.26	-0.003	0.82
		Ag. portfolio in arrears	-0.01	0.41				
Dummies	La Pampa			0.420	0.66	1.208	0.01	
	NEA			1.279	0.03	1.382	0.00	
	NOA			1.297	0.02	1.179	0.00	
	Cuyo			1.898	0.01	1.492	0.00	
	Patagonia			1.198	0.15	1.255	0.00	
	R-squared			0.93		0.54		0.48

International experience suggests that lending can be based on character and cash flow instead of collateral. But an Argentine bank which risked a foray into lending to small, rural producers using such technology would be unable to hide the results of the experiment from its competitors. If rural borrowers turned out to be as risky as feared, the experimenting banks would bear all of the costs. If they turned out to be creditworthy, however, the experimenting bank could not reap all of the benefits. This suggests a failure in the market for information about the creditworthiness of rural borrowers.

A national credit bureau with both positive and negative credit histories would help. Even though there are local credit bureaus and the BCRA publishes a list of borrowers in serious arrears, there is no cheap, public record of someone who has demonstrated character by having borrowed and repaid. The lack of a national credit bureau hurts geographically dispersed rural producers more than others. Even if no bank dares to experiment with lending on character and cash flows, the credit bureau could accrue the experience of all banks with occasional non-collateralized rural loans. Eventually, this would establish the actual risk of lending to small, rural producers.

4. Taxes

Any potential user of a regulated intermediary must be in good standing with the tax authorities. Individuals must present a receipt from their latest pension contribution (*aporte previsional*). Firms must also prove their registration for the VAT.

Many small, rural producers evade taxes. This prevents their use of regulated intermediaries. Tax compliance is costly. Besides actual tax expenditures, taxpayers must keep up on tax law and maintain formal records. Taxpayers must travel to banks to make tax payments, and sometimes they must hire an accountant. Although past IVA evasion is forgiven, past pension

contributions are not forgiven, and any person wishing to formalize must pay a debt of back-taxes.

The government should not wink at tax evasion. Many small, rural producers evade taxes only because they want to free-ride on other taxpayers. Pension contributions are needed for the private investment needed for robust, sustained growth. They also provide for the contributor's retirement.

Still, banks are not tax police. They should not be forced to enforce tax compliance. In the past, enforcing tax compliance through banks affected only the richest because no one else could afford financial services. Now most households could afford at least small deposits, but tax compliance prevents access.

The pension contribution also may be inappropriately large for the poor and/or self-employed. These households spend a high proportion of their incomes on current consumption. Flat taxes such as the VAT can be unfair if large or formal businesses benefit from public services disproportionately compared to small or informal businesses.

5. Culture

Regardless of how much small, rural producers like credit, they dislike debt. Indebtedness can lead to ruin if mortgaged land or machinery is repossessed. Aversion to debt is cultural or irrational if it is a reaction to pure fear, but it can also be a rational response to risk.

Group-based lending technology can be a boon to rural areas because it reduces transactions costs. It also increases loan sizes and so decreases average costs. But many farmers are reluctant to form groups to borrow for shared machinery. This results both from bad experiences with failed cooperatives and from rugged, macho individualism.

In some cases, populism and opportunism have reduced access to credit for farmers. Banks are wary of agricultural lending after farmers forcibly prevent auctions of land acquired after defaults. Banks also know that some farmers retain the image of credit as a panacea or as a gift.

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Annex I: An analysis of Fundación Emprender

A. Introduction to Emprender

The NGO Fundación Emprender is an urban microfinance organization with three branches in low-income areas of greater Buenos Aires, two branches in the city of Córdoba, and one branch in the city of Tucumán. It is Argentina's only significant NGO microfinance organization.

Emprender means *to tackle* or *to take on* in Spanish. Emprender is small. It had about 2,200 loans outstanding as of April 30, 1996. Still, it is larger than any other NGO microfinance organization in Argentina. Even though Emprender lends to urban microentrepreneurs, an analysis is included here because Emprender is the only microfinance organization of any size, experience, or success in Argentina. Therefore, it will be both the example new microlenders will try to imitate and the yardstick against which their performance is measured.

Emprender patterns its group-based lending technology on the Bolivian microlender PRODEM and on PRODEM's daughter, BancoSol. Acción Internacional, the midwife of PRODEM, has also been instrumental in the development of Emprender. Although Emprender's portfolio is small, its potential for growth is vast, given the relative lack of competition and the possibility of learning from the worldwide experience of NGOs in microfinance.

This rest of this annex analyzes Emprender's outreach and financial self-sustainability. It also examines its productivity and efficiency. The performance of Emprender in its first five years is compared with that of PRODEM at a similar stage of development. All figures for PRODEM are from Gonzalez-Vega *et al.* (1997).

Emprender has weathered the Tequila Crisis and the subsequent recession which struck its clients particularly hard. Emprender has extremely high operating costs. Although it also charges high interest rates, it does not cover the economic costs of its operations. Overall, however, Emprender has performed remarkably well. Argentina will be fortunate if its fledgling flock of NGO microlenders grow up like Emprender.

B. Conception and birth

Emprender was conceived in 1989 by a group of bankers and a wealthy Argentine businessman. The group waited to begin operations until 1992, when it was clear that the stabilization of the economy would last. Private individuals provided the initial funding through non-refundable donations to a foundation. Emprender's unusual strength and performance is undoubtedly linked to the unusual commitment of the money and time of private individuals. In addition, the private provision of equity capital means that there is no implicit subsidy to equity.

Emprender has a two-pronged mission. The first objective is to lend on terms useful to microentrepreneurs. Emprender does this chiefly by evaluating potential borrowers according to their characters and cash flows. Traditional collateral requirements are virtually ignored. Borrowers organize themselves into groups where each member is jointly and severally liable for the debts of the other members of the group. Loans begin small and grow as borrowers prove their willingness and ability to repay.

The second objective is to provide borrowers with training to improve their business acumen. The training also fosters loyalty to Emprender and improves the ability and willingness of

borrowers to repay. Training poisons most microfinance organizations that dabble with it. For example, PRODEM and BancoSol avoid training and concentrate solely on financial intermediation. Emprender, however, has avoided the pitfalls that usually plague mixing finance with training.

Two factors explain this unusual success. First, Emprender built a firewall between the accounts and between the operations of the financial and training divisions. It is easy to see how each division contributes to the organization's overall financial result. This prevents training operations from draining resources from lending operations. Second, clients must pay for training even if they do not attend the classes. Involuntary payment helps cost recovery. Voluntary attendance helps maintain training quality. About half of the clients attend the classes, suggesting that they are of unusually high quality.

C. Outreach

1. Breadth

Outreach can be defined in terms of breadth, depth, and quality. *Breadth of outreach* refers to the number of clients served. In its first four years, Emprender has made about 18,700 loans to about 4,800 different borrowers (Table 20). As of the end of April 1996, Emprender had 5 branches, 16 loan officers, and about 2,200 loans outstanding.

Emprender lags considerably behind PRODEM in terms of breadth of outreach. In its first four years, PRODEM disbursed 62,582 loans to 12,198 borrowers. After four years, PRODEM had 11,394 loans outstanding, and the average balance outstanding was \$163. Four-year-old Emprender is also considerably smaller than was four-year-old PRODEM, which had 3 branches but 31 loan officers.

Of course, PRODEM is in Bolivia and Emprender is in Argentina. Even given the scarcity of formal finance for small producers, Emprender probably faces more competition than PRODEM. Still, it seems that although Emprender has grown rapidly and is the most important microfinance NGO in Argentina, it has not matched the pace of PRODEM, one of the world's foremost microfinance organizations.

2. Depth of outreach

Depth of outreach refers to the difficulty of supplying formal financial products for a given clientele. Loan size is an important proxy for depth of outreach because the average cost of lending generally increases as loan size decreases. For Emprender, the average balance outstanding as of April 30, 1996 was \$826 (Table 20). For PRODEM, the average balance outstanding at a similar age was \$163. For Emprender, the average loan disbursed between April 1995 and April 1996 was for \$1,232 with a term to maturity of about 13 weeks. For PRODEM, the average amount disbursed during its fourth year was \$279 with a term to maturity of about 16 weeks. Finally, for Emprender, the average dollar-years of debt per loan was about \$212, while for PRODEM, it was about \$54.

Compared to PRODEM, Emprender makes larger loans. If these loans go to the *crème-de-la-crème* of microenterprises, then Emprender has shallow outreach. The ratio of loan size to per capita GNP is, however, considerably lower for Emprender than for PRODEM. Since GNP per capita in Argentina is about \$8,000 and GNP per capita in Bolivia was about \$600, the ratio of average amount disbursed to GNP per capita is about 0.15 for Emprender and about 0.47 for

Table 20: Key production and productivity indicators for Emprender, 1993-1996

For the year ending as of date	30-Apr-93	30-Apr-94	30-Apr-95	30-Apr-96
1. Ave. portfolio outstanding	96,802	550,649	1,333,465	1,783,917
2. Ave. # loans outstanding	158	675	1,578	2,159
3. Ave. amt. outstanding per loan	614	816	845	826
4. Arrears	9%	2%	7%	10%
5. Amt. disbursed	804,096	3,735,003	7,796,629	10,373,000
6. # loans disbursed	860	3,075	6,354	8,419
7. Ave. amt. disbursed per loan	935	1,215	1,227	1,232
8. Loans to women	18%	30%	33%	41%
9. Ave. estimated term to maturity	2.2	2.6	3.0	3.1
10. Dollar-years outstanding per loan	113	179	210	212
11. Cumulative # new borrowers	399	1,326	3,140	4,809
12. Ave. # loan officers	N/A	N/A	13	16
13. Ave. # total employees	N/A	N/A	23	29
14. Ave. # branches	N/A	N/A	3	5
15. Ave. # loans outstanding/Loan officer	N/A	N/A	121	132
16. Ave. portfolio out./Loan officer	N/A	N/A	102,574	109,219
17. # disbursed/Loan officer	N/A	N/A	489	515
18. Amt. disbursed/Loan officer	N/A	N/A	599,741	635,082

Source: Financial statements and other information provided by Emprender.

PRODEM. Likewise, the ratio of dollar-years of debt per loan to per capita GNP is about 0.03 for Emprender and about 0.09 for PRODEM. Indeed, Navajas *et al.* (1997) show that most the clients of PRODEM are among the wealthiest half of Bolivian households. In contrast, Emprender says that the annual income of its typical client is about one-third of the national average.

Thus, adjusting for the different absolute levels of poverty between Bolivia and Argentina, it is likely that the borrowers of Emprender are relatively poorer than the borrowers of PRODEM. This is depth of outreach is especially remarkable because microlending is more expensive in Argentina than in Bolivia. Salaries for loan officers are much higher in Argentina than in Bolivia, and the clients of Emprender are much more dispersed than the clients of PRODEM.

Emprender does not have outstanding outreach to women. In its first year, only 18 percent of the borrowers were female (Table 20), and although this figure had increased to 41 percent by the fourth year, more than 80 percent of the clients of PRODEM were women. Again, this may reflect Bolivia/Argentina differences more than Emprender/PRODEM differences.

3. Quality of outreach

Quality of outreach refers to the difference in costs incurred by the borrower between a formal loan from a microfinance organization and a similar loan from another source. Quality increases as the effective interest rate decreases, as taxes decrease, as guarantee requirements are reduced or are made more appropriate, and as the number and complexity of transactions decrease.

Although loans from Emprender are valuable because they may be guaranteed by the joint liability of a group, value is decreased by high interest rates, taxes, and frequent transactions. Emprender is evidently better than the alternatives for those who borrow, repay, and borrow again. But only 52 percent of the people who had ever borrowed from Emprender still had loans outstanding at the end of April 1995. Retention is low, and it is getting worse, falling to 42 percent by the end of October 1996. These rates are even lower than the already-low rates of PRODEM and BancoSol. They signal a low quality of outreach.

a. Joint liability

The most valuable feature of Emprender's loans is undoubtedly the group-based lending technology. It provides access to loan to clients without traditional collateral. Still, some of Emprender's clients probably do have collateral that, while not useful as a pledge under traditional lending technology, could be pledged under an appropriate microfinance technology that used the value-in-use of household and enterprise goods to motivate repayment. Such a technology has been developed elsewhere, notably in Bolivia by competitors of PRODEM and BancoSol. Group-based lending technology is not valuable for clients that could offer this type of collateral.

Although the average group has only three members, the transactions costs of borrowing through a group are high. These costs result from the synchronization of group actions, constraints on differences in loan sizes and repayments, time lost coordinating the group, the potential loss of access to future loans if one member of the group defaults, and the possibility of repaying the debts of delinquent members.

Emprender has recognized that the costs implied by a group-based technology are an important factor behind its accelerating attrition. When good borrowers were unwilling to stay in groups with borrowers whose businesses were suffering during the Tequila Crisis, Emprender decided to offer individual loans to borrowers who had a monthly income of at least \$600 and who could provide a cosigner willing to endorse real estate. The option of graduating into individual loans increases the value of loans through groups.

b. Taxes

Taxes affect the cost of loans to the clients of Emprender. Thus, taxes affect the quality of outreach. As an NGO, Emprender is not regulated by the BCRA. Access for its clients is not contingent on good standing with the tax authorities. This increases the quality of outreach because it provides access to clients who could never hope to pay their tax obligations and thus could never hope to borrow from a regulated intermediary.

As a non-profit foundation, Emprender should be exempt from taxes. But the fact that Emprender charges its customers for its services and makes a profit prompted the tax authorities to levy both income taxes and the VAT. Emprender is paying these taxes while contesting them in

court.

Taxes paid by Emprender decrease the quality of outreach by increasing costs for the borrower. To make the same after-tax profit with taxes as without taxes, the interest rate must increase. In addition, borrowers in good standing with the tax authorities pay a VAT of 21 percent of the interest rate, and borrowing not in good standing pay a VAT of about 30 percent of the interest rate. Because the typical monthly interest rate is about 4.3 percent, VAT costs about 1.3 percent of the balance outstanding each month.

c. Transactions costs

About two-thirds of Emprender's loans go to traders. The average term to maturity is about 13 weeks. Installments are usually paid weekly. If there is about a week between application and disbursement, then borrowers must visit a branch weekly for 15 weeks for each loan. If each visit takes 30 minutes and if each borrower earns one-third the per capita income of \$8,000 working 60 hour weeks, then the opportunity cost of time for these visits is about \$20. If an average loan is outstanding for three months and if the average balance outstanding is about \$600, then these transactions costs are about 1.1 percent of the average balance outstanding per month.

If the borrower also spends time coordinating with the group and if the borrower must pay for transportation, the non-interest costs of borrowing rise even higher. Total transaction costs for borrowers are probably close to the 3.5 percent of the average balance outstanding per month estimated by Hulme and Mosley (1996) for borrowers from BancoSol.

d. Interest costs

Calculating an effective interest rate requires assuming specific terms and conditions for a typical loan. More than two-thirds of Emprender's loans go to retailers and have weekly repayments, and the average amount disbursed is \$1,232. The interest rate on the balance outstanding is quoted as 2.5 percent monthly, but it is charged as 0.625 percent weekly. The monthly rate is therefore about 3.3 percent. In addition, every client pays a \$2.50 fee weekly. The average term to maturity is about 13 weeks. Under these assumptions, the average weekly payment is \$101.50, and the nominal effective monthly interest rate is about 4.3 percent. Since inflation is essentially zero, the nominal interest rate is also the real interest rate.

This interest rate is high. PRODEM and BancoSol, for example, charge real effective monthly interest rates of less than 2.5 percent. Emprender nearly covers its full economic costs by charging this rate, but its costs are very high. High costs lead to high prices, reducing the quality of outreach. It is good that Emprender charges interest rates that nearly cover its costs, but it is bad that its costs are so high.

e. Total costs of borrowing

If the monthly effective interest rate on outstanding balances is about 4.3 percent, if transactions costs are about 3.5 percent of the average monthly balance, and if taxes are about 1.3 percent of the average monthly balance, then the effective cost of borrowing is about 9 percent monthly on the average outstanding balance. This is high, and it indicates a low quality of outreach.

Table 21: Key subsidy and efficiency indicators for Empreder, 1993-1996

For the year ending as of date	30-Apr-93	30-Apr-94	30-Apr-95	30-Apr-96
1. CGAP Adjusted ROA	-221%	-46%	-50%	-20%
2. World Bank SDI	704	32	35	11
3. Real subsidy-free yield	282%	81%	98%	84%
4. Actual yield	36%	65%	73%	76%
5. Total subsidy	801,634	291,381	658,212	360,137
6. Subsidy/Ave. # loans outstanding	5,082	432	417	167
7. Subsidy/Ave. portfolio outstanding	8.28	0.53	0.49	0.20
8. Subsidy/# loans disbursed	932	95	104	43
9. Subsidy/Amt. disbursed	1.00	0.08	0.08	0.03
10. Total economic cost	412,360	498,081	1,205,837	1,444,852
11. \$ econ. total cost/Ave. # loans out.	2,614	738	764	669
12. \$ econ. total cost/Ave. portfolio out.	4.26	0.90	0.90	0.81
13. \$ econ. total cost/# loans disbursed	479	162	190	172
14. \$ econ. total cost/Amt. disbursed	0.51	0.13	0.15	0.14

Source: Financial statements and other information provided by Empreder.

D. Financial Self-sufficiency

Financial self-sufficiency is the ability to maintain the real value of assets while meeting current obligations and while obtaining all resources from private entities in market transactions. *Subsidy* is the difference between what a microfinance organization paid for resources from public entities and what it would have paid to purchase those same resources from a private entity.

1. The Subsidy Dependence Index of Yaron

As measured by the Subsidy Dependence Index (Yaron, 1991), Empreder is close to financial self-sufficiency. The SDI falls from 704 for the first year to 11 for the fourth year (Table 21, item 2). This means that the annual yield on the portfolio required to enable Empreder to compensate for subsidies fell from 282 percent its first year to 84 percent its fourth year (Table 21, item 3). By this measure, Empreder is almost financially self-sufficient because its actual annual yield on the portfolio, including fees for training, was 76 percent, not much less than the hypothetical required yield of 84 percent (Table 21, item 4).

Still, Empreder received a subsidy of more than \$360,000 in its fourth year (Table 21, item 5). This is less than the almost \$1 million that PRODEM received in its fourth year. The subsidy decreased the interest rate charged to borrowers by 20 percentage points (Table 21, item 7), not counting fees for training.

2. The worthwhileness of Empreder

Yaron's SDI does not compare benefits and costs. Public organizations should be interested in whether the benefits caused by an intervention in microfinance exceed the costs. They should care about the percentage increase in the yield on the portfolio that would enable the microfinance organization to purchase its resources from private entities only inasmuch as it relates to social benefits and costs. Unfortunately, it is prohibitively costly to measure the benefits of interventions in microfinance (David and Meyer, 1979). Fortunately, it is relatively easy to measure the costs. Once the costs are measured, it is possible to calculate the level of benefits that would have to have been required to make the measured costs worthwhile.

For example, Empreder received \$2,111,364 in subsidies in its first four years while producing \$2,564,833 dollar-years of debt for poor people (Table 21). The average effective annual interest rate paid by borrowers over the four years was about 72 percent. Ignoring transactions costs and taxes, borrowers would have had to have paid an average effective annual interest rate of 154 percent, 82 percentage points more than they actually did pay, if they were to have covered the cost of the subsidies. Including transactions costs and taxes would increase the required annual payment to about 210 percent.

Borrowers probably would not have been willing to pay this much. That is, the average consumer surplus received by borrowers is probably less than \$0.82 percent per dollar-year of debt. This means that Empreder has not been a worthwhile social investment so far. If Empreder operates without subsidy in the next several years and if its portfolio expands, however, then the required consumer surplus could fall to plausible levels.

This would require at least three changes. First, Empreder must increase the size of its portfolio. Second, it must decrease costs. Third, it must decrease interest rates. Lower interest rates increase consumer surplus, but they also decrease revenue per dollar-year of debt, which explains why Empreder must also decrease costs and increase the portfolio.

Empreder could also increase consumer surplus by reducing borrower transaction costs. This would entail lengthening the terms of loans, decreasing the frequency of repayments, and increasing the number of individual loans. Reducing taxes would also increase consumer surplus.

E. Productivity and Efficiency

By international standards, Empreder has not been very productive. *Productivity* is the ratio of outputs to inputs. Although the portfolio of the average loan officer does exceed the common benchmark of \$100,000 (Table 20, item 16), this portfolio is spread across few clients. A common benchmark for clients per loan officer is 300, but at Empreder this figure is only 132 clients (Table 20, items 15).

Such low productivity is especially surprising given the group-based technology. Perhaps the cost of achieving deep outreach, relative to the Argentina's overall wealth, is a decrease in productivity. Still, productivity is low and should be improved.

Empreder is also inefficient. *Efficiency* is the ratio of cost of inputs to output. *Output* is taken as dollar-years of debt produced (Table 20, item 1). *Cost of inputs* is the sum of accounting expenses and subsidies, with subsidies measured according to Benjamin's (1994) modification of Yaron's SDI (Table 21, item 10). In its fourth year, it cost Empreder \$0.81 to produce a dollar-year of debt. This is expensive outreach. PRODEM in its fourth year produced a dollar-year of debt for \$0.67.

Efficiency depends on productivity and on the prices of inputs. Empreder's productivity is

low, and the prices of its inputs are high. Emprender cannot control the price of labor nor of funds. This is especially true because Emprender buys most of its resources from private entities. These resources cost more than resources from public entities, and their prices are less negotiable. Emprender does control, however, productivity.

F. Conclusion

Emprender has the potential to join the ranks of the world's best microfinance organizations, but it is not there yet. Emprender almost charges cost-covering interest rates, and it gets most of its funds from private entities. Stock arrears (Table 20, item 4) are relatively high, but most of these are eventually repaid and so flow arrears are low. Emprender uses a proven technology, and it has an organization grounded in private interests.

To realize its potential, Emprender must increase productivity and efficiency while decreasing costs, decreasing interest rates, and increasing its portfolio. Outreach is deep because Emprender reaches borrowers beyond the reach of traditional lending technology. Outreach is not broad because the portfolio is small. Outreach is of low quality because of its high cost to borrowers. Emprender is not yet financially self-sufficient nor socially worthwhile, but improved performance could lead to the achievement of both goals.

G. Caveats

The analysis is based on unaudited financial statements and a 2-hour interview with Juan Padilla. Therefore, the strength of the conclusions is limited. There was not any opportunity to examine Emprender's organizational viability, nor was there any opportunity to investigate sources of subsidy that do not appear in the unaudited financial statements. For example, subsidy is underestimated because it ignores the value of a guarantee for loans from commercial banks to Emprender provided by Acción Internacional has been ignored. The free training for loan officers provided by Acción and its affiliates has also been ignored.

The analysis of self-sufficiency is unsatisfactory. The analysis should discount costs and benefits over time, capitalize subsidies, extrapolate performance into the future, measure the costs of resources according to the opportunity costs to their providers, and weight the costs incurred by high-income people less than the benefits enjoyed by low-income people.

Annex II: Formal cash ROSCAs in Argentina

A. Introduction to ROSCAs

Rotating Savings and Credit Associations are groups of individuals who agree to contribute at regular intervals to a pot which is distributed to each contributing individual in turn according to some rule. Members who have yet to receive the pot are net savers; members who have already received the pot are net borrowers. The best descriptive analyses of ROSCA are by Ardener (1964), Adams and Fitchett (1994), and Bouman (1995). Schreiner (1994) and Besley, Coate, and Loury (1993) provide theoretical analyses.

B. ROSCAs in Argentina

ROSCAs are ubiquitous the world over. Most are informal. ROSCAs in Argentina are called *circulos de ahorro* or *planes de ahorro*. Informal ROSCAs are usually found among salaried office workers who know each other well, see each other daily, and who wish to purchase relatively inexpensive consumer durables such as personal computers or refrigerators.

Most ROSCAs in Argentina, however, are formal. Most formal ROSCAs are organized by retailers of expensive consumer durables, especially automobiles. Usually, two autos are awarded each month, and therefore the ROSCA has twice as many members as it has months of duration. Individuals are net savers until they receive the pot; they are net borrowers after they receive the pot. The institution managed hyperinflation by adjusting the amount of the monthly cash contribution so that the current price of two autos is collected each month. The average monthly contribution is well over \$100, so most participants are not poor.

C. Cash ROSCAs

Some formal ROSCAs in Argentina operates with cash and are not linked to a specific good. This ROSCA usually involves 20 to 100 unrelated individuals who contract with a private company that manages ROSCAs for a fee. The private manager is regulated by an office within the Department of Justice with the goal of protecting the deposits of the net savers. Individuals are linked to the manager through local banks, usually banks that had been cooperatives.

An individual contracting to participate in the cash ROSCA pays the bank an up-front fee equal to 3 percent of the pot the individual will eventually receive. When the pot is received, the individual pays the bank an additional 1 percent of the pot. In addition, the private manager collects a monthly fee equal to about 0.30 percent of the pot and a monthly life insurance premium equal to 0.05 percent of the pot.

The most common size of the ROSCA is 60 individuals, and therefore the most common term is 30 months. The sum of the typical monthly contributions is about \$8,000, meaning that the typical individual pays about \$133.33 monthly (not including fees) and receives \$4,000 once. Over the life of a typical ROSCA, an individual would pay fees of about \$580: \$160 for the bank ($0.04 * \$4,000$), \$360 for the manager ($0.003 * 30 * \$4,000$), and \$60 for life insurance ($0.0005 * 30 * \$4,000$).

Payments occur as follows. Before the tenth day of each month, each individual pays the contribution, the fee, and the insurance premium at the bank that arranged the contract. Penalty fees are assessed for late contributions. The bank then transfers the collection to the manager.

Individuals may also submit sealed promises to pay an extra-large contribution in the next

month in exchange for the pot at the end of the present month. If the individual receives the pot, the next payment is extra-large as promised, but remaining payments are reduced so that the total amount contributed over the life of the circle still equals the amount received by the individual.

On the tenth of the month, the private manager selects one individual by lottery and also determines which individual promised the largest extra-large contribution for the next month. The names of both individuals are published in a national newspaper. At the end of the month, the manager transfers money for two pots to the bank, and the bank pays the two recipients. Sometimes there is enough money from extra-large contributions in previous months to enable three or more people to receive pots in a given month.

After receiving notification on the tenth day of the month, the individuals selected to receive pots must make a standard loan application to the bank which originated their contract. They also must offer guarantees to the satisfaction of the bank. The bank may reject the application because the bank bears all the risk that an individual may stop making contributions after receiving the pot. In the case of rejection, a different individual is selected by the manager, and the rejected individual must wait to be selected again later when the net borrowing implicit in the pot is less and the bank is more likely to accept the risk.

At the end of the ROSCA, the interest earned on the contributions during the 20 days between collection and assignment each month is redistributed according to the average positive balance held by each individual. If 20 days is taken to be a month, and if the deposits yield 0.5 percent monthly (6 percent annually), then the interest earned on this \$8,000 float would be about \$1,200 over 30 months ($\$8,000 * 0.005 * 30$).

D. Benefits of formal, cash ROSCAs

The ROSCA is offers an attractive arrangement to the manager, the bank, and the individual. The manager earns a nice profit because a small staff in one office with computers can manage many ROSCAs. The bank assumes all the credit risk, but it earns four percent of the pot without any financial costs. The bank also earns the goodwill of individuals who otherwise might not qualify for loans. The ROSCA may also attract new bank customers or reward current bank customers who would like to borrow as well as save. For individuals, the ROSCA offers the obligation to make regular contributions, a non-negative rate of return on small deposits, and access to cheap loans. Members in formal ROSCAs do not interact, reducing both the costs and the benefits of the social interaction that accompany informal ROSCAs.

This type of formal ROSCA may also expand the frontier of formal finance in Argentina. The bank may not be able recoup the costs of conventional loans of, say, \$2,000, and some individuals may not be able to repay or to offer acceptable guarantees for conventional loans of, say, \$4,000. The ROSCA reduces the bank's costs of making small loans, and it provides individuals the opportunity to borrow with less guarantees than otherwise.

E. ROSCAs vs. alternatives

Suppose a ROSCA has m members and $T=m/2$ months of duration. In general, if it collects contributions on the first day of the month and pays two pots on the last day of the month, then the total dollar-months of positive balance for an individual who makes contributions of c and who receives a pot of $c*T$ at the end of month t is $(c/2)*t*(t+1)$. The sum of all positive balances over all months and over all members is $(c/3)*T*(T+1)*(T+2)$.

If d is the monthly interest rate earned on the ROSCA's float, then the total interest earned over the life of the ROSCA is $2 * c * d * T * T$. Individual t has a share of $3 * c * t * (t+1) / [2 * c * T * (T+1) * (T+2)]$ in this interest, receiving an interest payment at the end of the ROSCA of $3 * c * d * t * (t+1) / [(T+1) * (T+2)]$. The monthly yield earned on positive balances is $6 * d * T / [(T+1) * (T+2)]$.

Thus, individuals who receive the pot early earn less interest than those who receive the pot late, but all individuals earn the same interest rate. For the specific example developed above, the monthly yield is about 0.09 percent, assuming all fees are counted as costs of borrowing and not of saving. In real terms, this rate is positive because inflation in Argentina is roughly zero.

This quantitative analysis derives measures of the monetary costs and benefits of saving and borrowing through this type of ROSCA. The purpose is to facilitate comparisons of the ROSCA with other ways of saving and/or borrowing. Such comparisons are useful in addressing the issue of how well ROSCAs substitute for other financial services.

The analysis does not incorporate such important complications as the illiquidity of deposits in ROSCAs, the value or cost of the obligation to make regular deposits, the uncertainty of the timing of the reception of the pot, and the fact that saving in a ROSCA enables borrowing. In addition, it does not address how any fees required by the ROSCA should be divided between the saving and borrowing services.

1. ROSCA deposits vs. sight deposits

Ignoring other issues, it seems that the issue of how to divide up the fees is moot for those individuals who receive the pot either first or last. These individuals are essentially either only borrowers or only savers. Therefore, the internal rate of return on the cash flows has a meaningful interpretation. For example, the IRR for an individual receiving the pot at the end of the typical ROSCA described above is about -0.70 percent per month. In contrast, a typical sight account in Argentina would have an IRR of -0.46 percent per month, assuming an interest rate of about 0.33 percent per month (4 percent per year), interest compounded monthly, a \$3 monthly maintenance fee, deposits of \$133.33 for 30 months, and a withdrawal of the balance at the beginning of month 31. For a ROSCA participant who turns out to have been unlucky, a sight account would have been a better savings option.

2. ROSCA loans vs. Personal loans

For the lucky ROSCA participant who wins the lottery in the first month, the IRR is 0.97 percent per month (12 percent per year). In contrast, a typical personal, uncollateralized loan for \$4,000 amortized with 30 monthly installments in Argentina has an IRR of about 1.83 percent per month (22 percent per year).

It seems that in Argentina, formal ROSCAs provide small loans much more cheaply than do banks, especially for borrowers who are either unable or unwilling to provide collateral. Individuals seem to value the possibility of cheap loans more than the costs of obligation, uncertainty, and illiquidity.

Annex III: Affects of regulation on loans with non-preferred guarantees

This annex illustrates a calculation of how the BCRA's minimum-capital and loan-loss provisioning requirements affect the cost of lending to borrowers with non-preferred guarantees. The goal is to examine the differences in the costs of making an identical loan to a borrower offering a mortgage on real estate, a borrowing offering a pledge on movable property, and a borrower offering no guarantee at all.

A. Assumptions

The calculation depends on several assumptions:

- The lender is assumed to have a "2" rating from the BCRA; that is, it is a strong bank, but not one of the strongest;
- The lender makes no profit on the loan;
- The loan has one-year term, is disbursed for \$10,000, and has an average balance of \$5,000;
- It is assumed that the regulations of the BCRA accurately reflect risk;
- The loans are assumed to be either normal in classification 1 with less than 31 days of arrears or problematic in classification 3 with 91-180 days of arrears;
- The financial cost of the loanable funds is set at 7.5 percent per year, about the same as the average interest rate paid for 30-to-60 day certificates of deposit as of August, 1996 (BCRA, 1996d);
- The operating costs of lending funds are set at 4 percent per year. This figure was derived by subtracting the average cost of loanable funds, plus 1 percentage point for the effects of the regulations of the BCRA, from the average interest rate of about 12.5 percent for loans for 90 days or more with no guarantee (BCRA, 1996d);
- It is assumed that the operating costs do not vary across loans. In practice, loans with non-preferred guarantees probably cost more to administer;
- It is assumed that the opportunity cost of a unit increase to required capital is 10 percent per year;
- It is assumed that when borrowers default, they will have repaid half of their loan, on average;
- Inflation is assumed to be zero.

B. Types of costs

The interest rate charged by the lender must cover four types of cost. Financial costs are the first type. In the cases considered here, this cost is the product of the financial cost of loanable funds and the average annual balance, or $(0.075)*(\$5,000)=\375 .

Intermediation costs are the second type of costs. In the cases considered here, this cost is the product of the operating costs of lending funds and the average annual balance, or $(0.04)*(\$5,000)=\200 . By assumption, financial costs and intermediation costs are unaffected by the regulations of the BCRA because they do not depend on the guarantee provided by the borrower.

Table 22: Calculation of Expected Risk Costs

Guarantee	Risk class	Ave. Balance	Provision	1 ----- (1-Provision)	Expected risk cost
Real estate	1	\$5,000	0.01	1.010	\$50.50
Movable property		\$5,000	0.01	1.010	\$50.50
None		\$5,000	0.01	1.010	\$50.50
Real estate	3	\$5,000	0.12	1.136	\$681.60
Movable property		\$5,000	0.12	1.136	\$681.60
None		\$5,000	0.25	1.333	\$1,666.25

Risk costs—the costs of funds lost due to default—are the third type of costs. This cost is the product of the balance of the loan at the time of default, the probability that a borrower will default, and the reciprocal of unity less the probability that a borrower will default. Since it is assumed that the requirements for provisions for loan losses of the BCRA accurately reflect the risk inherent in loans with different guarantees, risk costs are higher for loans with non-preferred guarantees, as shown in Table 22.

Minimum-capital costs are the fourth type of costs. They represent the costs of increasing capital to meet regulations. This cost is the product of the opportunity cost of a unit increase in required capital, a coefficient set by the BCRA, the average balance of the loan, the risk weight for the interest rate, and the risk weight for the guarantee. Table 23 illustrates the calculation.

It remains to examine the absolute and relative interest rates that must be charged to cover these four types of costs. The required annual average on-lending interest rate is the ratio of the sum of the four types of costs to the average balance outstanding. The relative contribution of each type of cost is the ratio of that type of cost to the sum of all four types of costs. The absolute contribution of each type of cost to the final required interest rate is the product of the relative contribution and the required annual average on-lending interest rate. The sum of the absolute contributions equals the required interest rate. Table 24 illustrates these calculations.

Table 23: Calculation of minimum-capital costs

Guarantee	Risk class	Coef. * Opp. Cost	Ave. Bal.	Risk Weight		Cost
				Guarantee	Interest rate	
Real estate	1	0.10 * 0.115	\$5,000	0.50	1.00	\$28.75
Movable property			\$5,000	0.75	1.00	\$43.13
None			\$5,000	1.00	1.00	\$57.50
Real estate	3		\$5,000	0.50	1.40	\$40.25
Movable property			\$5,000	0.75	1.40	\$60.38
None			\$5,000	1.00	2.80	\$161.00

C. Implications

There are at least four interesting implications of the figures in Table 24, given that the assumptions behind the calculations are reasonable. First, the main increase in the cost of lending to borrowers with non-preferred guarantees is due not to increased minimum-capital requirements but rather to increased risk.

Second, if loans can be expected to remain in good standing, then the absolute levels of cost due to risk and minimum-capital requirements are low, especially relative to financial and administrative costs. This holds for all loans, whatever their guarantee.

For loans in good standing, the largest contributors to cost are financial and operating costs. Risk costs become important, and indeed, overwhelm all other costs, only when loans fall into arrears and thus are revealed as relatively risky. Even then, minimum-capital costs are low, both absolutely and relatively.

Third, it was assumed that the requirements for provisions for loan losses of the BCRA are appropriate, but the relative and absolute levels of risk costs suggest that even if risk were half or double the estimates of the BCRA, risk costs would still be relatively unimportant for loans in good standing and overwhelmingly important for loans revealed to have extraordinary risk of default. Thus, it is unlikely that an adjustment to the perceived risk of the various types of loans would change the nature of the results.

Fourth and finally, it would seem that the interest rate required for cost coverage of small, short-term bank loans of the type likely to be in demand by small, rural producers is of the same order of magnitude as that of credit cards, overdrafts, appliances bought on credit, or other small, short loans in Argentina. This means that the regulations of the BCRA probably do not prevent banks from reaching small, rural producers.

Table 24: Required interest rate and absolute contributions by type of cost

Guarantee	Risk class	Int. Rate (%)	Absolute contribution (percentage points)			
			Financial	Operating	Provision	Capital
Real estate	1	13.1	7.5	4.0	1.0	0.6
Movable property		13.4	7.5	4.0	1.0	0.9
None		13.7	7.5	4.0	1.0	1.2
Real estate	3	25.9	7.5	4.0	13.6	0.8
Movable property		26.3	7.5	4.0	13.6	1.2
None		48.3	7.5	4.0	33.3	3.5

D. Caveats

This analysis depends on several assumptions that a complete analysis would need to replace with empirical knowledge. For example, even a loan in good standing has some probability of falling into arrears and revealing itself to be riskier than previously believed. A more satisfying analysis, when calculating the expected risk of a loan in a given risk classification, would account for the probability that a loan in classification 1 could fall into classification 2, that a loan in classification 2 could fall into classification 3, etc. Although incorporating this consideration would probably not change the relative relationship of the costs from those described here, the absolute levels of costs would be higher, and risk costs would become more important sooner.

A complete analysis would use the historical repayment performance of loans to determine the probability of a loan with a given type of guarantee changing from one given classification to another given classification. Such probabilities should be generated by the BCRA to verify the appropriateness of its requirements for provisions for loan losses.

A complete analysis would also recognize the fact that operating costs are not independent of the guarantee offered. It would also have a better measure of the opportunity cost of a unit increase in capital. Finally, the ideal analysis would use knowledge of the average amount outstanding at the time of default for loans with different types of guarantees.

Given the ease of acquiring the knowledge required for a more complete analysis and the vast potential benefits of such an analysis in terms of more accurate assessments of risk, it behooves the BCRA to collect information on the historical repayment performance of loans without preferred guarantees but which were evaluated on the strength on the borrower's character and cash flow. That information should be used to ensure the accuracy of requirements for provisions, which currently serve as *de facto* risk estimates for the various types of loans.

Annex IV: Rural financial markets and the Argentine macroeconomy

The macroeconomy affects rural financial markets. Before the introduction of convertibility, shallow financial markets were spawned by instability and hyperinflation. The common measure of financial depth, M2/GDP, was lower in Argentina even in 1993 than in other, less well-developed countries in Latin America (Table 24).

Shallow financial markets from low mobilization of deposits meant a scarcity of credit (Carrizosa *et al.*, 1996). Convertibility reversed these trends, halting inflation and sparking growth. Stability also increased deposits and expanded credit. Tequila disrupted the positive trends, but recovery soon followed. Continued stability and economic growth can only increase access to financial services by small, rural producers.

A. Before convertibility

Argentina before convertibility was plagued by chronic public-sector deficits, heavy international borrowing, inflation, and inward strategies. In the 1980s, the nation defaulted on its sovereign debt and lost the Falklands/South Atlantic war. Four stabilization plans failed in the 1980s, and hyperinflation reigned as the 1990s began. Financial markets were thin.

B. Convertibility

Memem was elected in March 1991, and the peso was pegged at par with the dollar in Jan. 1992. Convertibility was a package of reforms. Tax administration was strengthened. Public deficits were reduced and stopped crowding out private investment. Public assets were privatized. The international debt was renegotiated, and payments resumed.

The BCRA was reformed until it resembled a monetary board without devaluation as a policy tool. It was given an independent board of directors and more power to close bad banks. General restrictions on financial transactions and on types of financial transactions were removed (ADEBA, 1993). Incestuous loans to firms linked to banks became taboo.

1. Strengths

Convertibility and its package of reforms turned the economy around. GNP grew at 8 percent annually from 1991-1994. Inflation fell from 30 percent in 1991 to 12 percent in 1992, to 5 percent in 1993, to 4 percent in 1994, to virtually nil in 1995. Country risk fell from 20 percentage points to 4 (World Bank, 1996a). Productivity and confidence increased, and financial markets deepened.

Table 24: Financial depth in Latin America, 1993

Country	M2/GDP
Brazil	55
Chile	41
México	30
Venezuela	28
Colombia	21
Argentina	18

Source: World Bank, 1994

2. Weaknesses

Convertibility did not resolve all problems. Deposits increased and credit expanded, but most of it was absorbed by the pent-up demand of consumers unleashed by the prospect of stability. High required reserves reduce banks' international competitiveness. Access for small, rural producers did not improve much.

Robust growth was driven not by increased exports but by increased consumption and by investment from abroad, mostly by repatriated dollars. Growth was accompanied by high unemployment, and the economy was vulnerable to external shocks. Relative prices changed when the exchange rate stopped changing, and all sectors had to adjust.

The reforms taking root at the national level are still germinating at the provincial level (World Bank, 1996a). Provincial governments overspend even though they can no longer borrow from private banks. In some cases, public spending was cut at the national level by sloughing it to the provincial level. Most provincial revenue still comes from the national government.

C. Tequila

By the end of 1994, banks had begun to expand their portfolios downward. Tequila reversed that trend by destabilizing the financial system. Depositors flew to quality, further weakening many banks and threatening a vicious crisis of confidence.

1. Premonitions

There were foreshadowings of a crisis even before the disruption of Mexico's economy in late 1994 and the devaluation of Mexico's peso on Dec. 20, 1994. Deposits slowed, world interest rates rose, the dollar fell, and capital inflows slowed. When a small non-bank bond trader failed, Argentine banks cut credit to all bond traders. This caused declines in Argentine bond prices and weakened banks with large positions in bonds.

2. Crisis

After the Mexican devaluation, investors began pulling out of Argentina. Wholesale banks sunk first because they had large positions in bonds and in large commercial deposits. Without deposit insurance nor a lender-of-last-resort, the news of the troubles of wholesale banks prompted private depositors to withdraw pesos from weak provincial, cooperative, and small private banks. These were exchanged for dollars and deposited in strong, large foreign and national private banks.

Depositors flew to quality, sometimes slowly and sometimes in spurts, from the beginning of March until after the presidential elections in May. Time deposits were withdrawn more often than sight deposits. At the nadir, the deposit base was reduced by 16 percent (\$8 billion). Provincial banks and cooperatives lost 30-40 percent of their deposits. Some large private national and foreign banks gained deposits, both from refugees from weaker banks and from mergers and acquisitions (World Bank, 1995). The five largest banks (BNA, BPBBAA, Banco Galicia, Banco del Río de la Plata, and Citibank) increased their share of deposits from 36 percent at the end of 1994 to 46 percent at the end of 1995.

3. Countermeasures

Banks generated liquidity by calling in loans and by liquidating bonds. The BCRA could not legally bail out troubled banks because of the convertibility reforms. But other elements of prudential regulation and supervision came to the rescue. The high levels of required reserves before the crisis had reduced leverage and thus weakened the potential for crisis. During the crisis,

required reserves were relaxed, temporarily releasing extra liquidity.

Depositors did not fear bank failure. If they had, they would have withdrawn from all banks. Instead, they flew to dollars and to strong banks. This suggests a fear of inflation and of government failure.

But, unlike in the past, the authorities did not knuckle under. The stronger banks, coordinated by the government, contributed to a liquidity pool for weaker banks. Deposit insurance (30) was introduced for short deposits earning normal returns. Government and donors scraped together a trustee's fund (*fondo fiduciario*) to facilitate mergers and acquisitions of weak banks.

4. Effects on the financial system

Tequila reduced access for small, rural producers because those banks close to this group bore the brunt of the crisis. Peso deposits fell, and this decreased peso loans, exactly the loans most available to small, rural producers. Interest rates doubled but quickly returned to normal. Maturities contracted, further constricting all but short-term credit.

Arrears increased, and credit was cut. The banking system became more concentrated, both from depositors' flight to quality and from mergers and acquisitions. Mergers led to economies of scale and better capitalization. During Tequila, there were 23 acquisitions, 19 fusions into four entities, and 9 revocations of licenses. Fifty branches disappeared.

5. Other effects

Tequila sidetracked the progress of convertibility. GNP fell 4.4% in 1995, and unemployment reached an unprecedented 18 percent. With the economy unstable, with unemployment high and rising, consumers restrained their spending. By the end of 1995, deposits has recovered to their previous levels.

Tequila did not derail convertibility because the government did not waver. Convertibility survived, stronger and more credible than ever. The crisis was difficult, but not dangerous, and it was handled and resolved appropriately (interview with Cristini).

The most important result of Tequila from the perspective of financial services for small, rural producers was the acceleration of the consolidation in the banking system. The crisis made the weaknesses of the banking system painfully obvious and so hardened the political resolve to consolidate. The government became agreeable to privatizing public banks and to strengthening the BCRA. Tequila did not reduce access to small, rural producers; they did not have access before. But Tequila did hasten the consolidation, competition, and efficiency that will lead to better access.

D. Recovery

Since Tequila, the macroeconomy has resumed where it left off. Private savings grew 2 percentage points of GNP, although public deficits have resurfaced. Exports grew 30 percent, largely due to unusual economic growth in Brazil and good prices for agricultural exports. Unemployment fell to 16 percent, and the recession bottomed out in the last quarter of 1995. Demand continues to stagnate, however, as families continue to postpone consumption.

Finance is deepening. Deposits continue to grow, albeit more in dollars than in pesos. Credit is recovering, albeit slower than deposits. Credit expansion has been helped by replacing reserve requirements with liquidity requirements. Real interest rates and spreads continue to fall, as does the spread between contracts in dollars and in pesos.