Measuring the Impact of Micro Finance

The Case of Financiera Calpiá, El Salvador
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1. Introduction

Recent debates on the impact of Microfinance Institutions (MFI) have paid a lot of attention to the profiles of the clients attracted and the credit technology employed. This document contributes to the debate through a case study of the clients of Financiera Calpiá (FC), one of the most successful MFI's in Latin America.

Since 1988, the German Agency for Technical Co-operation (GTZ) supported the urban-based Association of Small and Medium Entrepreneurs of El Salvador (AMPES) in creating a credit fund. In 1991, AMPES began lending to urban non-members. After separation from AMPES in 1995, the credit fund eventually evolved into a regulated financial intermediary, Financiera Calpiá S.A.

Subsequent institution building aimed at providing sustainable access to the formal financial system for both urban and rural small and micro enterprises. The central challenge consisted in adapting the credit technology to the newly approached rural environment. “In the past three decades, few lenders worldwide have been able to make small loans to rural borrowers, to recover the loans and to pay their own costs with the revenue from the loans … At least when compared with other rural lenders, Calpiá has had uncommon success.” (Schreiner, et.al. 1999).

This success may be due to the characteristics of either its credit technology, its clients, or both. Whereas the extraordinary achievements of FC in terms of operational sustainability and outreach to poor clients are widely documented and recognized, the specific profile of its clients and their satisfaction with the financial services had, so far, not been determined in detail. To fill this gap, comprehensive surveys of FC’s clients in rural areas and a rural control group have been carried out in 1997 and 1999. The later survey also covers urban clients of Calpiá.

Three questions are posed in the empirical investigation: What is the specific socio-economic profile of rural borrowers of FC when compared to non-client rural households and urban clients of Calpiá? Knowledge of rural borrowers of Calpiá is useful for assessing the effects of the selection criteria implied by the credit technology and for estimating the market potential of rural microcredit.

A second central question refers to the competitiveness of Calpiás’ credit technology in El Salvador. Thus, the questionnaires include items such as access to alternative

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1 A credit, or lending, technology “covers the entire range of activities carried out by a loan-granting institution which deal with selecting borrowers, determining the types of loans to be granted, the loan amounts and terms to maturity and the way in which loans will be secured, as well as the monitoring and recovery of loans” (Schmidt and Zeitinger 1996).


3 In Nahuatl, Calpiá means a small box used to store savings, usually under the ground.
1. Introduction

sources of credit, properties and costs of loans taken out, repayment behaviour and the use of savings products. In addition, clients were asked to evaluate FC’s credit services.

The third key question concerns the impact on the standard of living made by Calpiá. A panel analysis was carried out to investigate the dynamics of the rural clients’ income situation and corresponding poverty measures from 1997 to 1999. To complement the monetary poverty assessment, a basic needs index has been estimated to broaden the understanding of Calpiá’s impact.

After a short overview of the main empirical findings, the credit technology and its adaptation to rural areas are laid out. Then, the research questions will be answered in more detail: the client and non-client profiles are presented, household income is disaggregated and analyzed from different perspectives and the poverty profiles of the samples are outlined. The competitive situation of Calpiá and its evaluation by the clients precede a sketch of repayment behaviour and the use of savings facilities. Finally, we turn to the impact on the distribution and composition of household income, as well as changes in the satisfaction of basic needs.
2. Summary of Results

Client profiles in rural and urban contexts differ sharply. In rural areas, standards of living are lower and poverty is considerably more widespread, reflected by lower levels of income, education and health or access to basic services. Differences between clients in local capitals and San Salvador are less pronounced, and mainly correspond to varying degrees of urbanization. Calpiá has managed to include a substantial share of the rural poor in its clientele. Although most of its clients enjoy living standards above rural averages, outreach is considerable.

There exists a significant correlation between the characteristics of the credit technology and the client profiles. Most selection criteria are clearly reflected by the client households. One of the features desired of its clients is a diversified portfolio of income-generating activities. In addition, elevated levels of productivity are preferred, which the clients of Calpiá have achieved due to higher levels of education and better access to markets when compared to the rural population in general. Differences between rural clients and non-clients regarding these selection criteria indicate challenges to the future expansion of Calpiá’s services.

Different strategies for risk management have been developed: in rural areas, a larger share of household members contribute to overall income, mainly through self-employment at home. In urban areas, especially in San Salvador, a smaller share of household members work, but mainly outside the residence, thus diversifying the range of activities pursued. Wealthier non-client households also tend to diversify their income, pointing to a fertile ground for Calpiá’s credit technology.

The (rural) clients of FC are less dependent on salaries and rely to a greater extent on entrepreneurial income than the rural non-clients. Self-employment in micro enterprises is more important for the members of the upper quintiles of the income distribution.

The credit technology of Calpiá is highly competitive in the microfinance market of El Salvador: its loans are similar in volume to most of its competitors, but offer longer repayment periods and are more readily disbursed. Interest rates are lower, due to

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4 Results are based on samples which represent the populations of rural and urban clients of FC and on a quasi-experimental control group, representative of the rural population of El Salvador. The control group comprises households which have not been clients of FC, but may have received credit from other financial institutions. Rural client (n=217) and non-client (n=593) households were subject to repeated interviews, concerning activities in 1997 and 1999. Two subgroups of urban clients were surveyed regarding 1999 only: 326 households residing in capitals of municipios, the local administrative unit, and 175 households living in the national capital San Salvador. The populations of rural clients and non-clients differ not only because the target group of FC is confined to certain types of rural households which consider themselves borrowers, but also because FC has branches only in some selected areas of the country. Because the expansion to the rural environment has been an experiment for Calpiá, only favourable sites have been selected.
2. Summary of Results

subsidies, for the Salvadorean development bank, which in turn elevates effective cost through a lengthy selection process.

Clients express a high degree of satisfaction with Calpiá’s services. They especially value low transaction costs implied by straightforward evaluation and quick disbursement. Another competitive advantage consists in the discretionary use of funds and the non-traditional assets accepted by FC.

Rural clients are slightly less satisfied with FC’s services and mainly complain about the interest rate cost and the size of the instalments. Urban clients would prefer higher loans at longer terms. The resulting challenge for FC is, thus, to define terms and conditions better adapted to its clients’ needs in urban areas and reducing the total cost in rural areas.

Repayment behaviour differs between rural and urban clients. Self-reported arrears are mainly related to the principal economic activity carried out, but are much more frequent in urban areas. On the other hand, agricultural cycles cause much prolonged arrears in the rural environment. Over twenty percent of both rural and urban clients could resort to alternative sources from their diversified income portfolio for repayment. A closer personal monitoring of clients in rural areas appears to have prevented more serious action, like seizing the collateral, which happens more frequently in urban areas.

Holdings of savings accounts have declined from 1997 to 1999. This is also true for rural areas, where institutional savings are still a recent phenomenon. This process of financial disintermediation points to a large potential of deposits that could be mobilized, because most households save in non-monetary forms.

Impacts on the clients’ income situation have been analyzed in detail: in terms of monetary income, the population of rural clients is better off than the representative rural household of El Salvador in both 1997 and 1999. However, the clients of Calpiá - except for the households with the highest incomes - experienced a decline in average income over this period. To the contrary, the population of rural non-clients improved its income situation from 1997 to 1999.

The clients of FC experienced a decline in average income mainly because they shifted their activities towards micro entrepreneurial activities. This shift has been accompanied by a reduction in income volatility. A detailed disaggregation of the sources of household income suggests that access to credit has enabled these households to invest in new activities which generate less income on average at the moment but which allow for a reduction in income volatility.

The rural population experienced a higher income volatility while it has expanded both agricultural and non-agricultural self-employment, reducing the participation in formal labor markets. Investing in agricultural activities has allowed for increasing incomes in 1999, which was a year of recovery in this sector.
Regarding the satisfaction of basic needs as opposed to monetary incomes, a different picture appears: in 1997, basic needs have been slightly less satisfied for the clients of Calpiá when compared to the sample of non-clients. Until 1999, though, the clients of Calpiá improve their situation to a much greater extent than the rural population in general. While both samples improve on average during this period, the entire distribution of the index moves further to the right for the clients of Calpiá, which are clearly better off than rural non-clients in 1999.
3. **The Credit Technology**

The design of a lending technology establishes criteria for selecting borrowers. The investigation aims at verifying whether the profiles of the clients reflect these criteria, when compared to the non-client households.

In the case of Calpiá, the lending technology is based on general principles that were originally developed for the urban areas, but that are now also applied in the rural context. Calpiá has slowly moved to the rural areas and the learning process is not over yet. Calpiá’s philosophy and the services supplied derive from its view of the demand of its target group. Responding to this demand, FC offers services with the following basic characteristics:

(a) Calpiá tries to differentiate its services by avoiding red tape (in opposition to BFA, the Salvadorean development bank) and by having a vocation for permanency (in opposition to NGOs).

(b) Loan officers are in charge of most lending activities because they are the most important link between Calpiá and its borrowers. Careful selection and training of loan officers, including a performance-based system of monetary incentives, are crucial to managing the quality of services provided by FC.

(c) The household-firm (farm) is an indivisible economic unit of revenues and expenses. Thus, evaluating capacity and willingness to repay must take the family income and expenditure profile into consideration.

(d) Decisions about loans are taken quickly: Calpiá evaluates potential borrowers in timely fashion and acceptance as well as rejection is done very rapidly.

(e) The process of expansion has been followed cautiously. Loan officers evaluate all rural loans, no matter how well a borrower has behaved in the past.

(f) Special attention is paid to diversified sources of repayment as a partial substitute for collateral. Instead of targeting specific activities, Calpiá cares only about changes in the borrower’s risk profile.

(g) Terms and conditions are tailored to individual demands so that clients can take advantage of a wider set of productive opportunities. Seasonal credit is offered in peak seasons and terms and conditions consider agricultural cycles.

(h) A long-term relationship is built to offer a stream of financial services. Permanent monitoring in the form of casual visits or greeting customers reinforces the relationship borrower-lender and signals the seriousness of Calpiá.

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5 This chapter draws upon Navajas (1999).
Both non-traditional assets (with high incentive, but low resale value) and traditional assets (such as house mortgages) are accepted as collateral; the type of assets accepted by Calpiá is even more diverse in rural areas. Contracts are enforced to ensure repayment and to signal credibility.

Accessibility of the household is a key component of the technology. It permits continuous monitoring of borrowers and seizing collateral assets if necessary.
Households are smaller in urban areas. This is even more true of the clients residing in San Salvador. The mean household size does not differ between rural clients and non-clients.

The head of the household is about the same age for all client samples, but about five years older for non-clients. Clients of Calpiá may be more inclined to take risks, like investing in new activities, and incur debt for this purpose.

Interestingly, female heads of households are more frequent among clients of Calpiá, especially in the urban environment. This is partly due to the tendency of (urban) clients to own micro enterprises, which are to a great extent run by women.

Fertility shows a clear tendency to diminish when moving from the rural population via rural clients of FC to the clients located in San Salvador. This tendency is strongly correlated with rising incomes (see below).

Human capital formation exerts an important influence on household productivity: it is relatively high for urban clients when compared to the rural population of El Salvador. Although less educated than their urban counterparts, the rural clients of Calpiá still dispose of more human capital than the representative rural household.

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6 The socio-economic profiles have been assembled for the rural client and non-client samples and both urban groups based on activities in 1999.

7 Fertility is measured in terms of the average number of children born alive per woman in the household.
4. The Client Profiles

Table 1: Socio-demographic household characteristics in 1999

<table>
<thead>
<tr>
<th></th>
<th>Rural Households</th>
<th>Clients of Calpiá, Rural Areas</th>
<th>Clients of Calpiá, Local Capitals</th>
<th>Clients of Calpiá, San Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of HH</td>
<td>5.9</td>
<td>5.9</td>
<td>4.9</td>
<td>4.5</td>
</tr>
<tr>
<td>Age of Head of HH (Years)</td>
<td>51</td>
<td>46</td>
<td>46</td>
<td>47</td>
</tr>
<tr>
<td>Female Head of HH (%)</td>
<td>13</td>
<td>21</td>
<td>33</td>
<td>35</td>
</tr>
<tr>
<td>Education (Adults, in Grades)</td>
<td>3.7</td>
<td>4.1</td>
<td>7.1</td>
<td>8.5</td>
</tr>
<tr>
<td>Education (Head of HH, in Grades)</td>
<td>2.9</td>
<td>3.2</td>
<td>6.3</td>
<td>7.8</td>
</tr>
<tr>
<td>Fertility (Children per Woman)</td>
<td>5.4</td>
<td>5.0</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Potential Workforce (10-60 years)</td>
<td>4.1</td>
<td>4.2</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Persons Working</td>
<td>2.9</td>
<td>2.9</td>
<td>2.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Percentage Working at Home</td>
<td>66.2</td>
<td>75.7</td>
<td>41.7</td>
<td>34.4</td>
</tr>
<tr>
<td>Percentage Working Elsewhere</td>
<td>59.9</td>
<td>56.3</td>
<td>67.1</td>
<td>68.6</td>
</tr>
<tr>
<td>Dependency Ratio</td>
<td>1.6</td>
<td>1.5</td>
<td>1.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Emigrated HH Members</td>
<td>0.9</td>
<td>0.7</td>
<td>0.4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Source: Surveys BASIS, 2000 and GTZ, 2000 and calculation by the authors. Variables are given as arithmetic mean.

It is important to note, that most of the variables exhibit considerable variance for the client samples, indicating that FC serves a broad range of clientele. Some clients are very poor and exhibit, e.g., very low levels of education.

The potential workforce is about equal in both rural samples and larger than for urban clients. The respective numbers of household members which in fact contribute to overall income reflect these differences.

The dependency ratio relates the members of a households who work to those who need to be maintained. A high dependency ratio reduces the capacity to pay, because it increases the compulsory spending a household has to deal with before servicing its debt. It is taken into account by a loan officer; however, the dependency ratio is about the same for all clients of FC and does not differ systematically from that of non-clients.

Household members may be working inside or outside their residence, or both. These choices play an important part in a risk management strategy: diversification can occur through putting more persons to work or through choosing a greater variety of activities.

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8 The potential workforce is calculated as the share of household members between 10 and 60 years, reflecting both local life expectancy and work at home starting at an early age.
Chapter 4. The Client Profiles

The share of household members working outside their residence is larger for the urban sample than for rural clients of FC. On the other hand, the number of persons contributing to household income is larger in the rural case. Consequently, the urban households compensate the lesser diversification in terms of number of persons working through a larger variety of activities pursued outside home.

Comparing both rural samples, clients of Calpiá are better diversified than non-clients: the share of clients pursuing income-generating activities at home is much higher, which non-clients do not fully compensate through increased income generation elsewhere.

Emigration, as a radical means of diversification, is more frequent among the disadvantaged rural households. It is even more widespread among non-clients. This may be evidence that in the absence of credit, migration is used to improve income or deal with adverse events.

Isolation is less pronounced for both groups of clients of FC in the more densely populated urban areas, when compared to the rural samples. Education facilities and access to markets are found within short distances. Besides social exclusion, distance to schools reduce the opportunity of human capital formation and distance to markets lowers the productivity of a household’s resources.

Rural clients experience less isolation than rural non-clients: they are closer to primary and secondary schools, to paved roads, the bus station, and to the next market. This reflects an important aspect of the credit technology: the loan officers take into account the accessibility of a household, to facilitate the potential withdrawal of the collateral.

In terms of the number of people sharing a sleeping-room, the clients of FC are also considerably better off when compared to non-client rural households. This suggests a higher level of wealth and, in any case, a better standard of living. Again, taking a closer look at the distribution of this variable reveals, that FC also serves poorer households.

Agricultural activities are much more widespread in rural areas. Households situated in local capitals still dispose of a larger area of land and a larger number of plots than those living in the national capital. Only a small percentage of households in the local capitals grow crops or breeds livestock, and these activities are hardly carried out in San Salvador. Over three quarters of both groups own a house.

A larger fraction of rural clients owns a piece of land or/and a house, when compared to rural non-clients. On average, rural clients own more and larger plots of land. Both groups cultivate crops to the same extent, but a higher proportion of clients own animals. Non-clients grow a smaller variety of different crops, though, and breed a lesser variety of animals.

Besides the higher diversification of the agricultural portfolio, the clients of FC find additional sources for diversifying income-generation outside the agricultural sector through micro entrepreneurial activity as will become evident below.
FC uses non-traditional **assets**, like household appliances, for collateral. Proximity to a paved road facilitates the withdrawal of the collateral. In addition, households must own the assets accepted by the organization. On average, the rural clients of FC own almost 50 percent more assets which can be used as collateral than non-clients. These circumstances pose a challenge to extending the credit services of Calpiá in rural areas.

### 4.1 Distribution and Composition of Income per Capita

The **income per capita** is much higher in urban areas, especially in San Salvador. The mean per capita income for rural clients of FC almost doubles average income of the representative rural household in El Salvador. Both mean and median incomes are higher for all quintiles of the rural clients’ **income distribution**, except for the first quintile. However, the poorest twenty percent - in terms of median income - served by Calpiá are quite similar to the rural population in general.

#### Table 2: Annual Income per capita in Colones for 1999 (Arithmetic Mean)

<table>
<thead>
<tr>
<th>Quintile:</th>
<th>Rural Households</th>
<th>Clients of Calpiá, Rural Areas</th>
<th>Clients of Calpiá, Local Capitals</th>
<th>Clients of Calpiá, San Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>455.8</td>
<td>678.2</td>
<td>2,460.0</td>
<td>6,199.0</td>
</tr>
<tr>
<td>2</td>
<td>2,265.6</td>
<td>3,272.9</td>
<td>7,596.0</td>
<td>10,888.0</td>
</tr>
<tr>
<td>3</td>
<td>3,883.2</td>
<td>5,695.4</td>
<td>12,493.0</td>
<td>16,298.0</td>
</tr>
<tr>
<td>4</td>
<td>6,537.2</td>
<td>10,872.9</td>
<td>19,700.0</td>
<td>26,579.0</td>
</tr>
<tr>
<td>5</td>
<td>16,069.8</td>
<td>33,104.9</td>
<td>56,951.0</td>
<td>75,685.0</td>
</tr>
<tr>
<td>Mean Total</td>
<td>5,834.6</td>
<td>10,523.5</td>
<td>19,727.0</td>
<td>27,005.0</td>
</tr>
</tbody>
</table>

Source: Calculated by authors based on survey results.

Note: Exchange Rate was 8.75 Colones / 1 US$.

Income per capita also displays considerable differences within each sample, especially for the clients of Calpiá: the upper quintile earns on average 49 times more than the lowest quintile. For rural non-clients, this factor equals 35. **Concentration of income** is higher in rural areas: the fifth quintile earns on average 23 times as much as the first in the local capitals and 12 times as much in San Salvador. The rural clientele, thus, is more diverse than its urban counterparts.

#### 4.1.1 Agricultural vs. Non-Agricultural Activities

The sources of household income affect the level of income, its volatility and the frequency of the cash flow available for debt service. The capacity to pay improves when theses sources are not highly correlated. The composition of household income has been
analysed with regard to the sector of origin: agricultural vs. non-agricultural - and type of activity: entrepreneurial activities, employment and non-productive (transfers).

First, the household income was broken down by the sector of origin: income was analyzed as agricultural income, non-agricultural income and transfers. Agricultural incomes consist mainly in the sale of crops, livestock and salaries earned in agricultural employment. Non-agricultural incomes mainly comprise net profits from micro enterprise activities and salaries earned in non-agricultural employment. Transfers comprise monetary subsidies, and remittances.

Disaggregating income by sector of origin shows that non-agricultural income is the principal source of income for urban clients of Calpiá, although some continue to receive agricultural income. More than half of the households in all quintiles do not receive transfers. These tendencies are even more pronounced for clients located in San Salvador.

Regarding the median income of the rural clients by sector of origin illustrates that they combine agricultural with non-agricultural incomes, the latter being more important. Taking a look at the mean incomes, 28 percent result from agricultural and 65 percent from non-agricultural activities.

This result is consistent with an aspect of the credit technology of FC: the loan officers prefer households with diversified sources of income to reduce the risk of defaults. Thereby, Calpiá achieves a delegated diversification of its credit risk. Other MFIs, which exclude certain activities from its portfolio, do not look for diversified clients and operate in small locations, are highly exposed to the systemic risk.

The rural non-clients have diversified their sources of incomes, especially for the fourth and fifth quintile. They also combine income from the agricultural sector with non-agricultural income, the latter being more important. The transfers do represent a larger share of average income for this sample. Diversification of rural households has increased, partly in reaction to the adverse events of recent years and partly through increased opportunities due to better education and infrastructure. The tendency of the rural non-client household to diversify its sources of income points to a fertile ground for the credit technology of FC.

4.1.2 Entrepreneurial Activity, Employment, Transfers

As a second step of the analysis, income was calculated as the sum of salaries, profits from entrepreneurial activities and other income. Salaries may be earned through agricultural or non-agricultural employment. Profits from entrepreneurial activities are defined as the sum of micro enterprise net profits and the net value of agricultural production. While salaries represent a relatively stable source of income, revenue from entrepreneurial activities is more flexible and may be raised through increased effort.

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9 The median divides a group of values into 50 percent of smaller and 50 percent of larger values.
Regarding sources of income of **urban clients**, profits from entrepreneurial activities result to be most important. This is even more true for the higher quintiles. Numbers are similar for both urban groups. This result is not very surprising, since most clients in urban areas are owners of micro enterprises.

The **rural clients** combine salaries with profits from entrepreneurial activities, the latter representing the larger overall share. However, salaries are more important for the households in the lower quintiles. This suggests that entrepreneurial activities offer attractive opportunities but, at the same time, may require credentials which are not available to the poor. The **rural non-clients** derive a larger share of their income from salaries than from entrepreneurial activities. Subsidies and remittances matter more for non-clients than for clients.

**In sum**, the (rural) clients of FC are less dependent on salaries and rely to a greater extent on entrepreneurial income than the rural population of El Salvador. Self-employment in micro enterprises is more important for the members of the upper quintiles of the income distribution. The rural population generally depends more on salaries.

### 4.2 Poverty Profiles

As a result of its innovative credit technology, FC has managed to include a substantial share of the rural poor in its clientele. For 1999, 39 percent of the clients of FC are **below the national poverty line** with income below twice the subsistence level. 20 percent did not generate sufficient income to achieve subsistence at all. A smaller share of urban clients is below the poverty line.

Even though these numbers are lower than for the rural population of El Salvador in general, it is difficult to imagine that all households at that level of poverty have the capacity and willingness to pay for loans or to get into debt. Under this circumstances, outreach by Calpiá is very large.
5. The Competitiveness of Financiera Calpiá

Urban and rural clients of FC have been interrogated about their financial activities with reference to 1999 (non-clients have not been covered). Topics include alternative sources of finance, terms and cost of loans received from financial institutions present in urban and rural areas of El Salvador.

Less than 50 percent of the interviewed clients did receive loans in 1999. This is a surprising result because on the lists obtained from Calpiá, only 30 percent of the clients were inactive, so that an additional 21 percent in the rural areas, 23 percent in the local capitals and 28 percent in the national capital have abandoned the institution or did not qualify for new loans. These are considerable numbers for a growing institution.

5.1 Access to Alternative Sources of Credit

Credit may be received as formal, semi-formal or informal financing by any member of the household. A little more than 50 percent were exclusive clients of FC during the three years preceding the survey. This may indicate satisfaction with Calpiá’s services, because alternative sources exist and would probably be accessible to households having mastered the approval requirements of FC. And yet, some rural households also make use of other formal institutions. This might point to unsatisfied demand due to credit rationing in rural areas. The presence of BFA\textsuperscript{10} may have facilitated this behaviour.

Additional demand may also be explained by efforts to diversify sources of finance or to prolong payment periods. In this case, multiple loans would simply be a management of liquidity. The information collected in this survey does not permit to discern between supply and demand driven factors.

\textsuperscript{10} \textit{Banco de Fomento Agrícola} - a state development bank which directs credit to farm activities at low nominal interest rate, but considerable transaction cost.
The competitiveness of Financiera Calpiá

Table 3: Alternative Sources of Credit by Clients of Calpiá, 1999 (percentage)

<table>
<thead>
<tr>
<th>Source</th>
<th>Rural Clients</th>
<th>Local Capitals</th>
<th>San Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Banks</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>BFA</td>
<td>9</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Calpiá</td>
<td>49</td>
<td>47</td>
<td>42</td>
</tr>
<tr>
<td>Commercial Credit</td>
<td>5</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Cooperatives and Cajas de Ahorro y Crédito</td>
<td>1</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>NGOs</td>
<td>2</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Community Banks</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Compras a plazo en tiendas</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Informal Lenders</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Friends and Family</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on survey BASIS (2000).

The informal sector, which typically provides short-term emergency loans, is more important in rural areas. Again, this survey does not allow conclusions as to whether in rural areas clients are more exposed to risk or whether supply of such loans from other institutions is limited.

As expected, BFA is the most important alternative source in the countryside, as opposed to savings and loans associations in local capitals and NGOs or commercial credit in San Salvador. The participation of community banks is surprisingly low, although large programs exist, especially CAM-Finca, which considers itself a competitor of FC. The data do not confirm this claim: Calpiá’s clients do not demand financial services from this organization, which are characterized by limited flexibility.

5.2 Properties of the Loans

The second topic concerns the properties of the loans taken out in 1999 from the different sources: co-operatives and savings and loans associations lend similar amounts like Calpiá. If compared to institutions operating in the same market niche, like BFA, Calpiá does not appear to ration credit more than its competitors.

Informal sources lend out much lower amounts, which confirms that these actors operate in a different market segment. Overall, differences in the amounts granted are clearly established rather by the type of organization than by its localization in a specific area of the country.
Compared to its direct competitors in the different market segments, FC offers relatively quick approval procedures and possesses a much appreciated competitive advantage, as will become evident in the evaluation. Besides commercial credit, which operates under different conditions, only informal sources offer quicker services, which is not surprising for small amounts granted for emergency purposes.

Interestingly, FC shares with all other institutions a slower procedure in rural areas (with the exception of community banks, which may be explained due to the participatory approval of credit at weekly meetings). Obviously, screening and selection of clients takes more time in an agricultural environment.

Only commercial banks (everywhere) and credit co-operatives (in rural areas) offer more favourable terms to maturity than FC. These institutions lend primarily for agricultural purposes, whereas Calpiá, like community banks, tends to grant credit for commercial or services-related activities.

The nominal interest rates reported serve primarily as an indicator of the knowledge that clients have of the rates they are paying; they do not document the total cost of the loan. They are not effective interest rates but rather those stated in the contract. In the case of community banks, compulsory savings increase the effective interest rates of loans. In addition, transaction costs are neglected. These will be examined below.

As a regulated financial intermediary, FC has less access to concessionary funds, relying ever more on mobilizing deposits. Still, interest rates charged are similar to those of NGOs and community banks, but higher than those of BFA, which exhibits typical features of a public development bank: lower interest rates through subsidies, but elevated effective cost through a lengthy selection process. Commercial banks offer lower rates in the urban areas only. High interest rates of informal sources are little surprising. In many cases, little information exists due to implicit costs.

The transaction costs of loans granted by Calpiá, in terms of monetary transport and opportunity cost is much higher in rural areas. Despite these obstacles, clients have applied just as often for credit as in urban areas. This points to the considerable demand for these services in rural areas.

5.3 Evaluation of the Services of Financiera Calpiá

The clients' opinions about Calpiá’s services point to several strengths, but also indicate future challenges. Low transaction costs in terms of quick disbursements and straightforward evaluation procedures figure prominently among the attractive features of FC. Another key success factor is the discretionary use of funds as opposed to credit directed to specific purposes.

Urban clients welcome the non-traditional collateral accepted by FC. Urban households more readily dispose of durable consumer goods or machinery typical for a micro
enterprise. Rural clients attach special importance to the treatment by the loan officers, which may be explained through the widespread experience of social exclusion.

Whereas the most frequent answer to the question - “Why are you less attracted to Financiera Calpiá” - was “Nada”, revealing a great degree of satisfaction, some complaints highlight potential for improvement.

A lower fraction of the rural population explains full consent with Calpiá’s services, which points to higher difficulties in this area. The level of interest rates is the main critique by rural and the second by urban clients, although they were not found to be higher when compared to most direct competitors. The presence of subsidized interest rate by BFA in the rural areas may pose a distorting signal, though.

Distance to FC is critical for rural households whereas urban households experience some rationing of credit. Rural areas also dislike the size of the instalments, which may point to a shortcoming of the credit technology and its adjustment to the rural income situation. On the other hand, urban clients would prefer higher loans at longer terms, whereas rural clients are more interested in a reduction of total cost (financial and transaction).

The resulting challenge for FC is, thus, to define terms and conditions better adapted to its clients’ needs in urban areas and reducing the total cost in rural areas. The challenge for rural areas, obviously, poses greater obstacles.

After investigating attractive and less attractive features of FC, clients were asked to evaluate the services of FC along several dimensions according to a scale of “satisfied”, “indifferent”, and “not satisfied”.

First, terms and conditions of loans were assessed by the households. Especially in rural areas, interest rates gave most reasons to complaints. Rural clients are satisfied with the amounts and terms to maturity, however, as opposed to clients in the area of San Salvador.

Regarding the quality of the services offered by Calpiá, most critical voices stem from San Salvador, regarding either procedures or timeliness of disbursements. This may be due to a different quality in the various areas or to alternative access to credit, so that clients become more demanding. Surprisingly, residents of the national capital are just as unsatisfied as rural clients regarding the distance to the FC branch. Some branches might be poorly located in San Salvador.

The availability of savings deposits by FC is not as welcome in rural areas as in the urban areas, although the supply is much lower in general. This suggests the need for a more aggressive marketing stance on behalf of FC but might also be evidence of elevated transaction costs for this clientele.
The general relationship with FC is much less valued by clients in the national capital. They are also less satisfied with the limited flexibility in the use of funds. This can be interpreted as evidence for an intensifying competition in this market segment.

The rigid enforcement methods employed by FC encounter little satisfaction, especially in rural areas. Less opposition is pronounced towards the use of collateral, even though non-conventional assets are accepted. Still, with respect to the perceived credibility of Calpiá’s threat to withdraw the asset, the potential loss may well inspire reservation to this element of the credit technology.

5.4 Repayment Behaviour

The lending technology employed by Calpiá requires the client to dispose of alternative sources of income for repayment to reduce the credit risk. Whereas more than a quarter of clients in rural areas and San Salvador stated that the revenue from the principal activity they originally had borrowed for was insufficient, over 20 percent in each zone had other activities available to repay the loan. The same complementarity can be observed in the local capitals.

Almost half of the surveyed households increased their working hours to repay the loans. In rural areas, thirty percent had to use their savings to repay the funds - these are usually maintained for emergency purposes and their use may point to insufficient adaptation of the repayment to the capacity to pay of the households. This observation underlines the onerous cost perceived by rural households.

Interestingly, 8 percent of clients in rural areas and the national capital incurred further debt, arguably granted by informal sources, to service their loans from FC. This behaviour may point to more serious repayment problems in the future, taking into account the considerable cost of these loans.

Self-reported repayment problems are much lower in rural areas. This underlines the higher value attached to the relation with FC when compared to urban clients. The latter fall into arrears more frequently, endangering their status as good credit risks. On the other hand, this may simply reflect the absence of alternative sources of credit accessible for these households. To maintain the relationship, clients take out loans from other, potentially more expensive sources, sell assets or animals, or recur to other emergency measures.

The main reasons for arrears relate to the economic activities carried out by the household and is mainly due to a fall in sales revenues. In rural areas, bad crops matter also. Because harvest conditions were generally positive in 1999, reduced sales of non-agricultural products are important for rural households.

Despite apparently similar reasons, the duration of arrears is much higher on average in rural areas. This phenomenon is related to the different cash flow profiles for commercial and agricultural activities, which are more frequent in rural areas - the latter lead to
seasonal cash flows which are concentrated in certain periods. If arrears arise due to bad crops or sales problems, their duration may thus be much more extended.

Calpiá’s reaction to the arrears modifies slightly when moving from rural areas to the national capital. In rural areas, greater importance seems to be attached to a close monitoring of the clients - most loan officers chose a visit to the household. In urban areas, especially in San Salvador, letters and phone calls are more readily chosen. The closer monitoring in rural areas may have prevented more serious action, like seizing the collateral, which happens more frequently in the area of San Salvador.

5.5 Savings

The share of households maintaining savings accounts with FC was lower in 1999 than in the year before. This process of financial disintermediation indicates a large potential of deposits that could be mobilized. More than half of its clients has or had savings deposits with any organization. Attracting these potential clients will depend on the quality FC can offer. Actual holdings of savings accounts are relatively higher in rural areas in 1999 and are a more recent phenomenon than in urban areas.

Investigating the reasons for not maintaining savings accounts encounters a well-known attitude: the majority states that they do not have enough money or spare resources. In fact, most save in non-monetary ways and lack access to liquid savings accounts. Interestingly, the third most important reason are the low interest rates (9 percent of rural households). Even for inexperienced users, financial incentives are represent an important motivation for saving. On the other hand, lack of confidence in financial institutions is mentioned as well.

Means to deal with emergency expenditures were investigated to identify alternatives to institutional saving. In rural areas, the sale of animals, land or household appliances are second-best choices compared to informal credit, but still preferred to savings accounts. This reveals the use of these assets as a store of value, just like a savings account. Obviously, the financial intermediaries in these areas are missing a business opportunity. Credit by a formal or semi-formal financial institution was not a significant response.

In the urban areas, savings with financial intermediaries are second only to informal credit. In this context, the sale of animals, land or inventory are not as readily available as in the rural context.

The findings confirm a postulate of the theory of finance: with perfect access to financial markets, households would be able to deal with any kind of risk through credit, which represents at the same time the most efficient way to smooth consumption and avoid excessive volatility.
6. Impact Analysis

Measuring income was the central issue of the survey. Careful attention was paid to accounting for all receipts and expenditures associated with the households’ activities. Duration of employment was recorded for each family member, either inside or outside home. Seasonality of agriculture and private consumption were accounted for when constructing exhaustive balances of a household’s net wealth situation. The rural clients of FC (n=217) and the sample of representative rural households (n=593) were covered in 1997 and 1999. Urban households are not included. Availability of two observations for both samples allows for a panel analysis of the dynamics of the level, distribution and sources of household incomes.

6.1 Distribution of Income

On average, income in 1997 is almost three times higher for rural clients of Calpiá than for the representative rural household. The clients’ income distribution is not entirely situated further towards the right, but it is more dispersed and more skewed towards higher incomes. Thus, the clients of FC experienced a larger income volatility in 1997, which originated mainly from extraordinarily high incomes for some households. This is apparently contradictory, because 1997 was a year of recession for the agricultural sector.

However, the distinguishing element between the two groups is access to credit. The client households are able to dedicate resources to higher-risk activities, and thus may expect larger profits, whereas the non-clients are forced to more conservative investments. Especially in such a critical year, clients may venture out into new sectors which are not accessible for non-clients.

On the other hand, not all non-clients of Calpiá lack access to credit. To analyze the impact of access to credit on the income situation in more detail, rural non-clients have been separated in two groups: households who have received formal or semi-formal credit any time in the past are labelled “with access to credit” (n=212). Those who did never receive loans are considered households “without access to credit” (n=381).

Statistical tests for these subsamples confirm the hypothesis that households with access to credit experience an increased variance of their income. This indeed suggests that households with access to credit take riskier productive decisions. Since this behaviour is observed at the level of the rural population in general, it is not surprising that the rural clients of FC display a more dispersed income.

Average household income in 1999 has fallen by 17 percent for the rural clients of Calpiá, as opposed to a 38 percent increase for non-clients. Average client income a little

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11 Informal sources are excluded because they are not supposed to lend for investment purposes.
12 A low probability is assumed that a household with potential access to credit has never made use of it during its financial history.
more than doubles non-client income. The standard deviation has declined by 18 percent for the clients, but increased by three percent for non-clients.

Thus, over the period from 1997 to 1999, the clients of Calpiá present a decreasing variance of their incomes, as opposed to the rural population in general. This may be explained by the better diversification of FC’s clients: rural non-clients are more dependent on agriculture, and a year of recovery may induce higher-risk investment in this sector. As a result, rural non-clients experience a higher variance of their income in a year of recovery whereas clients of Calpiá experience a declining volatility as they reorient their resources to more stable activities, like formal employment.

### 6.2 The Changing Composition of Household Income

The analysis of the income dynamics from 1997 to 1999 proceeds by disaggregating income by sector of origin - agricultural vs. non-agricultural, and transfers (for details, see Section 2.3.1). To clarify shifting income profiles, these sources of income are further disaggregated by entrepreneurial activities and employment. Finally, participation in formal labour markets is analyzed for both groups.

#### 6.2.1 Agricultural vs. Non-Agricultural Activities

Agricultural income has fallen by 54 percent among the clients of Calpiá. Thus, the decline in average total income of 17 percent would have been much stronger, had it not been compensated by increases in non-agricultural and transfer income. On the other hand, the 34 percent increase in average total income for non-clients is distributed among all three sources of income. For both groups, agriculture has been the least dynamic sector. Thus, the dramatic decline of farm income for Calpiá’s clients in part reflects a slowdown in the sector, but also suggests a shift of resources towards other activities.

A closer look at the shares of the three sources of income suggests that resources have indeed been transferred: the agricultural sector is generally becoming less relevant, but this process is much accelerated among the clients of FC. In 1997, it contributed 53 percent to clients’ household income, and in 1999 this share fell to 29 percent. Despite a ten percent increase in absolute terms, the share of agricultural income has fallen from 32 to 26 percent for non-clients. Apparently, rural clients shift resources towards the non-agricultural sector, whereas the non-clients substitute transfer income for the lost share of farm income.

#### 6.2.2 Entrepreneurial Activities vs. Employment

To clarify this behaviour, it is necessary to investigate in greater detail the composition of agricultural and non-agricultural income: in what follows, these are disaggregated into profits from entrepreneurial household activities, and salaries generated through employment outside the household.
The reduced share of *agricultural activities* for the clients of FC is due to a decline in productive activity to the same extent, its share in agricultural income declines from 92 to 81 percent. Agricultural employment remains largely unchanged in absolute terms. A different picture appears from the sample of non-clients: productive activity increases by 36 percent in absolute terms and its share in agricultural income rises from 41 to 50 percent.

Although agricultural activities contribute much less to non-client household incomes, they are the engine of growth. Salaries represent a much larger share in agricultural income for this group: for the representative rural household, agricultural employment is an insurance during years when their productive activities become riskier. For this reason, the relevance of agricultural salaries is considerable in 1997.

Clients of Calpiá demonstrate the opposite behaviour. Productive activities function as an insurance against difficult years. This suggests that, when crisis years pass, households abandon this sector during recovery and undertake activities in non-agricultural areas.

Disaggregating average *non-agricultural income* shows that for clients of FC, entrepreneurial activities increased by 81 percent in absolute terms, representing 67 percent of non-agricultural income in 1999, up from 45 percent in 1997. Growth is even higher among non-clients, but starts from a much lower level. The share of non-agricultural income rises from 21 to 37 percent, crowding out the share of salaries.

These results suggest that the clients of FC did not enjoy a period of recovery as the rural population in general. This may be due to a lesser effect of the crisis in 1997, so that recovery was less visible. Regarding the more diversified portfolios of Calpiá’s clients, it may be realistic to suppose that these households were less affected by the agricultural crisis in 1997.

Results also demonstrate clearly that profits from micro enterprises are much more important for clients than for non-clients, and their relative share in non-agricultural income is rising. In fact, they are more important for clients than agricultural productive activities for the non-client rural population. On the other hand, non-client households have increased productive activities in both sectors, to the detriment of participation in formal labour markets.

### 6.2.3 Participation in Formal Labour Markets

To analyse the degree of *participation in labour markets* in more detail, total average income is disaggregated as: self-employment, both agricultural or non-agricultural, salaries received through employment outside home, and transfers.

The decline in average income for clients of Calpiá is due both to lower self-employment, and to a decreasing amount of salaries. Only transfers, i.e. remittances, have increased. Participation in formal labour markets remained almost constant in absolute terms for the
non-clients, despite the overall increase in average income by 34 percent. This increase is mainly due to higher self-employment, although rising remittances also play a role.

The relative share of income generated through self-employment is clearly higher for the clients of Calpià. It remains unchanged at about 67 percent, despite the more than proportional increase of micro entrepreneurial activity. This has completely crowded out agricultural self-employment. Salaries are slightly loosing importance for this group because employment in non-agricultural activities has been falling.

To the contrary, the rural population experienced an increased contribution of self-employment and a reduction of salaries. This tendency occurs both within the agricultural and the non-agricultural sectors. Remittances and subsidies matter more for this group.

6.2.4 Conclusion

The clients of FC experience a decline in average income mainly because they shifted their activities towards micro entrepreneurial activities. This shift has been accompanied by a reduction in income volatility which appears to indicate that access to credit has enabled these households to invest in new activities which generate less income on average at the moment but which allow for a reduction in income volatility.

The rural population in general has expanded both agricultural and non-agricultural activities, which has led to an increased variance of household income. Investing in agricultural activities has allowed for increasing incomes for 1999, which was a year of recovery. This shift towards increased diversification appears to have been accompanied by more pronounced income variability.

6.3 Poverty Dynamics

Absolute poverty is more widespread among the rural population than among the clients of FC. However, the share of households receiving incomes below the subsistence level is gradually converging for both populations: from 1997 to 1999, it went down from 40 to 29 percent for the non-clients, whereas it augmented for the clients of FC from 18 to 22 percent.

Structural poverty is defined for households which live in relative poverty consecutively for the two years investigated. It is comparatively higher among rural non-clients: 47 percent fall into this category as opposed to 23 percent of FC’s clients. Almost half of the clients of Calpià are not classified as poor in any year.

A household is subject to cyclical poverty if it was classified as poor for one year but not poor for the other. A similar proportion - 28 percent of clients and 31 percent of non-clients - has spent only one year in - at least relative - poverty.
6.4 Satisfaction of Basic Needs

The analysis has so far been based on measures of monetary income. Because these measures are subject to considerable scepticism, an indicator of the satisfaction of basic needs has been calculated for rural clients and non-clients and the distributions have been compared to the respective income distributions. The index aggregates variables concerning education, health, housing, and access to basic infrastructure services like water, sanitation and electricity.\textsuperscript{13}

In terms of monetary income, the population of rural clients is better off than the rural population of El Salvador in both 1997 and 1999. The clients of FC - except for the households with the highest incomes - impoverished over this period. To the contrary, the population of rural non-clients improved its income situation from 1997 to 1999.

Regarding the satisfaction of basic needs, a different picture appears: in 1997, basic needs have been slightly less satisfied for the clients of Calpiá than for the sample of non-clients. Until 1999, though, the clients of Calpiá improve their situation to a much greater extent than the rural population in general.

Although both samples improve on average during this period, the entire distribution of the index moves further to the right for the clients of Calpiá. The declining variance of the clients’ incomes is accompanied by a one percent reduction in the standard deviation of the basic needs indicator. To the contrary, standard deviation rises for non-clients by seven percent.

\textsuperscript{13} The specific variables considered are: infant mortality; alphabetization of household members older than 10; number of persons per sleeping room; quality of house by type of floor, walls and roof; levels of access to water and sanitation and the type of energy used. The net rate of primary and secondary education for children between 7-12 and 13-15 years respectively has been estimated by an econometric model because many households did not have children at the respective ages.
7. References


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