**Measuring the Reach of PATMIR: An Examination of the Characteristics of PATMIR Clients using the BANSEFI / SAGARPA Household Panel Survey**

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## 1: The PATMIR project

The Mexican Agricultural Secretariat (SAGARPA) established the Regional Project for Technical Assistance to Rural Microfinance (PATMIR) in 2001 with the stated goal of making financial services available to households in rural areas not then served by financial institutions. The project was designed to operate in highly marginalized rural areas in 10 states in Mexico. PATMIR provided technical assistance to existing financial institutions in some areas and established a branch network of new institutions in other areas. Three international entities provided technical assistance. The same year, Congress passed the Ley de Ahorro y Credito Popular (LACP), which established a regulatory framework for popular sector financial institutions, including those founded and assisted through the PATMIR program.

In 2004, BANSEFI and SAGARPA began a survey of around 5,800 households to measure the impact of both the PATMIR program and the LACP. The BANSEFI/SAGARPA survey contains a sample of 1,492 households residing in communities served by financial institutions from the PATMIR program. The PATMIR sample comes from five of the 10 states in which PATMIR operates—Chiapas, Guerrero, Hidalgo, San Luis Potosi, and Veracruz. The sample was designed to provide information on a random sample of clients of popular sector financial institutions and a random sample of households in the same or nearby communities which do not use any financial institution. Just over 10 percent of the households have missing data for one or more of the central variables in the analysis. To make the analysis comparable when we focus on different factors, we eliminate these households from the analysis. There are 1,304

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households in the remaining PATMIR sample, of which 604 have accounts, and 700 do not.

This report analyzes the PATMIR sample. We compare member and non-member households in the PATMIR sample with member and non-member households of the entidades de ahorro y credito popular (popular sector savings and credit institutions, or EACPs). We discuss a similar patterns with respect to the use of credit by households. The goal in this part of the analysis is to provide a description of the households which are members of financial institutions and those which are not. Just over 12 percent of the households report having received remittances in the past 12 months. We pay particular attention to the association between receipt of remittances and use of financial services. In particular, we examine whether households receiving remittances are more (or less) like to have accounts and loans, and whether those with accounts have higher savings account balances.

A note on terminology in the report. Though PATMIR is working with institutions which are generally included in the group of EACPs, we refer to the non-PATMIR households as the EACP sample throughout this report. There are 1,334 households with accounts in EACPs and 1,547 households without accounts in the EACP sample. The EACP sample is spread across 21 states. The PATMIR and EACP samples reflect the areas in which each is concentrated.[2] Approximately two-thirds of the PATMIR sample (889 households) is rural and one-third (415 households) is urban. Two-thirds of the EACP sample households (1,981), on the other hand, are located in urban areas and only on-third (900) in rural areas.

The first wave of the BANSEFI / SAGARPA panel survey was undertaken between March and early July 2004. A second wave was conducted a year later in the spring of

[2] We thus use 4,185 of the 5,768 households in the BANSEFI/SAGARPA panel survey of households. We exclude 559 households which have accounts in BANSEFI branches, or are located in the same communities. We also exclude 208 households which are Oportunidades / Procampo recipients and clients of an EACP or reside in the same communities as EACP-member households.

2005 and a third wave in the spring of 2006. Fourth and fifth waves are planned for the spring of 2007 and 2008. This report primarily reports on the baseline survey.

The report begins with a short description of the PATMIR project. We review the goals of the project, providing some motivation for the analysis which follows. We then examine available evidence on the penetration of formal financial institutions in rural areas of Mexico. In Section 3, we describe the sample and report summary statistics for both the PATMIR and EACP samples. Section 4 examines the factors correlated with having an account in either of the samples; section 5 examines the factors associated with having a loan conditional on having an account, and section 6 offers some concluding remarks and thoughts on future research.

**1: The PATMIR Project**

PATMIR began in 2001 with the goal of providing access to financial services in rural areas of Mexico not then served by formal financial institutions. SAGARPA identified seven regions with large populations or highly marginalized (that is, very low income) rural populations. The seven regions were in the states of Oaxaca, Guerrero, Veracruz, and Michoacán, the cross-state regions of Chiapas-Tabasco and Puebla-Tlaxcala, and the Huasteca region covering parts of San Luis Potosí, Hidalgo, and Veracruz. Contracts were signed with three international financial organizations to provide technical assistance in each of these seven regions. Desarrrollo Internacional Desjardins (DID) provided assistance in Chiapas-Tabasco. The Huasteca and Puebla-Tlaxcala; the World Council of Credit Unions (WOCCU) worked in Veracruz, and Michoacán; and The German Confederation of Cooperatives (DGRV) worked in Oaxaca and Guerrero. The consultants were given some flexibility in choosing how to carry out the mission of expanding access to financial services in rural areas. Some focused more on starting new institutions, while other focused on expanding existing institutions.

As of late 2006, the PATMIR project has created or worked with 33 financial institutions operating 163 branches.[3] Of the 163 branches, 127 were newly established by the PATMIR program. The PATMIR institutions had opened 202,000 accounts. According to information from SAGARPA, 117,000 of these accounts were opened by individuals who were previously unbanked. Total deposits were more then 259 million pesos.

In regions where PATMIR has established financial institutions, the basic model is to establish a headquarters operation in a larger rural town or semi-urban area. Several branches associated with the headquarters are then established in smaller towns. Finally, mobile branches provide regular service in more remote areas, and promoters work in even more remote areas to make people aware of the availability of the new financial institutions. The headquarters branches are allowed to take deposits and make loans. This means that while the primary focus of PATMIR is rural areas, some clients for both savings and lending services are located in urban or semi-urban areas.

**2: Use of financial services in rural Mexico**

The BANSEFI / SAGARPA survey sample contains a nearly equal number of households with and without accounts in financial institutions. The sample was designed to provide information on the characteristics of banked and unbanked households. Because of the sampling design, the survey does not provide any information on the penetration of financial institutions in Mexico. However, several other available data sets do provide some information. Richter et al (2006) summarizes the information on rural financial penetration from these various data sets. Table 1 below describes the data sets.

[3] The information in this section comes from SAGARPA, "El PATMIR: Promoviendo el desarrollo y la consolidación de un sistema financiero para sector rural marginado en México."

| Table 1: Available Mexican Datasets | | | | | | | |
|---|---|---|---|---|---|---|---|
| Data-Bases | # States | Def. Rural | # Localities | | # HHs | | Year |
| | | | Total | Rural | Total | Rural | |
| Mexican Family Life Survey (ENNViH ) | 30 | < 15,000 | 150 | 95 | 8,436 | 4,232 | 2002, 2005 |
| Progresa Evaluation | 7 | 500-2,500 | 657 | 657 | 34,203 | 34,203 | 1997-2003 |
| Natl. Rural Household Survey (ENHRUM) | 14 | 500-2,500 | 80 | 80 | 1,760 | 1,760 | 2002 |
| COLMEX/ BASIS | 1 | 500-2,500 | 20 | 20 | 600 | 600 | 2005, 2006 |
| BANSEFI / SAGARPA Survey | 26 | 500-10,000 | 345 | 179 | 5,768 | 2,729 | 2004 - 2006 |

The Mexican Family Life Survey (ENNViH) is perhaps the most representative survey at the national level with a substantial financial services module. About half of the ENNViH sample was drawn from 95 rural communities. The Progresa evaluation sample is much larger—just over 34,000 households—but the sample is restricted to communities with large number of Oportunidades clients, and hence does not reflect the overall population of Mexico. Finally, the National Rural Household Survey and the COLMEX/BASIS survey have smaller samples, though they are drawn entirely from rural areas. The latter survey is limited to the state of Oaxaca.

Table 2 gives an indication of the penetration of financial services in rural Mexico using data from each of these data sets. Again, we should keep in mind that several of the surveys do not reflect Mexico's rural population at a national level. Furthermore, the questions related to use of financial services differ somewhat in these surveys. In spite of these differences, the surveys paint a consistent picture of low financial penetration rates in rural Mexico. The data on Table 2 report the percentage of rural households in each of the samples with loans from formal and informal sources. The Mexican Family Life Survey data, for example, indicate that less than 7 percent of rural households in Mexico

had a loan in 2002. The National Rural Household Survey indicates that only 2 percent of rural households currently have a loan.

| Table 2: Household Participation in Credit Market (active loans) | | | | |
|---|---|---|---|---|
| | Enhrum (2002) | Ennvih (2002) | Progresa (2003) | Colmex (2005) |
| Commercial Bank | 2 | .5 | 0.1 | 0 |
| Government Bank | | - | 0.1 | .6 |
| Government Program | | - | 1.4 | 0 |
| Ngo | | - | - | .6 |
| Caja | | 1.5 | 0.7 | 6 |
| Informal | 26 | 15 | 11 | 13 |
| None | 72 | 83 | 87 | 81 |

**3: The Survey and the Data**

Against this background, we examine the effectiveness of the PATMIR program in reaching low income households and households which were previously unbanked. Before presenting summary statistics from the baseline survey, we discuss the sample and the survey instrument in some detail.

The sample was drawn in three steps. First, in 2002, BANSEFI carried out a census of all popular sector financial institutions. This census served as a sampling frame for the panel survey. Using the census data, 100 branches were selected to represent three segments of the popular financial sector: the EACPs, PATMIR and BANSEFI. Within the BANSEFI and EACP samples were some branches which are involved in a program to provide social program payments (Oportunidades and Procampo) through electronic transfers. For this report, the branches involved in this program are excluded. We also exclude the other BANSEFI branches so that PATMIR is compared to a set of institutions offering a similar range of services—that is, both savings and lending services. The resulting sample includes 80 branches (53 EACP branches and 27 PATMIR branches) in 23 states.

Once the branches were selected, the survey firm obtained a list of account holders at each of the branches. A group of 20 to roughly 35 households with accounts in each of

the branches was drawn randomly from the client list for inclusion in the sample.[4] Then, a comparably sized group of households without accounts in financial institutions was selected. The non-account holders were selected through a door-to-door screening survey to identify similar households that had not had an account in a financial institution since at least 1999. Thus, the matched sample consists solely of households that have not used formal financial institutions in the five years leading up to the survey.

In the baseline survey, 1,942 households report having had a savings account in the five years leading up to the survey date, and 2,257 households report not having had an account in the previous five years. The two groups are not evenly matched because some households selected for what the survey report calls the "treatment" group do not have accounts.

Both the clients and non-clients were then administered a lengthy survey gathering detailed information on the use of financial services, household expenditures and assets, economic activities of the household, receipt of remittances, and economic shocks faced by the household in the year leading up to the survey. We will describe the specific questions in more detail as we use the variables in the analysis, but a few general comments are warranted. First, the non-response rates are quite high for some variables, though in many cases it is possible to create a variable which has many fewer missing values and which fairly represents the information desired. To give two examples, the non-response rates on basic monthly expenditures for food, transportation, and services are very low. However, non-response rates on items purchased less frequently are much higher. Clothing, which was asked for a three month interval, and appliances and other household durables, which were asked for a 12 month interval, have high rates of non-response. So for expenditures, we use a variable which indicates the level of expenditures on items purchased weekly or monthly.

[4] Some branches declined to provide a list of clients. In these cases, the survey firm sampled individuals arriving at the branch to conduct business, and/or used snowball sampling to locate clients of the branch.

Second, households are asked which of a list of durable goods they have. For each of the durable goods they possess, they are asked the market value of the good. Non-response rates for the presence or absence of durable goods are quite low, but non-response rates for the value of the goods are much higher. Therefore, where households report the presence of a durable good but not its value, we use the median value of that good among the households who do report a value. For most goods, this should give us a reasonable indication of the household's investment in durable goods.

Table 3 summarizes the data for the PATMIR and EACP samples, for the entire sample in both urban and rural areas. The table shows clearly that the households served by EACP institutions are economically much better off than those served by the PATMIR branches, by every measure on the table. Households served by PATMIR branches have lower education levels (5.2 years vs. 6.3 years for the female head). They also have lower monthly income (median labor income of 2,520 pesos vs. 3, 780 pesos) and lower monthly expenditures (1,970 pesos vs. 3,199 pesos). Finally, they have lower levels of assets, whether measured by median levels of investments in household durables (3,000 pesos vs. 4,800 pesos), the size of the house (3.0 rooms vs. 3.5 rooms), or having piped water in the house (24.2 percent vs. 62.3 percent). The data on Table 3 include both those with an account and those without an account who reside in the same or nearby communities. Thus, these measures indicate that PATMIR institutions are serving lower income communities.

Of course, one of the reasons the communities under the PATMIR umbrella are poorer than those served by EACP institutions is that PATMIR serves primarily rural areas while the EACPs serve primarily urban regions. There are large differences in urban and rural areas with respect to income levels, education levels and other characteristics. Tables 4 and 5 separate the same data into rural and urban areas, respectively. In rural areas, the differences between households in communities served by PATMIR branches and households in communities served by EACP branches are still apparent, but less pronounced. In one or two cases, the measures indicate that the PATMIR communities are slightly better off. The education level of female household heads is significantly

lower in the PATMIR sample, 4.6 years vs. 5.3 years in the EACP sample. The median household monthly expenditure level is also significantly lower in the PATMIR sample—1,770 pesos vs. 2,350 pesos—as is the median level of household assets (2,700 in the PATMIR sample and 3,050 in the EACP sample. The PATMIR dwellings are also smaller (2.9 vs. 3.1 rooms) and much less likely to have piped water in the house (14.7 percent vs. 39.2 percent). They are somewhat more likely to be connected to a sewer system, however (51 percent vs. 40 percent).

For variables which take on continuous values, like monthly expenditures, the median values may mask differences at other points in the distribution. Figure 1 shows kernel densities of monthly expenditure levels separately for the PATMIR and EACP households. The graph clearly shows that the distribution of expenditures among the households in the PATMIR communities is shifted to the left relative to households in the EACP communities throughout the entire distribution. The most notable feature of the graph is the weight of the very low expenditure households in the PATMIR density.

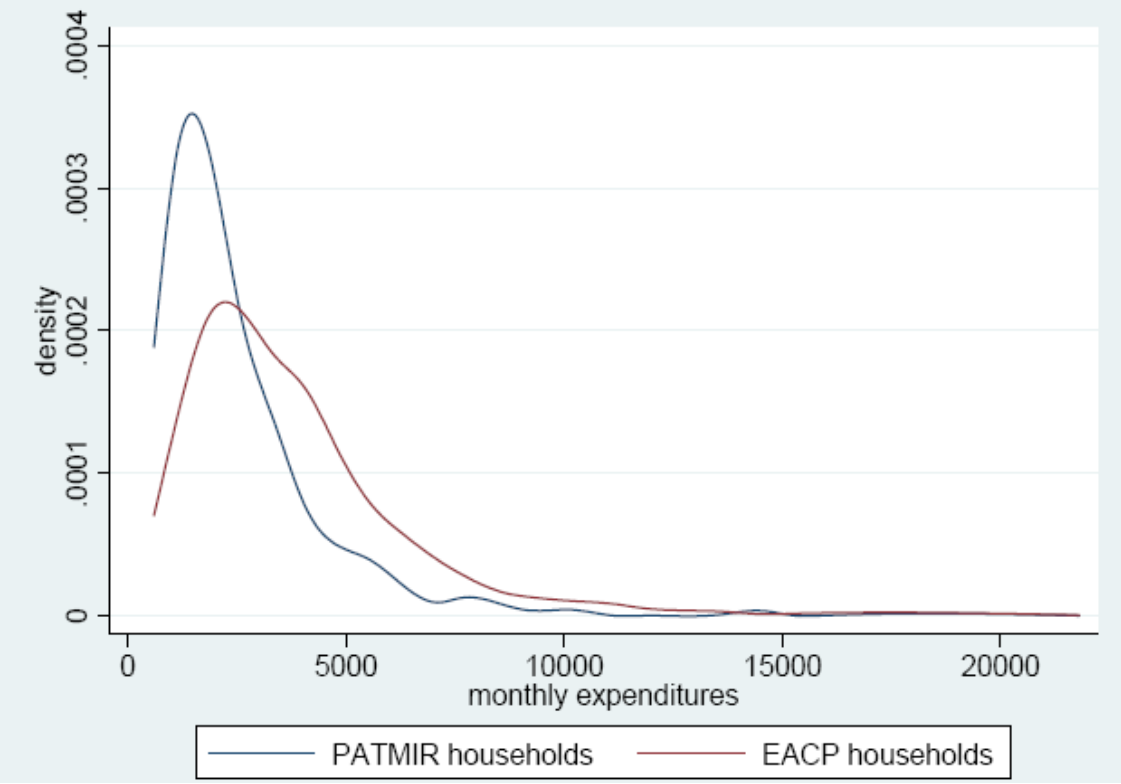


Figure 1: Distribution of Monthly Expenditures among Rural Households

**TABLE 3 Characteristics of Households in the PATMIR and EACP Samples**

| | | PATMIR | EACP |
|---|---|---|---|
| **Number of observations** | | 1,304 | 2,881 |
| **Average family size** | *** | 4.6<br>(2.0) | 4.3<br>(1.9) |
| **Percentage both heads present** | | 78.1 | 77.1 |
| **Female head average education** | *** | 5.2<br>(4.3) | 6.3<br>(4.4) |
| **Male head average education** | *** | 6.2<br>(4.6) | 6.7<br>(4.7) |
| **Median total work income** | *** | 2,520 | 3,780 |
| **Median total income** | *** | 2,667 | 3,930 |
| **Median household expenditures** | *** | 1,970 | 3,199 |
| **Land ownership** | *** | 21.3 | 12.9 |
| **House ownership** | *** | 77.7 | 71.1 |
| **Number of rooms in house** | *** | 3.0<br>(1.6) | 3.5<br>(1.8) |
| **Piped water** | *** | 24.2 | 62.3 |
| **Connected to sewer** | *** | 62.9 | 72.8 |
| **Median total assets (modified)** | *** | 3,000 | 4,800 |
| **Median balance in savings account** | *** | 1,500 | 4,500 |
| **Agricultural enterprise** | *** | 29.8 | 18.3 |
| **Non-agricultural enterprise** | *** | 37.8 | 33.7 |
| **Remittances from abroad** | *** | 9.2 | 14.0 |

Notes: Standard errors for continuous variables shown in parentheses. Asterisks indicate the significance of differences in the mean or median values: * --10 percent, **--5 percent, ***--1 percent

Rural PATMIR households are also less likely to have either agricultural or non-agricultural enterprises. About 38 percent of PATMIR households report at least one such enterprise, compared with 43 percent of EACP households. With respect to the relative size of the agricultural enterprises in the two communities, the data mostly suggest those in the PATMIR communities are larger. Agricultural households in PATMIR communities are slightly more likely to own agricultural land (71 percent vs. 68 percent, a difference not statistically significant), own somewhat larger tracks when they do own land (a median of three hectares vs. a median of two hectares among agricultural households that own land), and are more likely to report selling some part of their production on the market (41 percent vs. 27 percent). The agricultural enterprises in PATMIR communities do report lower median purchases of agricultural inputs over the past 12 months (500 pesos vs. 925 pesos).

Households in rural PATMIR communities are also less likely to report having non-agricultural enterprises (34 percent vs. 39 percent). In this case, the measures of size indicate that non-agricultural enterprises in PATMIR communities are smaller than those in EACP communities. They have smaller median investments in tools and equipment (1,000 pesos vs. 1,125 pesos), smaller median stocks of inventories (1,000 pesos vs. 1,500 pesos), and the same median profit level (1,000 pesos).

**TABLE 4 Characteristics of Households in Rural Areas**

| | | PATMIR | SACP |
|---|---|---|---|
| **Number of observations** | | 889 | 900 |
| **Average family size** | | 4.6<br>(2.1) | 4.4<br>(2.0) |
| **Percentage both heads present** | | 79.3 | 79.2 |
| **Female head average education** | *** | 4.6<br>(4.0) | 5.3<br>(4.3) |
| **Male head average education** | | 5.5<br>(4.3) | 5.7<br>(4.5) |
| **Median total work income** | *** | 2,400 | 2,520 |
| **Median total income** | | 2,467 | 2,720 |
| **Median household expenditures** | *** | 1,770 | 2,350 |
| **Land ownership** | | 26.7 | 29.1 |
| **House ownership** | * | 82.2 | 78.6 |
| **Number of rooms in house** | *** | 2.9<br>(1.4) | 3.1<br>(1.7) |
| **Piped water** | *** | 14.7 | 39.2 |
| **Connected to sewer** | *** | 50.7 | 40.4 |
| **Median total assets (modified)** | * | 2,700 | 3,050 |
| **Median balance in savings account** | | 1,886 | 2,300 |
| **Agricultural enterprise** | ** | 37.8 | 42.7 |
| **Non-agricultural enterprise** | ** | 33.5 | 39.1 |
| **Remittances from abroad** | *** | 10.6 | 14.8 |

Notes: Standard errors for continuous variables shown in parentheses. Asterisks indicate the significance of differences in the mean or median values: * --10 percent, **--5 percent, ***--1 percent

**TABLE 5 Characteristics of Households in Urban Areas**

| | | PATMIR | SACP |
|---|---|---|---|
| **Number of observations** | | 415 | 1,981 |
| **Average family size** | *** | 4.6<br>(1.9) | 4.2<br>(1.9) |
| **Percentage both heads present** | | 75.4 | 76.1 |
| **Female head average education** | | 6.4<br>(4.7) | 6.8<br>(4.3) |
| **Male head average education** | * | 7.7<br>(5.0) | 7.2<br>(4.7) |
| **Median total work income** | ** | 3,600 | 4,410 |
| **Median total income** | ** | 3,715 | 4,500 |
| **Median household expenditures** | *** | 2,758 | 3,622 |
| **Land ownership** | *** | 9.9 | 5.6 |
| **House ownership** | | 68.0 | 67.7 |
| **Number of rooms in house** | *** | 3.3<br>(1.8) | 3.7<br>(1.8) |
| **Piped water** | *** | 44.6 | 72.8 |
| **Connected to sewer** | | 89.2 | 87.5 |
| **Median total assets (modified)** | *** | 4,300 | 6,100 |
| **Median balance in savings account** | *** | 1,025 | 5,635 |
| **Agricultural enterprise** | *** | 12.5 | 7.2 |
| **Non-agricultural enterprise** | *** | 47.0 | 31.2 |
| **Remittances from abroad** | *** | 6.3 | 13.7 |

Notes: Standard errors for continuous variables shown in parentheses. Asterisks indicate the significance of differences in the mean or median values: * --10 percent, **--5 percent, ***--1 percent

The differences between the communities served by PATMIR and EACP are much more pronounced in urban areas (Table 5). Recall that only about a third of the PATMIR sample is urban. The mission of PATMIR is to serve rural households, but the main branches of PATMIR institutions are often in larger communities. Measured by income, assets, or expenditures, PATMIR households are notably poorer than EACP households. For example, median monthly expenditure levels are 2,758 pesos among households served by PATMIR and 3,622 pesos in communities served by EACPs. Monthly household labor income is 3,600 in urban PATMIR communities and 4,410 in urban EACP communities.

Tables 2 through 4 also report the median balance in savings accounts among households with accounts in PATMIR and EACP institutions. The balances are higher among the households which are EACP clients, with differences much larger than the those in income levels. There are a couple of reasons the differences in savings balances may be more pronounced. First, the marginal propensity to save likely increases with income: wealthier households would be expected to save a larger share of their income. Second, households with accounts in PATMIR institutions report that they opened those accounts significantly more recently than those with accounts in EACPs. There is a clear positive correlation between the length of time an account has been opened and the reported balance in the account.

That the PATMIR clients have more recently opened accounts is consistent with the goals of PATMIR. Fully 61 percent of the PATMIR sample opened their account in 2002 or later, compared with only 31 percent of the EACP sample. The difference is slightly less pronounced in rural areas, where 57 percent of PATMIR clients opened accounts in 2002 or later, compared with 40 percent of EACP clients. Households opening account in 2002 or after have somewhat lower expenditure levels than those who have had accounts for longer periods. This is especially true for clients of EACPs (monthly median 2,250 pesos vs. 3,350 pesos), but is true for PATMIR clients as well (monthly median level of 1,804 pesos compared with 2,129 pesos). New clients also have lower levels of education than more established clients in both the PATMIR and EACP samples. In the PATMIR

sample, for example, female heads in households with accounts opened in 2002 or later have 5.2 years of schooling, compared with 5.6 years for female heads in households with accounts opened earlier. This may indicate that financial institutions are reaching further down the income distribution in rural areas, or it may simply reflect the fact that higher income, higher education households are likely to retain accounts over long periods of time, while those with lower incomes may open and close accounts more frequently. It is also the case that households with newly opened accounts have heads who are younger in age, and therefore have lower income and fewer assets.

In sum, the BANSEFI / SAGARPA panel survey data indicate that PATMIR operates in lower income communities. Some of the difference in the overall sample is explained by the fact that PATMIR has a much larger rural base than the EACPs in the sample. But even within rural areas, and especially within urban areas, PATMIR is operating in lower income communities. We also find that households with accounts at PATMIR institutions opened those accounts more recently. This suggests that PATMIR has had at least some success in expanding the use of financial services to households which were previously unserved.

To this point, we have focused largely on the characteristics of the communities served by PATMIR and the EACPs. Of course, providing services in low income communities and providing services to low income households are not necessarily the same thing. To gain a better understanding of the nature of the clients of PATMIR and the EACPs, we now take a more extensive look at the characteristics of account vs. non account holders in the communities served by both types of institutions.

**4: Savings Accounts and the Level of Savings**

The BANSEFI / SAGARPA panel survey sample is well structured to gain a better understanding of the characteristics of households with and without savings accounts in the institutions. We now turn to regression analysis to examine the characteristics associated with having a savings account. The regressions will allow us to create a more detailed portrait of the nature of the process by which clients are selected from among the

households in the communities served by the institutions. Tables 6 and 7 report the results of regressions where the dependent variable indicates the household has an account in a financial institution. Table 6 uses the PATMIR sample and Table 7 the EACP sample. We run probit regressions, and report the marginal coefficients. Since the dependent variable is one if the household has an account and zero otherwise, the coefficients can be interpreted as indicating the effect of the given variable on the probability the household has an account. The interpretation is most straightforward when the independent variable also has a 0/1 structure. In that case, the coefficient indicates how the probability of having an account changes when the independent variable changes from 0 to 1. For continuous variables, we will follow custom and report the effect of a one standard deviation change in the independent variable.

Before discussing the results, a note of caution regarding their interpretation is warranted. The data are a cross section, and we cannot usually infer a direction of causation in the data. For example, income levels may be associated with having an account either because households with higher incomes have higher demand for financial services, or because access to financial services allows households to pursue opportunities which result in higher incomes. We will not be able to disentangle the direction of causation with only the first two waves of the survey. However, if access to financial services increase rapidly enough across Mexico during the next few years, it may be possible to draw inferences about direction of causation by using the full five waves of the survey.

**Table 6: Regression Results on the Likelihood of Having an Account**

**PATMIR Sample**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Maximum schooling=6 | 0.098 | 0.115 | 0.102 | 0.064 |
| | (2.49)* | (2.82)** | (2.43)* | -1.46 |
| Maximum schooling 7-9 | 0.167 | 0.201 | 0.172 | 0.149 |
| | (3.74)** | (4.42)** | (3.64)** | (2.94)** |
| Maximum schooling 10-12 | 0.269 | 0.261 | 0.21 | 0.171 |
| | (5.14)** | (4.71)** | (3.56)** | (2.67)** |
| Maximum schooling 13+ | 0.474 | 0.492 | 0.447 | 0.435 |
| | (8.97)** | (9.15)** | (7.43)** | (6.39)** |
| Average age of HH heads | 0.036 | 0.026 | 0.019 | 0.02 |
| | (5.62)** | (3.90)** | (2.81)** | (2.76)** |
| Average age squared | 0 | 0 | 0 | 0 |
| | (4.82)** | (2.98)** | (2.21)* | (2.18)* |
| Indigenous language | 0.038 | 0.038 | 0.058 | 0.098 |
| | (1.28) | (1.20) | (1.77) | (2.82)** |
| Receive remittances | | 0.224 | 0.2 | 0.187 |
| | | (4.28)** | (3.79)** | (3.40)** |
| Agricultural enterprise | | 0.185 | 0.043 | 0.068 |
| | | (5.36)** | (0.75) | (1.12) |
| Non-agricultural enterprise | | 0.168 | 0.155 | 0.135 |
| | | (5.16)** | (4.62)** | (3.83)** |
| Female head in labor force | | 0.149 | 0.149 | 0.147 |
| | | (3.98)** | (3.98)** | (3.71)** |
| Both heads present | | 0.123 | 0.112 | 0.085 |
| | | (3.06)** | (2.76)** | (1.98)* |
| Own house | | | -0.006 | 0.002 |
| | | | (0.16) | (0.06) |
| Own other land | | | 0.186 | 0.154 |
| | | | (3.06)** | (2.37)* |
| Access to sewer | | | -0.053 | -0.092 |
| | | | (1.49) | (2.43)* |
| Piped water | | | 0.115 | 0.103 |
| | | | (2.76)** | (2.39)* |
| Number of rooms | | | 0.03 | 0.014 |
| | | | (2.39)* | (1.08) |
| Log household durable Assets | | | | 0.036 |
| | | | | (3.84)** |
| Log monthly expenditures | | | | 0.027 |
| | | | | (0.98) |
| Observations | 1302 | 1299 | 1298 | 1197 |

Because some variables of interest are arguably more exogenous than others, we begin by adding the independent variables in groups. The first group we add includes characteristics of the household heads which are arguably determined prior to the

decision to open an account. These (characteristics) are the most likely to be accepted as exogenous determinants of being banked. Column 1 of Table 6 shows the results of a regression for the PATMIR sample. We measure education as the maximum number of years of schooling among the household heads. We then divide the households into five groups: less than six years of schooling, six years of schooling, seven to nine years of schooling, 10-12 years of schooling, and 13 or more years of schooling. Exactly one of these variables will take a value of 1 for each household. The regression excludes the indicator of less than six years of schooling, so the other coefficients should be interpreted as the increase or decrease in the likelihood a household with a certain schooling level has an account relative to the a household with less than six years of schooling. For example, the coefficient on the household heads having 10-12 years of schooling is .269, indicating that, holding the other variables constant, households with a head having 10-12 years of schooling are 26.9 percent more likely to have an account than households with no head having more than five years of schooling. The probability of being banked in PATMIR communities is monotonically increasing with the level of schooling of the household heads.

The first regression also includes a variable measure of the average age of the household heads and the square of the age. The probability of having an account is increasing at a decreasing rate. Finally, we also include a variable indicating that the household head speaks an indigenous language. In the PATMIR sample, this variable is positive but not significant, indicating that indigenous households in PATMIR communities are no more or less likely to be banked.

For comparison, look at the first column of Table 7, which reports the results of the same regression on the EACP sample. We see that the education gradient is somewhat steeper for the EACPs: the likelihood of having an account increases more rapidly with education in the EACP communities. Also notice that the indigenous language indicator is significant and positive. A household whose head speaks an indigenous language is 11.4 percent more likely to have an account at an EACP institution than a household whose head does not speak an indigenous language.

**Table 7: Regression Results on the Likelihood of Having an Account**

**EACP Sample**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Maximum schooling=6 | 0.188 | 0.194 | 0.133 | 0.1 |
| | (6.73)** | (6.76)** | (4.41)** | (3.10)** |
| Maximum schooling 7-9 | 0.258 | 0.265 | 0.184 | 0.144 |
| | (8.49)** | (8.49)** | (5.48)** | (4.03)** |
| Maximum schooling 10-12 | 0.43 | 0.435 | 0.338 | 0.288 |
| | (13.36)** | (13.12)** | (8.82)** | (6.95)** |
| Maximum schooling 13+ | 0.547 | 0.547 | 0.465 | 0.41 |
| | (16.92)** | (16.35)** | (11.29)** | (8.73)** |
| Average age of HH heads | 0.038 | 0.034 | 0.02 | 0.015 |
| | (9.79)** | (8.65)** | (4.83)** | (3.24)** |
| Average age squared | 0 | 0 | 0 | 0 |
| | (7.74)** | (6.65)** | (4.04)** | (2.36)* |
| Indigenous language | 0.114 | 0.107 | 0.155 | 0.228 |
| | (3.97)** | (3.59)** | (4.96)** | (6.71)** |
| Receive remittances | | 0.143 | 0.127 | 0.105 |
| | | (4.87)** | (4.16)** | (3.23)** |
| Agricultural enterprise | | 0.066 | 0.082 | 0.117 |
| | | (2.37)* | (1.69) | (2.21)* |
| Non-agricultural enterprise | | 0.072 | 0.063 | 0.033 |
| | | (3.29)** | (2.83)** | -1.35 |
| Female head in labor force | | 0.067 | 0.069 | 0.074 |
| | | (2.80)** | (2.79)** | (2.81)** |
| Both heads present | | 0.059 | 0.036 | 0 |
| | | (2.31)* | (1.38) | (0.01) |
| Own house | | | 0.143 | 0.129 |
| | | | (5.74)** | (4.96)** |
| Own other land | | | 0 | -0.022 |
| | | | 0.00 | (0.38) |
| Access to sewer | | | 0.031 | -0.002 |
| | | | (1.16) | (0.07) |
| Piped water | | | 0.1 | 0.07 |
| | | | (3.85)** | (2.53)* |
| Number of rooms | | | 0.057 | 0.036 |
| | | | (5.33)** | (3.76)** |
| Log household durable Assets | | | | 0.05 |
| | | | | (5.57)** |
| Log monthly expenditures | | | | 0.062 |
| | | | | (2.99)** |
| Observations | 2875 | 2866 | 2853 | 2500 |

The second column of each table adds a set of variables measuring labor market decisions of the household. In the PATMIR sample, we see that households with an agricultural enterprise are about 18.5 percentage points more likely to be banked, while those having a non-agricultural enterprise are about 16.8 percentage points more likely to be banked. Households in which the female head works and those in which both heads are present are also more likely to have an account (14.9 and 12.3 percentage points, respectively). We also add to this regression a variable indicating that the household receives remittances from abroad. Receipt of remittances is very strongly associated with having an account: households in PATMIR communities receiving remittances are 22.4 percentage points more likely to have an account than are households not receiving remittances.

Across the board, these variables have weaker associations with the likelihood that households in the EACP communities are banked. In each case, we find that the variables are positively associated with being banked, and that they are significant at least at the .05 level. But, for example, receipt of remittances increases the likelihood of being banked by only 14.3 percentage points among EACP households, compared with 22.4 percentage points among the PATMIR households. The other variables added to the second regression have effects which are one-third to one-half as large as in the PATMIR sample.

Next we begin to address the correlation between income and wealth on the one hand and having an account on the other. For these variables, it is quite clear that the direction of causation could go in either direction. A household may be banked because it owns agricultural land, or it may own agricultural land because it is banked. Thus, we should interpret the coefficients only as giving an indication of the correlation between the measured characteristic and the probability of being banked, holding constant other characteristics.

In the third regression, we add variables indicating whether the household owns its house, owns agricultural land, is connected to the sewer system, and has piped water in the

house, as well as a variable measuring the number of rooms in the house excluding hallways and bathrooms. Taken together, these variables have a stronger effect in the EACP communities than in the PATMIR communities. In the PATMIR communities, home ownership and connection to the sewer have no association with being banked. Ownership of agricultural land and having piped water are both significantly associated at the .01 level, with measured effects of 18.6 and 11.5 percentage points, respectively. Each additional room in the house is associated with an increase of 3 percentage points in the probability of having an account. In the EACP communities, home ownership is positively and significantly associated with higher probabilities of having an account, with a coefficient of 14.3 percentage points. Each additional room in the house increases the likelihood of being banked by 5.7 percentage points.

Finally, in the fourth regression, we add measures of the log of household durable assets and the log of monthly expenditures. The log values are used in place of the levels because both of these variables have very long right-hand tails. As a result, they are not normally distributed in levels. However, taking logs brings the right hand tail in, and results in distributions which are closer to normal. We find that both log durable assets and log expenditures are positively associated with being banked in the EACP sample. Only the log assets variable is positively associated with being banked in the PATMIR sample. Moreover, even for log assets, the measured effect is higher among the EACP sample, 5.0 vs. 3.6 percentage points.

These results indicate that the EACPs select much more strongly on measures of household wealth. But again, we might ask how much of this difference results from the fact that the PATMIR branches serve a more rural clientele. We address this issue in Table 8. The first two columns of Table 8 show the same regression for the rural part of the PATMIR (column 1) and EACP (column 2) samples. Columns 3 and 4 show the regressions for the urban sample of PATMIR and EACP, respectively.

**Table 8: Regression Results on the Likelihood of Having an Account**

**Rural / Urban Splits**

| | PATMIR Rural | EACP Rural | PATMIR Urban | EACP Urban |
|---|---|---|---|---|
| Maximum schooling=6 | 0.074 | 0.064 | 0 | 0.132 |
| | (1.47) | (1.24) | 0.00 | (3.00)** |
| Maximum schooling 7-9 | 0.125 | 0.043 | 0.17 | 0.193 |
| | (2.10)* | -0.68 | (1.72) | (4.19)** |
| Maximum schooling 10-12 | 0.109 | 0.189 | 0.227 | 0.327 |
| | (1.30) | (2.35)* | (2.09)* | (6.33)** |
| Maximum schooling 13+ | 0.425 | 0.349 | 0.452 | 0.418 |
| | (4.82)** | (3.74)** | (3.82)** | (7.11)** |
| Average age of HH heads | 0.011 | 0.015 | 0.043 | 0.014 |
| | (1.25) | (1.81) | (3.17)** | (2.43)* |
| Average age squared | 0 | 0 | 0 | 0 |
| | (0.95) | (1.74) | (2.65)** | (1.34) |
| Indigenous language | 0.106 | 0.198 | 0.113 | 0.25 |
| | (2.55)* | (4.25)** | (1.64) | (4.97)** |
| Receive remittances | 0.195 | 0.163 | 0.162 | 0.039 |
| | (3.17)** | (2.88)** | (1.31) | (0.94) |
| Agricultural enterprise | 0.044 | 0.003 | 0.086 | 0.239 |
| | (0.68) | (0.05) | (0.48) | (1.96) |
| Non-agricultural enterprise | 0.088 | 0.076 | 0.227 | -0.021 |
| | (2.05)* | (1.82) | (3.39)** | (0.66) |
| Female head in labor force | 0.137 | 0.008 | 0.161 | 0.123 |
| | (2.78)** | (0.17) | (2.38)* | (3.71)** |
| Both heads present | 0.053 | -0.041 | 0.124 | 0.014 |
| | (1.00) | (0.79) | (1.63) | (0.38) |
| Own house | -0.02 | 0.141 | -0.025 | 0.096 |
| | (0.36) | (2.83)** | (0.35) | (3.00)** |
| Own other land | 0.181 | -0.003 | 0.054 | -0.125 |
| | (2.66)** | (0.05) | (0.27) | (0.98) |
| Access to sewer | -0.052 | -0.006 | -0.099 | 0.121 |
| | (1.24) | (0.15) | (0.90) | (2.48)* |
| Piped water | 0.063 | 0.117 | 0.161 | 0.019 |
| | (1.02) | (2.61)** | (2.51)* | (0.51) |
| Number of rooms | 0.019 | 0.032 | -0.007 | 0.039 |
| | (1.10) | (2.09)* | (0.41) | (3.62)** |
| Log household durable Assets | 0.033 | 0.007 | 0.064 | 0.121 |
| | (3.34)** | (0.74) | (2.19)* | (8.92)** |
| Log monthly expenditures | 0.01 | 0.101 | 0.138 | 0.041 |
| | (0.30) | (3.05)** | (2.37)* | (1.50) |
| Observations | 823 | 792 | 374 | 1708 |

The regressions in the first two columns indicate that for rural areas, very similar characteristics separate the banked and unbanked in PATMIR and EACPs communities.

Neither institution selects strongly on wealth and expenditure levels. Both select on very high levels of education—13 years or more. Note that this does not imply that PATMIR uses selection criteria which are identical to those used by EACPs. But it does imply that the characteristics of account holders in either PATMIR or EACP institutions in rural areas are similar, relative to the characteristics of non-account holders. In urban areas, however, the EACPs appear to select somewhat more strongly on wealth and expenditures than PATMIR does. Much of the difference in significance levels between the regressions comes from the fact that the urban PATMIR sample is relatively small, only 374 households. Still, the measured coefficients are generally slightly larger in the EACP sample.

What does Table 8 imply about the extent to which PATMIR is reaching further down the income spectrum? Recall that the communities PATMIR serves appear to be lower income (in rural areas) or much lower income (in urban areas) communities. So the fact that the selectivity of households within those communities is similar for the EACP and PATMIR sample implies that the PATMIR clients are lower income. We can see that by comparing a couple of indicators in the PATMIR and EACP samples. Among all account holders in rural areas, for example, the household education level of clients of PATMIR is 5.8 years, compared with 6.4 years among EACP clients. Similarly, the monthly expenditure level is lower among PATMIR clients, 1,770 pesos vs. 2,354 pesos. Moreover, these differences are even more pronounced among clients who say they opened their account between 2001 and 2004, that is, during the PATMIR era. The gap in educational attainment is .8 years (6.5 years vs. 7.3 years) rather than the .6 years among all account holders, and the gap in monthly expenditures is larger as well (1,835 vs. 2,567).

*Savings Balances*

The regressions reported in Tables 6-8 show characteristics associated with a household having a saving account. We are also interested in understanding correlates with the level of savings held by the household in the account. Here, the data reveal fewer strong correlates. This may reflect in part a reticence on the part of households to giving an

accurate report on the level of savings. Indeed, about a third of the households refuse to give a savings account balance. The percentage of non-responses is slightly higher among households with accounts in EACPs (34 percent) than among households with accounts in PATMIR institutions (29 percent), but is substantial in either case.

With this caveat in mind, we ran regressions on the sample of households with accounts and the level of savings balance on the left hand side. We don't report full results because we find very few significant correlates. In fact, we find that only receipt of remittances, having piped water, and household durable assets are significantly associated with savings account balances. In the full sample, we find that households receiving remittances have higher mean and median savings account balances. The mean savings balance among household receiving remittances is 10,457 pesos, compared with 8,506 pesos among households not receiving remittances. The median levels are 4,100 and 3,000, respectively. Remittances are particularly important among households with accounts in PATMIR institutions. The median savings account balance amount PATMIT households receiving remittances is 4,375, while the median balance is only 1,200 among households not receiving remittances. There is no difference in the median savings balance among households with account in EACPs. Both those receiving remittances and those not receiving remittances have median balances of 4,000 pesos.

Household durable assets and piped water are much more strongly associated with savings accounts balances among clients of the EACPs. Indeed, when the regressions are run separately, neither of these variables is significant. Among households with accounts at EACPs, however, having piped water is associated with a 47 log point increase in savings account balance, and a one standard deviation increase in the value of household durable assets is associated with a 40 log point increase in savings account balances.

To sum up so far, the data suggest that PATMIR is attracting clients with lower income and wealth levels, and that if anything, the gaps are larger among those have recently become banked. Savings account balances are associated with receipt of remittances

among PATMIR institutions, and more strongly associated with measures of household wealth among EACP institutions.

**5: Which clients receive loans, and for what purposes?**

We next examine the question of who among the clients receives loans. We run regressions similar to those on Tables 6-8 on a dependent variable defined as 1 if the (banked) household has had a loan from a caja within the past five years, and zero otherwise. In the full sample, 61 percent of client households report having taken at least one loan from a caja within the past five years. The percentage is higher among the EACP clients (66 percent) than among the PATMIR clients (51 percent). This is perhaps not surprising since many of the PATMIR branches are new and since they serve clients which have more recently opened accounts. Across the sample of both PATMIR and EACP clients, more than 75 percent of households with accounts opened for at least 10 years, have taken a loan. This compares with only 53 percent of households with accounts opened in the past three years.

Table 9 reports regressions results on having a loan from a caja within the past five years. We split the sample into PATMIR (column 1) and EACP (column 4), and then split each of these samples in their rural (columns 2 and 5) and urban (columns 3 and 6) components. The specification is identical to that of Table 8, except that we add a variable indicating the number of years the account has been open.[5] Since the sample of clients was stratified to represent the entire sector as enumerated in the BANSEFI census, we use the sample weights in the regressions.

[5] This variable is missing for about 250 households with accounts. So that we don't lose those observations, we create a dummy variable indicating that this variable is missing, and then set the missing values to zero in the variable used in the regression. The dummy variable then approximates the average number of years accounts have been opened among those not reporting an opening date. We do not report the coefficient on the dummy variable in Table 9.

## Table 9: Which Clients Receive Loans?

| | PATMIR | | | EACP | | |
|---|---|---|---|---|---|---|
| | All | Rural | Urban | All | Rural | Urban |
| Maximum schooling=6 | -0.027 | -0.028 | -0.006 | 0.189 | 0.325 | 0.154 |
| | (0.32) | (0.28) | (0.04) | (3.53)** | (4.48)** | (2.18)* |
| Maximum schooling 7-9 | -0.164 | -0.112 | -0.142 | 0.185 | 0.219 | 0.188 |
| | (1.48) | (0.88) | (0.82) | (3.21)** | (2.41)* | (2.58)** |
| Maximum schooling 10-12 | -0.016 | 0.107 | -0.008 | 0.173 | 0.325 | 0.142 |
| | (0.10) | (0.53) | (0.05) | (2.69)** | (3.74)** | (1.78) |
| Maximum schooling 13+ | 0.024 | 0.117 | 0.005 | 0.177 | 0.201 | 0.189 |
| | (0.18) | (0.71) | (0.03) | (2.63)** | (1.74) | (2.30)* |
| Average age of HH heads | 0.01 | 0.029 | -0.01 | 0.012 | 0.041 | 0.006 |
| | (0.59) | (1.30) | (0.54) | (1.37) | (2.72)** | (0.60) |
| Average age squared | 0 | 0 | 0 | 0 | 0 | 0 |
| | (1.03) | (1.68) | (0.24) | (1.43) | (2.45)* | (0.70) |
| Indigenous language | -0.061 | -0.055 | -0.295 | 0.063 | -0.013 | 0.135 |
| | (0.80) | (0.65) | (3.05)** | (1.21) | (0.18) | (1.83) |
| Receive remittances | 0.312 | 0.332 | 0.298 | 0.048 | 0.13 | 0.017 |
| | (3.57)** | (3.22)** | (1.92) | (1.02) | (1.78) | (0.29) |
| Agricultural enterprise | -0.192 | -0.118 | -0.42 | 0.053 | 0.075 | -0.014 |
| | (1.59) | (0.94) | (2.24)* | (0.68) | (0.81) | (0.09) |
| Non-agricultural enterprise | 0.18 | 0.294 | 0.107 | 0.043 | 0.046 | 0.043 |
| | (2.49)* | (3.57)** | (1.13) | (1.10) | (0.69) | (0.87) |
| Female head in labor force | -0.027 | -0.095 | -0.048 | 0.02 | -0.033 | 0.022 |
| | (0.33) | (0.92) | (0.52) | (0.47) | (0.43) | (0.42) |
| Both heads present | 0.045 | -0.088 | 0.256 | 0.059 | -0.05 | 0.093 |
| | (0.40) | (0.63) | (2.48)* | (1.23) | (0.58) | (1.58) |
| Own house | -0.016 | 0.03 | -0.161 | 0.028 | 0.217 | -0.032 |
| | (0.16) | (0.24) | (1.48) | (0.58) | (2.43)* | (0.55) |
| Own other land | 0.208 | 0.173 | 0.504 | 0.085 | -0.018 | 0.188 |
| | (1.74) | (1.46) | (1.64) | (0.98) | (0.17) | (1.30) |
| Access to sewer | 0.147 | 0.176 | -0.308 | -0.038 | 0.056 | -0.104 |
| | (1.96)* | (2.13)* | (1.54) | (0.79) | (0.83) | (1.25) |
| Piped water | -0.085 | 0.061 | -0.048 | 0.025 | -0.014 | 0.048 |
| | (1.03) | (0.54) | (0.51) | (0.52) | (0.19) | (0.72) |
| Number of rooms | -0.019 | -0.057 | -0.013 | -0.023 | -0.019 | -0.025 |
| | (0.73) | (1.51) | (0.55) | (1.85) | (1.04) | (1.44) |
| Log household durable Assets | -0.021 | -0.022 | -0.001 | 0.021 | 0.012 | 0.015 |
| | (1.11) | (1.12) | (0.04) | (1.61) | (0.69) | (0.74) |
| Log monthly expenditures | 0.094 | 0.093 | 0.315 | -0.023 | 0.032 | -0.039 |
| | (1.69) | (1.52) | (3.30)** | (0.64) | (0.59) | (0.81) |
| Years since account was opened | 0.034 | 0.047 | 0.012 | 0.015 | 0.01 | 0.017 |
| | (3.58)** | (3.44)** | (1.13) | (4.20)** | (1.31) | (4.11)** |
| Observations | 545 | 385 | 160 | 1100 | 351 | 749 |

There is very little which is significant on Table 9, suggesting that for the most part, the clients who obtain loans look a lot like the overall client base. There are a few exceptions to this. First, the education variables are mostly significant in the EACP sample. The magnitudes of the coefficients is fairly constant, suggesting that households whose heads have less than six years of schooling are less likely to obtain loans. In the PATMIR sample, receipt of remittances is positively associated with the probability of obtaining a loan in rural areas, but not urban areas. The effect is large. In rural areas, households receiving remittances are almost 36 percentage points more likely to have taken a loan in the past five years. The same is true with respect to non-agricultural enterprises. In rural areas, households with non-agricultural enterprises are about 25 percentage points more likely to have taken a loan. PATMIR clients who speak an indigenous language are significantly less likely to obtain a loan in urban areas, but not in rural areas. Finally, in rural areas among PATMIR clients and in urban areas among EACP clients, the probability of taking a loan is increasing with the number of years the client has had an account.

One finding on Table 9 which is perhaps surprising is that neither home ownership nor ownership of other land is significantly associated with having a loan. Real estate collateral is very important in commercial bank lending in Mexico. The lack of an association between real estate and lending among the non-bank financial institutions suggests their criteria for making loans differ substantially from those of commercial banks. The lack of an association in the regression is not surprising in light of the fact that households with loans report being asked to provide land titles only about 20 percent of the time. Guarantees are a much more common way of ensuring repayment among these institutions. Households report being asked to supply a guarantor on just over 75 percent of the loans.

One characteristic which does not show up in the table is that it appears PATMIR is more likely to lend in rural than in urban areas. Two-thirds of rural PATMIR clients have received a loan, compared with just over one-third (38 percent) of urban PATMIR clients.

**Table 10: Use of Loans from Cajas**

| | | | PATMIR | | SACP | |
|---|---|---|---|---|---|---|
| | | | freq. | pct. | freq. | pct. |
| **Emergencies** | | | | | | |
| shocks | funeral | Para un funeral | 0 | 0.0 | 3,048 | 0.5 |
| | unforeseen events | necesitaba el dinero | 529 | 0.4 | 6,937 | 1.1 |
| | family problems | problemas familiares | 1,138 | 0.9 | 4,089 | 0.7 |
| health | health related | consulta medica | 18,111 | 13.6 | 67,366 | 11.4 |
| | | | | **15.0** | | **13.7** |
| **Investments:** | | | | | | |
| house | construction | construir casa | 14,851 | 11.2 | 108,530 | 18.4 |
| | repair/remodeling | reparacion o remodelacion | 8,490 | 6.4 | 32,206 | 5.5 |
| investment | animal stock | Para comprar un animal | 1,789 | 1.4 | 5,158 | 0.9 |
| | to invest | Para invertir | 17,506 | 13.2 | 34,505 | 5.8 |
| | to sow | Para sembrar | 6,098 | 4.6 | 37,849 | 6.4 |
| land | to buy | liquidar un terreno/ comprar | 831 | 0.6 | 18,229 | 3.1 |
| production | inputs | insumos o materias primas | 4,104 | 3.1 | 27,209 | 4.6 |
| | tools and equipment | maquinas y/o herramientas | 796 | 0.6 | 6,078 | 1.0 |
| school | school | Estudios | 9,918 | 7.5 | 29,847 | 5.1 |
| car | car | comprar un vehículo | 1,419 | 1.1 | 11,237 | 1.9 |
| | | | | **49.5** | | **52.6** |
| **Household:** | | | | | | |
| | household expenditures | gastos del hogar | 35,025 | 26.4 | 119,298 | 20.2 |
| travel and entertainment | party | Para una fiesta | 1,851 | 1.4 | 13,729 | 2.3 |
| | vacation | Vacaciones | 1,193 | 0.9 | 2,888 | 0.5 |
| gift | gift | Para un regalo | 223 | 0.2 | 0 | 0.0 |
| personal | personal | gastos personales | 3,889 | 2.9 | 24,183 | 4.1 |
| | | | | **31.8** | | **27.1** |
| **Other:** | | | | | | |
| loans | to repay loans | deudas | 3,148 | 2.4 | 27,734 | 4.7 |
| migration | to migrate | Para emigrar | 985 | 0.7 | 3,150 | 0.5 |
| other | other | reparación | 832 | 0.6 | 3,641 | 0.6 |
| dn | don't know | no sabe | 153 | 0.1 | 3,542 | 0.6 |
| | | | | **3.9** | | **6.5** |

Next we turn to the purpose for borrowing. What do the households use the loans for? Table 10 reports the frequency of loans according to the use to which the loan was put. Of course, funds provided to the household are fungible, and the stated use may not be entirely accurate. Nevertheless, it is interesting to observe the extent to which loans are used for productive purposes as opposed to consumption.

Table 9 clearly demonstrates that the stated purpose of loans is similar for PATMIR and EACP clients. Note that since the loans might have been taken any time during the five years prior to the baseline survey, some of the PATMIR client loans might have been obtained from other cajas. But for both groups of clients, roughly half of the loans are used for investments, between one-quarter and one-third for regular expenditures, and around one-sixth for emergencies. Among what we have classified as investments, the largest use is related to housing construction or repair. About 18 percent of PATMIR client loans and 24 percent of EACP client loans are used for this purpose. Only a small percentage of loans can be clearly identified as being used for microenterprise investments—3.7 percent of PATMIR client loans and 4.6 percent of EACP client loans. However, for both groups of clients there is a large category (13.8 percent for PATMIR and 5.8 percent for EACPs) which is recorded as “to invest.” Given the association we saw on Table 8 between lending activity and the presence of non-agricultural enterprises in the household, certainly some of this generic category relates to enterprise investment.

**Table 11: Households with and without Loans**

| | | Formal Loans | | Constrained | | Unconstrained |
|---|---|---|---|---|---|---|
| **Number of observations** | | 1,377 | | 104 | | 1,517 |
| **Average family size** | | 4.4<br>(1.8) | | 4.2<br>(2.0) | *** | 4.2<br>(2.1) |
| **Percentage both heads present** | *** | 83.0 | | 69.2 | *** | 73.0 |
| **Female head average education** | *** | 7.5<br>(4.6) | ** | 4.2<br>(3.4) | *** | 5.0<br>(4.1) |
| **Male head average education** | *** | 8.0<br>(4.9) | | 5.2<br>(3.9) | *** | 5.8<br>(4.5) |
| **Median total work income** | *** | 5,000 | | 3,330 | *** | 2,688 |
| **Median total income** | *** | 5,000 | | 3,360 | *** | 2,793 |
| **Median household expenditures** | *** | 3,753 | | 2,573 | *** | 2,339 |
| **Land ownership** | | 19.6 | | 14.4 | *** | 14.3 |
| **House ownership** | *** | 82.0 | * | 64.4 | *** | 72.0 |
| **Number of rooms in house** | *** | 4.0<br>(1.7) | | 2.9<br>(1.3) | *** | 3.2<br>(1.8) |
| **Piped water** | *** | 63.0 | * | 41.3 | *** | 49.8 |
| **Connected to sewer** | | 75.7 | | 69.9 | *** | 68.9 |
| **Median total assets (modified)** | *** | 9,000 | *** | 2,475 | *** | 2,350 |
| **Median balance in savings account** | *** | 4,500 | | 1,125 | *** | 2,350 |
| **Agricultural enterprise** | | 26.3 | | 21.2 | *** | 20.0 |
| **Non-agricultural enterprise** | *** | 45.7 | | 27.9 | *** | 27.7 |
| **Remittances from abroad** | * | 15.5 | | 8.7 | *** | 10.1 |

**Significance levels: ***, ** and * are 1, 5 and 10 % significance: Formal vs Constrained, Constrained vs Unconstrained and Formal vs Unconstrained**

*Unfunded loan demand*

With respect to credit, we might also like to differentiate households which desire but are not able to obtain loans from households without demand for credit. The survey allows us to identify two groups of households who desire but have not received a loan. First, there are 47 households without current loans which report that they have recently applied for a loan and been turned down. Second, there are household which have been discouraged from applying for a loan because they felt they would not receive one even if they applied. The majority of households who have not applied for a loan report that they have not applied because they have no need for a loan or that they do not have the resources to repay a loan. However, 52 households say they have not applied for a loan "because of the requirements of financial institutions" an additional 52 say they have not applied because "I don't believe they would give me a loan." Counting overlap in these categories, there are 104 households which we can identify as "constrained" and 1,517 which are "unconstrained."

Table 11 compares the characteristics of these two groups. For comparison, the table also shows the same data for the households with current loans. The first set of asterisks reflect the significance of difference between households with loans and the constrained households; the second set show differences between the constrained and unconstrained, and the third set between the unconstrained and the households with loans. There are few significant differences in characteristics between the constrained and unconstrained households, but big differences between either of these groups and households with loans. The differences which are present between constrained and constrained households suggest that the constrained are poorer. Constrained households have significantly lower levels of durable assets (2,475 pesos vs. 3,100 pesos), and female heads in those households have lower schooling (4.2 years vs. 5.0 years).

By almost all of the measures, the constrained and unconstrained households are both much poorer than households with formal loans. Median income is 5,000 pesos per month among households with loans, and 3,360 and 2,793 pesos among constrained and unconstrained households, respectively. Those with loans also have houses with more

rooms. Are more likely to have piped water, and are more likely to own both their house and other land.

The lack of significant differences between the constrained and unconstrained households may reflect an imperfect separation between these two groups. For example, households may prefer to say they have no need for credit than to say that they could not obtain credit if they wanted it. Or, the inability to pay back a loan may reflect interest rates which are higher than market rates dues to a lack of competition in rural areas. Still, we believe the division presented on Table 11 is the most reasonable division the data permit.

**6: Conclusions:**

This report has analyzed the characteristics of the communities served by PATMIR and the clients of the PATMIR institutions. We have compared the PATMIR clients to clients of other EACPs included in the BANSEFI / SAGARPA panel survey of households. The best available data from several other surveys indicate that the penetration of formal financial institutions in rural areas is very low. The PATMIR project was undertaken with the goal of increasing the reach of financial services in rural areas.

One caveat to any results in the report is that the EACP sector is quite heterogeneous. It may be that the particular cajas selected for inclusion in the sample are not fully representative of the diversity of the sector. While they were selected randomly using the census data, there are only 60 branches in the survey. This issue warrants further investigation, particularly with respect to the variance in the client base of the caja sector.

The data from the panel survey shed some light on the success of PATMIR in reaching its goals. In this regard, there are several encouraging patterns in the data. First, the majority of PATMIR clients in the survey say they opened their accounts between 2001 and 2004. We can’t say for sure whether these clients were previously banked. But the data also indicate that the characteristics of PATMIR clients are different from clients of other EACPs. They have lower levels of education, lower monthly expenditures, and lower levels of assets by several measures. Some, but not all, of that difference is explained by

the fact that PATMIR has a much more rural slant than the EACPs as a whole. Even within rural areas, the data indicate that PATMIR serves more marginal communities. Within those communities, the relative characteristics of clients and non-clients are similar to the EACP sector clientele. There is some evidence that the EACP loans are less frequently given to households with education levels less than six years. There is no such pattern for PATMIR, again suggesting that PATMIR may be reaching households further down the distribution of income.

**References:**

Boucher, Steve, Susan Ricter and Christopher Woodruff, 2006, "The Structure of Rural Financial Markets in Mexico, working paper, UC Davis.