

# Who Are the Unbanked?

*Simeon Djankov*

*Pedro Miranda*

*Enrique Seira*

*Siddharth Sharma*

The World Bank  
Private Sector Development Department  
Enterprise Analysis Unit  
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## Abstract

This paper uses nationally representative survey data from Mexico to compare households with savings accounts in formal financial institutions to their neighbors who do not have such accounts. The survey, which was conducted in 2005, contains information on nearly 5,000 households. The findings show that although neighboring banked and unbanked households have similar demographic and occupational profiles, the former are more educated and have markedly greater

wealth. The median banked household spends 32 percent more per capita than the median unbanked household, and the median per capita wealth in banked households is 88 percent higher than that in unbanked households. The findings suggest that education levels, wealth, and unobserved household attributes that might be correlated with wealth and education play a major role in explaining who is banked.

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## Who Are the Unbanked?

Simeon Djankov, Pedro Miranda, Enrique Seira and Siddharth Sharma <sup>2</sup> <sup>3</sup>

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<sup>2</sup>We are grateful to participants at World Bank/IFC seminars for helpful suggestions. The views expressed herein are those of the authors and not those of the World Bank Group.

<sup>3</sup>Corresponding author: Siddharth Sharma, International Finance Corporation, SSharma1@ifc.org.

# 1 Introduction

Most households in developing countries do not have savings accounts with banks. Using estimates based on household surveys conducted in 20 developing countries, Claessens (2006) reports that on average only 26% of these households keep savings in formal institutions.<sup>1</sup> These data also show that most “unbanked” households do save, suggesting considerable use of informal savings instruments which may offer lower interest rates and less security than savings in banks. Not opening a bank account could also mean having to use more expensive ways of cashing checks and paying bills.

In this paper, we use data from a nation-wide survey of Mexican households to investigate why so few people have savings accounts. We examine, in particular, the view that bank usage is low simply because the poorer the household, the more likely it is that the cost of a bank account outweighs its benefits.

The literature on financial access overwhelmingly finds that within a country or a region, poorer households are significantly less likely to be banked. For example, over 35% of low-income households in the US do not have a bank account (Washington (2004)). Relative to a national mean of 50%, 73% of low-income households in South Africa are without bank accounts (Paulson and McAndrews (1999)). Caskey et al. (2006) find that 90% of the urban unbanked in Mexico City and 79% of the urban unbanked in the US have below-median income.

Three main hypotheses have been put forward to explain why people remain unbanked. One hypothesis states that the unbanked are those to whom opening a bank account does not make economic sense, because relative to the size of their deposits and withdrawals, the costs of accounts are too high, or the bank branch is too distant. A second hypothesis is that the unbanked are those who do not trust banks, because they have had bad experiences with banks, have heard of others who lost their money in banks, or simply because they lack financial education. A third hypothesis states that the uneducated stay unbanked because they are more comfortable dealing with the informal financial sector, even if it is more expensive.

The most common conjecture in the literature is that households do not use banks because they are poor and the costs of banking are too high relative to their small and infrequent financial transactions. According to this view, bank usage is low wherever the poor are numerous and bank accounts expensive because of poor branch penetration or eligibility barriers, and therefore, expanding bank outreach would solve the problem. Consistent with this hypothesis, Beck et al. (2007a) use information from banks in 58 countries to show that physical access, affordability, and eligibility barriers to banking are often high enough to potentially exclude a large section of the population from using banking services, while Beck et al. (2007b) present cross-country evidence of a correlation between bank penetration and household or firm use of banking services. But this evidence alone does not establish causality, since it might reflect a correlation between bank access and unobserved factors affecting bank use. Some studies (Pande and Burgess (2005), Aportela (1999)) have attempted to get around this problem by looking at exogenous sources of regional variation in bank penetration within a country over time.

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<sup>1</sup>This is in sharp contrast to the near universal usage of bank accounts observed in OECD countries.

Their results too indicate that bank expansion has significant positive effects on poverty, and that this effect can be attributed to greater saving and borrowing in banks by poor households in previously unbanked areas.

There is growing evidence, however, that in addition to income and the cost of bank services, other household attributes such as wealth and education are strongly correlated with their participation in the formal financial sector. Given income, households which do not save or borrow using banks tend to be less educated, and to belong to marginalized groups.

For example, in their study of household finance in a Hispanic neighborhood of Chicago, Bond and Townsend (1996) find that households with higher income, greater English proficiency, house ownership, and use of services outside the neighborhood all make more use of banks and less use of loans from friends. Caskey et al. (2006) find that 60% of the unbanked in Mexico belong to a “marginalized” group, since they work in the informal sector, while 90% of the unbanked in the US belong to an immigrant or minority group. The comparisons presented in their paper show that besides their poverty, unbanked households in the US and Mexico resemble each other in belonging to an educationally, economically or socially disadvantaged group. Similarly, Pande et al. (2005) find that only 33% of laborers in rural India had loans in an average year between 1983-1999, only 23% of which came from formal institutions, and that even within this marginalized group, borrowing rates were the lowest among the landless and illiterate. Al-Hussainy et al. (2008) use household survey data from 12 countries to show that having a bank account is correlated with not only income but also attributes like literacy and home ownership.

Recent findings from the US (Washington (2004), Caskey (1997)) too support the view that income or supply-side factors such as bank branch penetration cannot by themselves explain low bank use among the poor and marginalized. Washington (2004) finds that “lifeline” US banking legislation requiring banks to offer low-cost accounts is associated with a small, lagged increase in the number of minority low-income households with a bank account, but seems to have had little impact on the *average* low-income household. Using a survey of lower-income urban households in the US, Caskey (1997) reports that while 54% of the households did indeed list high bank fees or the inconvenience of bank locations as reasons for not having deposit accounts, 53% said they had no accounts because they had no savings, 21% because they wanted to keep financial record private, and 17% because they were not comfortable dealing with banks. The link between education and participation in the financial sector is a growing area of research, with early results indicating a causal connection between increases in financial knowledge and financial behavior (Martin (2007)).

Our paper contributes to this literature by looking at the differences between households with and without formal savings accounts, using household level data which is rich in financial information. This data set was collected through a survey conducted in 2005 by BANSEFI, a Mexican development bank, and covers nearly 5000 households from all parts of the country. A unique feature of the survey design allows us to match banked and unbanked households residing in close proximity to each other, a matching which lets us compare households that face similar costs and benefits of formal savings accounts because of residing in the same neighborhood. In other words, we can take out the supply-side variation in savings instruments, including that in the interest rates being

offered by deposit-accepting institutions, and focus on the household level determinants of being banked.

We find that while the banked households earn more than the unbanked, this difference in income is smaller than that in wealth. The median banked household spends only 32% more per capita than the median unbanked household, and as Figure 1 shows, the distribution of income is similar across banked and unbanked households, except at the right tails. However, the median wealth per capita in banked households is 88% higher than that in unbanked households. The latter are also significantly less educated. Income alone accounts for little of the variation in bank usage, since it is not uncommon for a less educated neighbor of a banked household with similar income and occupation to be unbanked.

The survey reveals that in Mexico only 35% of bank accounts and 2.7% of accounts with formal microfinance institutions charge an annual fee. Households' reports of their main reason for not having a bank account (Table 1) fail to support the notion that the unbanked are primarily those who are poor and find the transaction costs of bank accounts to be too high. Less than 1% of unbanked respondents picked high bank fees or initial deposits as their main reason, and only 0.23% complained that the branch is too far away. Since the surveyed unbanked are those living close to a banked household, our survey cannot measure the extent to which branch distance is a barrier to banking. But this survey design also ensures that distance is not a major determinant of the banking choice in our sample of households.

No more than 1% of unbanked respondents said that they did not have a bank account because there are too many requirements, the bank staff doesn't treat the clients well, or that they do not know account opening requirements. This contradicts the hypothesis that the unbanked are those who are uncomfortable dealing with modern banks. Next, only 2% said that they did not have confidence in the bank, which goes against the distrust hypothesis.

The overwhelming majority of unbanked households (89%) put the blame on "not having enough money". Together with our finding that controlling for location, income and occupation, banked and unbanked households differ significantly in education and wealth, this indicates that low levels of education or saving could be the most important reasons for staying unbanked. Given our data, we can only speculate about the causes behind the observed asset differences - inherited wealth, income shocks, or behavioral traits which affect the propensity to save- and it is also possible that some of the correlation between bank accounts and assets arises because having a savings account increases savings, as suggested by mental accounting studies (Bertrand et al. (2007)).

The rest of the paper is organized as follows. Section 2.1 presents the institutional background for this study, and section describes our data. Next, section 3 tabulates households' self-reported reasons for not having bank accounts. In section 4, we compare the basic characteristics of banked and unbanked households, after which we describe their savings accounts, in section 5. Section 6 compares households by presenting linear probability estimates of the correlates of having a bank account, and then in section 7 we conclude with a discussion of possible interpretations of our findings.

## 2 The data

### 2.1 An overview of household banking in Mexico

Only about 10% percent of GDP is held in savings accounts at commercial banks in Mexico. Just 15 to 25% of the urban population and 6% of the rural population has a savings account in a formal financial institution (Klaehn et al. (2006)).

Bank branch penetration in Mexico is low compared to that seen in developed countries. According to Beck et al. (2007b), Mexico had only 7.6 bank branches per 100,000 people, compared to 8.7 in Colombia, 14.6 in Brazil, and 30.9 in the United States. Our data indicate that as of 2006, commercial banks covered only 29% of the 2,443 Mexican municipalities, with an average of more than 10 branches where they have presence. Bank branches are heavily concentrated in the richer cities, leading to a neglect of much of the lower-income population.

This low financial sector penetration has been made worse by recurrent currency crises, government induced distortions in the rural credit market,<sup>2</sup> and a weak regulatory environment. Banks and microfinance institutions have often defaulted on deposits.

As in many other developing countries, the vacuum that commercial banks left has to some extent been filled up by informal microfinance institutions. Since 1950,

*“multiple organizations grew in an organic way out of their own communities, most of them in the form of cooperatives. Many of these organizations sprung from a movement initiated by priests that tried to imitate the “Desjardins” Model in Canada. This initiative spread out of Central Mexico to most of the country, becoming the Mexican Confederation of Popular Credit Unions (Confederación Mexicana de Cajas Populares)”*.<sup>3</sup>

These informal banks were, however, an insecure place to keep money because of a lack of regulatory oversight. In 1994, the Mexican Congress modified the law to allow for the legal existence of the Savings and Credit Cooperatives, and by 2000 there were more than 600 of these organizations, known as “*Cajas Populares*”. However, these were largely unsupervised, which allowed individuals to create “cooperatives” and use deposits for their own business; thus depositors often lost their money.

Since the *Cajas* had already developed lending relationships with clients, in 2001 the Mexican authorities decided to use their existing structure to broaden financial access. The government would support and regulate the existing *Cajas*, formalizing some of them either immediately or after some reorganization or mergers, and liquidating those that did not make the cut. This law also grouped viable *Cajas* into federations. Viable *Cajas* were to receive technical assistance and training, and to be incorporated into a technological network. Bansefi, a development bank, was entrusted with the task of monitoring and coordinating the execution of these goals, and with providing second tier support to the sector, including accounting, financial management, and liquidity brokerage.

Bansefi also owns and operates around 500 branches on its own, of which 176 are located in rural areas. While not involved in lending, it has more than 3.4 million saving

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<sup>2</sup>In the 1980's the Mexican government intervened heavily in the rural credit markets, with directed credit at subsidized interest rates, subsidized credit guarantees, and debt forgiveness.

<sup>3</sup>Unpublished Bansefi document.

accounts. In addition, Bansefi has created a network which electronically links its branches with a subset of the *Cajas*. This network is growing and as of late 2007 contained 1,432 branches, constituting the third largest banking network in the country, the leader in terms of the number of municipalities (710) in which it has a presence.

Nevertheless, despite the *Cajas*, the problem of lack of physical access to banking services remains acute: 43% of municipalities in Mexico have no commercial bank, Bansefi, or registered MFI branch. There is however reason to be optimistic, since recently two “niche” banks with 2,536 branches covering 17% of municipalities, Banco Azteca and Compartamos, have been profitable in lending to low income households. As a result the biggest banks in Mexico, Banamex and Bancomer, are planning to enter this market.

## 2.2 Our data

Our data set comes from a survey of banked and unbanked households conducted by BANSEFI and the Mexican Ministry of Agriculture. It consists of two parts: the first is a representative survey of the households of clients of the *Cajas*, while the second part includes unbanked households, defined as households who do not have a bank account at any bank-type institution. The survey is intended to ultimately build a panel of households interviewed each year between 2004 and 2008. In this study we focus almost exclusively on the 2005 round of the survey.

The sample was drawn from every part of Mexico. The “treatment” sample (that is, the sample of banked households) was selected through a stratified, two-stage sample design. First, branches were stratified according to geographical region (North, Center, and South) and number of clients (very small, small, medium, and large), and then selected from within each strata with probability proportional to the number of clients. Finally, about thirty clients’ households were interviewed in every *Caja*. We take into account the stratification and the clustering where appropriate in the analysis that follows.

The “control” (that is, unbanked) sample was obtained in a less standard manner. For every branch selected, the surveying team attempted to interview about thirty households that lived nearby and did not have bank account. Therefore, the control sample is representative of unbanked households that live near a household with an account in a *Caja*, and should not be seen as a representative sample of all unbanked households in Mexico.

The original 2004 sample contains 2,975 treatment and 2,793 control households. For the 2005 round, Bansefi decided to add some new financial institutions to the sample, after making room by dropping six of the original *Cajas*. Due to these changes and natural attrition in the population, the sample size was smaller in 2005. In analyzing the data we found that some treatment households did not have financial accounts even in 2004, and some either opened a first account or closed all accounts between 2004 and 2005. So we reclassified the treatment status of each household according to whether or not they had had an open account in a formal financial institution in the twelve months leading up to the 2005 survey. About 12% of the observations were thus reclassified, leaving us with a base sample of 2,583 treatment and 2,182 control observations.

The questionnaire includes detailed information on demographic characteristics, expenditures, income, assets, liabilities, and use of formal and informal financial services. The sample includes urban and rural households, and detailed information on agricultural

activities is available. The questionnaire also includes sections on remittances and economic shocks. It also asks unbanked households to list reasons for not having an account in a formal financial institution.

We constructed per-capita expenditure, income, assets, and liabilities aggregates. In a few cases, the questions were asked in such a way that we had to exercise judgment in order to calculate a sub-aggregate measure such as wage income. We also imputed community medians, defined appropriately in each case, to some missing values. For almost all the variables, less than one percent of observations had to be imputed through community medians. Because of this and the customary arguments for the unreliability of income measures, per-capita expenditure is our preferred measure of household welfare.

Even so, we had some observations with implausibly high or low consumer expenditures. Therefore, we also constructed a trimmed sample where we excluded the top and bottom 1% of households ranked by per-capita expenditures, leaving us with 2,531 treatment and 2,140 control observations. This is the sample we use in our analysis of household characteristics. However, all of our qualitative conclusions would remain unchanged if we used the full sample.

The survey contained a section on the use of informal financial assets. Unfortunately, most of the questions in this section, except those about cash at home, were not asked of most treatment households. This makes comparisons of the use of informal financial assets such as *Tandas*<sup>4</sup> or loans from friends between treatment and control households unreliable.

We also use the data to discuss and contrast the usage and the terms of financial services between banked and unbanked households. In these comparisons, we leave out the missing observations.

Two features of our data are worth keeping in mind when interpreting our results. First, while our data set is representative of the universe of Mexican households that have accounts in *Cajas*, it was not designed to be representative of *all* Mexican households. Our results are thus limited to this sample of banked households and their unbanked neighbors. Second, as is also the case with nearly all the studies in this field,<sup>5</sup> we could find no plausibly exogenous source of variation in the household attributes which are candidates for being determinants of the banking choice. The observed characteristics of these households could be endogenous to their financial decision-making if there were two-way causation or unobserved correlated attributes. For example, education might be correlated with some unobserved belief about banks which affects the household's decision to open a savings account. This limits our ability to draw causal inferences or to infer parameters such as the effect of one additional school year on the probability of opening an account.

### **3 Self-reported reasons for not having bank accounts**

The unbanked households in the BANSEFI survey were asked to pick one out of twelve possible reasons for never having had a savings or investment account. The vast majority of unbanked households (about 90%) said that they did not have a bank account because they had never had the money to do it (Table 1). Not wanting an account came a distant

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<sup>4</sup>*Tandas* are the Mexican version of informal rotating savings and credit associations.

<sup>5</sup> With some exceptions, such as Pande and Burgess (2005) and Aportela (1999).

but clear second in this list, with about 6% of respondents identifying this as their main reason. Next, about 2% reported that their main reason was not having confidence in the institution.

These household reports, firstly, fail to support the notion that the unbanked are those who are poor, make small transactions and so find the fixed or variable costs of bank accounts to be too high. Less than 1% of unbanked respondents picked high bank fees or initial deposits as their main reason. Only 0.23% said that the branch is too far away, which is not surprising, since by design distance to the bank branch cannot be a major source of variation in banked status in our data.

Secondly, these self-stated reasons contradict the hypothesis that the unbanked are those who are uncomfortable dealing with modern banks: no more than 1% of unbanked respondents said that they did not have a bank account mainly because there are too many requirements, the bank staff doesn't treat the clients well, or that they do not know account opening requirements. Thirdly, only 2% said that they did not have confidence in the bank, which runs counter to the distrust hypothesis.

How do these rankings compare with similar self-reports in other surveys? Caskey et al. (2006) report that in similar surveys done in the US and Mexico City, the most frequent answer to this question is indeed some form of the "do not have enough money" response. Based on a 1996 survey of lower-income urban households, Caskey (1997) reports that 53% of respondents said they had no accounts because they had no savings. 54% of the households said they were unbanked because of either high bank fees or the inconvenience of bank locations, 21% because they wanted to keep financial record private, and 17% because they were not comfortable dealing with banks. In a 1998 survey of lower-income communities in New York City and Los Angeles in which the answer "*I do not have enough savings/money*" was not included in the set of possible responses, three frequent responses were not having the money required to open a bank account, high bank fees and not being sure of how to open an account (Caskey et al. (2006)). But notably, 58% of respondents chose "*none of the reasons listed above*". A 2002 survey of households in Mexico City found that the most popular response (49% of households) was not having enough money, followed at much lower percentages by high minimum balances, low interest rates and lack of trust in banks.

Although not having enough money consistently shows up as the most frequent response in all these surveys, the BANSEFI survey stands out in that unlike in the other surveys, no other reason comes close. This is a puzzle, because as we will see shortly, in the same BANSEFI survey the average unbanked household is not that much poorer than the average banked household. We should note that the phrasing of the response- "*I haven't had money to do it*"- leaves room for multiple interpretations. Most likely, by choosing this answer the respondent is saying that he does not have "enough" savings relative to some threshold. This threshold could depend on both economic factors, such as the transactions cost of banking, and behavioral or attitudinal factors correlated with education.

#### **4 A comparison of banked and unbanked households**

This section summarizes the characteristics of households surveyed by BANSEFI in 2005, splitting them into two groups, the banked and the unbanked. Recall that while the survey is representative of Mexican households with a savings account in a *Caja*, every

unbanked household was surveyed because of its proximity to a banked household in the sample of account holders.

Table 2 gives an overview of the basic demographic, economic and educational attributes of banked and unbanked households. The two groups broadly resembled each other in averages of demographic measures, with similar mean household size, number of adults, average age of members and likelihood of being headed by a male. However, when we look at income, assets and education, it is clear that banked households are on average better off than those without bank accounts. The mean per capita annual income of unbanked respondents was 15364 pesos (approximately 1382 USD)<sup>6</sup> while that of the banked was about 40% higher at 21815 pesos, and the same is true of per capita expenditure. The gaps in their assets are wider than those in income: the unbanked on average owned per capita assets worth 42347 pesos, while the banked, at 69000 pesos, were wealthier by 65%.

This pattern is brought out more clearly by medians, a more robust measure given the highly skewed income and asset distributions that we observe in the data. Table 2 shows that the median per capita expenditure of unbanked households was 12129 pesos, while that of the banked was about 32% higher at 16019 pesos. The median unbanked household reported per capita assets worth 17478 pesos, while the median banked household, at 32822 pesos, were wealthier by 88%. Figures 1 and 2, which plot the distributions of expenditure and wealth across banked and unbanked households, confirm that the gap in wealth is uniformly larger than that in expenditure: comparing the cumulative distributions of expenditure (Panel B in Figure 1) with those of wealth (Panel B in Figure 2), it is apparent that at any percentile, the difference in wealth is larger than that in expenditure.

Returning to Table 2, the median liability amounts reveal that in both groups, the majority of households have no debt. The unbanked had mean liabilities of 520 pesos, which was roughly one sixth that of the banked, indicating that even after their higher wealth and income are taken into account, the banked are by far the heavier borrowers.

Table 2 also shows that banked households are more educated than neighboring households without savings accounts. 18.5% of unbanked household heads in our survey had no schooling, as opposed to 11% of banked household heads, while at the other end of the educational range, less than 2% of unbanked households had college education, as opposed to nearly 10% of banked household heads. This educational gap exists no matter which level of education- whether no school, primary or secondary school, or college- is considered, as Panel A of Table 3 reveals.

Next, Panel B of Table 3 looks at the main occupation of the household head, revealing broad similarities in the head's occupational profile across banked and unbanked households. For both groups, the single most common occupation was non-supervisory wage work, with roughly 40% of heads reporting this, followed by peasant or daily farm work (about 15-19%) and self-employment on the street (8%). We do observe some occupational differences across banked and unbanked households, but they are relatively minor and tend to go in the direction suggested by the lower income and assets of households without bank accounts. Unbanked household heads were more likely to be peasant or daily farm workers (19% versus 14.5%), and less likely to be self-employed in a shop (7% versus 13%), or to be a "boss or entrepreneur" or "independent professional".

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<sup>6</sup> 1 mexican peso was approximately equal to 0.09 USD in 2005.

It is notable that the most obvious difference in occupation is in the likelihood of being self-employed in a shop and not on the streets, since shops presumably involve more capital than street vending. At the same time, the difference in the likelihood of being described as a boss or entrepreneur is small, and much lower than what might be expected given the gap in wealth. On the whole, this table indicates that the variation in occupation within neighborhoods in which some residents have bank accounts (that is, in the BANSEFI sample of neighborhoods) is largely unrelated to having a bank account.

Next, we look at the composition of household income, asset and expenditure. Panel A in Table 4 shows that for both types of respondents, on average the biggest source of income (57% of total income) were wages, followed by rental income (20% of income) and non-agricultural business income (10% of income). There were no significant differences in the income profile of surveyed banked and unbanked households, a pattern consistent with and reinforcing the similarity in their occupational profile.

There is less similarity in their asset composition, however, as Panel B in Table 4 suggests. On average 58% of the assets of banked households consisted of their home, while only 52% of the unbanked respondents' assets were in this form. This gap, when coupled with the wealth gap, implies that banked households own significantly more valuable property.<sup>7</sup> This table also shows that only the banked households reported keeping a significant fraction of assets (5%) in savings accounts. It would appear that both types of households make little use of financial assets, since even for unbanked households, for which this variable is measured more precisely, only 1.4% of wealth consists of informal financial assets. Consumer durables, on the other hand, were an important asset component for both groups of respondents, but less so for banked households (32% versus 23% of assets).

Finally, Panel C gives the average expenditure breakup of the two BANSEFI sub-samples, with no major differences apparent. Banked respondents reported marginally larger fractional spending on services, utilities, rent, education, durables and health insurance, and lower spending on food and medicine.

Like Table 2, Table 5 is also a summary of the basic attributes of the surveyed households, but with one addition: column 3 presents statistics for those unbanked households who did not list “*No money*” as their primary reason for not having a savings account. These numbers are based on the responses of only 165 households, since most unbanked households said that they did not have the money to open an account. Nevertheless, comparing all unbanked household responses with those who were unbanked for reasons other than money reveals a pattern which could help in interpreting the “*No money*” response.

First, as expected, the 165 unbanked households that did not put the blame on not having enough money did in fact earn and spend more in 2005: their mean per capita annual expenditure, at 19700 pesos (approximately 1773 USD), was 21% higher than the mean per capita expenditure of all unbanked households, although still lower than the 21100 pesos spent per capita by banked households. Second, they also appear to be more educated than the average unbanked household, with only 9% heads having no school education, which is lower than the proportion of unschooled heads in even *banked*

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<sup>7</sup>This may have some implications for the observed differences in their borrowing behavior, given that most formal loans require some form of collateral, and that property is a common form of collateral.

households. Similarly, they have double the percentage of college educated heads that unbanked households have in general. But what is most striking is that this subgroup of 165 respondents reported nearly 40% higher mean assets (58190 pesos) than the whole sample of unbanked households. Thus, excluding unbanked households that chose the “No money” response causes mean assets to rise far more than income, suggesting that this response means that the household is unbanked because it has too little savings to justify opening an account, and not because it earns too little.

## **5 Savings accounts: Their costs and benefits**

The BANSEFI survey collected data on savings accounts by asking households to list the balances and the institutional type- bank, formal or informal micro-finance institution (MFI)- for all their savings accounts, and additionally by asking them about account details, such as the interest rate, for up to three each of old and new savings accounts. Tables 8 and 9 use these data to describe the savings accounts of the banked households.

Table 6 first tells us that 13.8% of “banked” respondents had a savings account with a bank, 0.9% with an informal MFI, and nearly 89% with a formal MFI. The rest of this table summarizes savings accounts after having aggregated across accounts within a household. Mean total household balances in savings accounts were 5314 pesos, and most of this was held with a formal MFI: on average, a banked household had 4379 pesos in an informal MFI, 908 pesos in a bank, and a mere 31 pesos in an informal MFI.

The remaining statistics in Table 6 are based on the more detailed data from (up to) six accounts per household. What do these data reveal about the benefits and costs of savings accounts? The average yield on these savings accounts was 1.5% per annum, and the average initial deposit was 2161 pesos, with households on average depositing money into an account 13 times and withdrawing it 8 times in a year. Most notably, only 7.3% of respondents had an account which required an annual maintenance fee. Among those that paid a fee, the median household paid fees of 100 pesos per account, and the mean fee was about 600 pesos per account, suggesting that while some households held accounts with very high fees, the vast majority paid very little or nothing in annual fees. However, 54% of households had a savings account which charged a “social participation fee”, which is a one-time, non-recurring fee, and of these households the median one paid fees of 500 pesos per account.

Table 7 breaks up account features by type of savings institution by averaging within all accounts of a type across all households. Savings accounts in banks had the highest mean balances (6600 pesos), followed by those in formal and informal MFIs. Median balances, however, were about 1000 pesos across all account types, indicating that most account balances are similar irrespective of the institution, although some accounts in banks and formal MFIs can be large. Banks and informal MFI’s gave roughly similar mean yields of about 1.5% per annum, and accounts with informal MFI’s gave a mean yield of 3% per annum, but since this latter figure is based on just 14 responses, we should hesitate in concluding from this that informal savings accounts pay more. None of the informal MFI accounts charged a fee, however, while 35% of bank account and 2.7% of formal MFI accounts did so. Not only were bank accounts more likely to charge an annual fee, but they also charged the highest fees, with the median annual fee in banks being 187 pesos.

53% of formal MFI accounts, however, charged a “social participation fee”. The median value of this fee is 500 pesos, but most households could not state fee amounts, and since larger fee amounts are more likely to be recalled, it is likely that the non-response has biased the estimated fee upwards. In comparison to these fees and to median balances, the median initial deposits were 1000 pesos in banks and 200 pesos in formal MFIs, suggesting that minimum deposit requirements, if any, are trivial.

## 6 How much of the banking status does income explain?

It is widely argued that low income households are too poor to save and to have an account in a financial institution. However, our data suggest that while the level of assets does affect the decision to bank, too much weight has been put on poverty as an explanation for the low usage of bank accounts. First, as shown in savings accounts section, most banks and MFIs do not charge annual fees. Table 7, moreover, shows that the median formal MFI receives only 12 deposits and 2 withdrawals in a year, and our data also indicate (not shown in table) that the average cost per trip to a financial institution is less than two hundredths of 1% of median annual household expenditure, while the average time per round-trip is only about 30 minutes. Second, as we show below, there are many households in the BANSEFI survey that have the same level of income and assets but differ in their banking status.

The distribution and density of consumption per capita for banked and unbanked households are not very different, except at the right tails (Figure 1). This does not rule out the possibility that while across localities, the variation in banking status depends on the existence or non-existence of branches, *within* any given locality, it is still driven by income. But the same pattern emerges if we remove the locality specific means of income before plotting its distributions, indicating that within-locality differences in income too are minimal. However, there *is* substantial variation of banking status even within localities, and the regressions that we present below will confirm this.

We use a linear probability model to estimate the importance of some determinants of the ownership of a bank/MFI account, reporting the estimates in Table 8. The explanatory variables include per capita consumption expenditure and assets, sex, occupation and education of the household head, cash kept at home and the number of adults.

In none of the regressions can income, as measured by per capita consumption expenditure, account for more than 3% of the variance in the decision to have a bank account. Although statistically significant, the increase in the probability of having an account is small: having 1,000 US dollars more of consumption per capita per year (about two-thirds of a standard deviation) increases the probability of having an account by at most 5 points (Column 1), relative to a mean of 54.

Controlling for income, the level of assets has a small but statistically significant correlation with having an account: an increase in one standard deviation of US\$13,000 is associated with a 2.5 points higher likelihood of having an account (Column 2). In Column 2, we also consider cash at home, since it may be that for the same level of income and assets, the amount of cash to deposit varies greatly across households, and households with little cash decide to keep it home.<sup>8</sup> The trade-off between keeping cash

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<sup>8</sup> The median household claims to have no cash at home, while the mean is 292 pesos, with a standard deviation of 1,575 pesos.

at home and in a bank account is that of forgoing interest (or safety) versus incurring the costs of bank trips. The higher the cash, the more the household loses from forgone interest, and the more risky it is to keep it at home in case of theft. We therefore expect a threshold of cash at home over which a bank account will be opened, with the associated decrease in cash kept at home, leading to a non linear relationship between cash and opening an account. This is indeed what we find: having more cash is associated with a higher probability of having an account, but as cash levels rise this relationship weakens.<sup>9</sup>

Next, adding education dummies (Column 3) explains an additional 2% of the variance. The correlation between education and having a bank account is positive, economically large and statistically significant. Having primary school education, for instance, increases the probability of having a bank account by 9 points, even when we control for consumption and assets. This is equivalent to an increase of USD 2,000 per year in per capita consumption.<sup>10</sup>

Note that these results hold when we control for branch fixed effects and dummies for the occupation of the household head (column(4)), implying that even if we compare households that live in the same location, have the same occupation, level of consumption and assets per capita, education is positively correlated with having a bank account.<sup>11</sup>

This correlation can be explained if households with more education are more aware of the benefits of having a bank account, or if it is easier for them to obtain and manage one. However, given that educational attainment is likely to be correlated with other things like cognitive ability and family background, the effect of education may not be causal but driven by a third omitted factor. For instance, households with higher sophistication or ability may study more and also derive more benefits from having an account. New research using US data suggests that while education plays a role in financial decision-making, this role involves more than just financial knowledge. For example, in a recent study which uses inter-state variation in compulsory education laws and data on sibling pairs to study the determinants of financial market participation, Cole and Shastry (2007) find evidence that greater cognitive ability and educational attainment increase financial participation, while financial literacy alone has no such effect.

Even our more parameterized regressions in Table 8 (Columns 4 and 5), which include demographics, occupation and location fixed effects, can only explain 7% of the banking status, 8% of the within-location variation and 9% of across-location variation, indicating that idiosyncratic factors at the household level play a quantitatively large role. Our interpretation of these regression results is that while low income and wealth do affect banking status by decreasing the net benefits of maintaining an account, this story is only part of the explanation. Other informational, attitudinal or cognitive attributes, such as lack of awareness of the benefits and costs of managing an account, may be important.

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<sup>9</sup> Note that the estimated coefficient on assets per capita is robust to dropping cash at home from the set of explanatory variables.

<sup>10</sup> The omitted category of education is “comercio”. Comercio is studied after secondary school and is a technical career. The data set contains 16% household heads with no primary, 28% with some primary, 23% with primary, 3% with some secondary, 15% with secondary, 14% with comercio, 7% with college or some college and .3% with graduate studies.

<sup>11</sup> Occupation dummies are jointly statistically different from zero, with a p-value of 0.02. There are 205 localities/branches in this regression.

## 7 Conclusion

Several studies have shown that the unbanked earn less and are more likely to belong to a marginalized occupational group than their banked counterparts. Most such studies are based on a limited regional sample, and do not account for geographical variation in access to banking services, which is significant because poorer and marginalized areas are likely to be thinly served by banks. In this paper, where we attempt to control for these region effects by comparing proximate banked and unbanked households across a nationally representative sample of bank customers, the analysis suggests that income and occupational differences can only account for a small part of the variation in the banking choices of neighbors.

The unbanked in Mexico are poorer than their banked neighbors, but the corresponding differences in wealth are larger, with education being another important correlate of the decision to open a bank account. We also find no evidence of prohibitively high bank account costs, and given that in our sample the distribution of income across the banked and the unbanked is similar, this suggests that a simple transactions cost-benefit calculation alone does not drive banking choice. While we cannot claim to measure their causal impact, our findings imply that education and other unobserved household traits play a significant role in the decision to use banks.

These correlations between bank accounts, wealth and education, as also our finding that banked households borrow more, should be interpreted in view of the endogeneity of the choice to open a bank account. For example, an inference consistent with these patterns is that opening an account, higher saving and borrowing are jointly driven by unobserved household traits. To the extent that education and related behavioral traits drive financial choices, simply getting people to open bank accounts will have little impact, while a policy targeting education and these attitudes will increase both bank accounts and the welfare-improving potential of access to banks.

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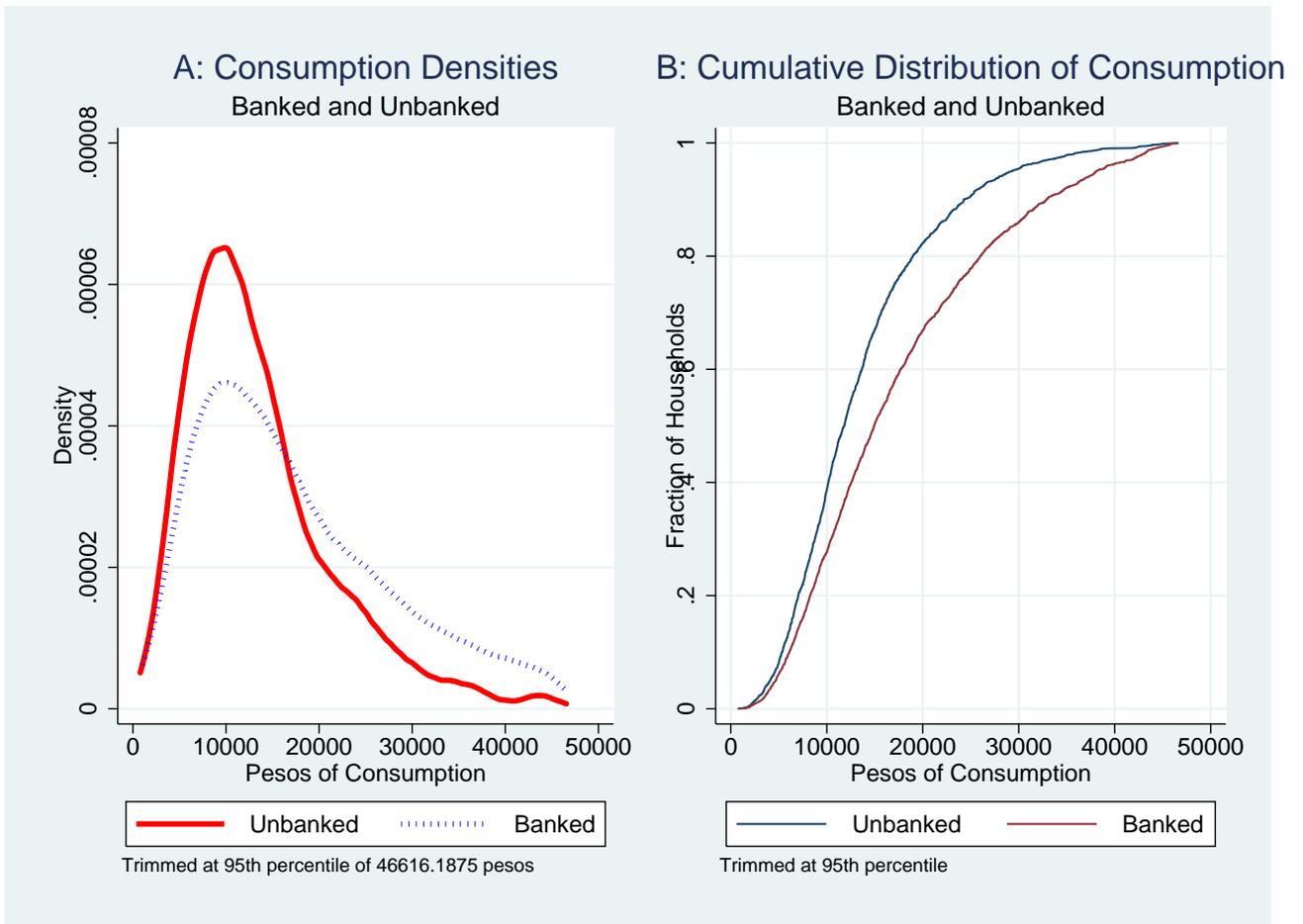


Figure 1: Density and Distribution of Consumption for Banked and Unbanked Households

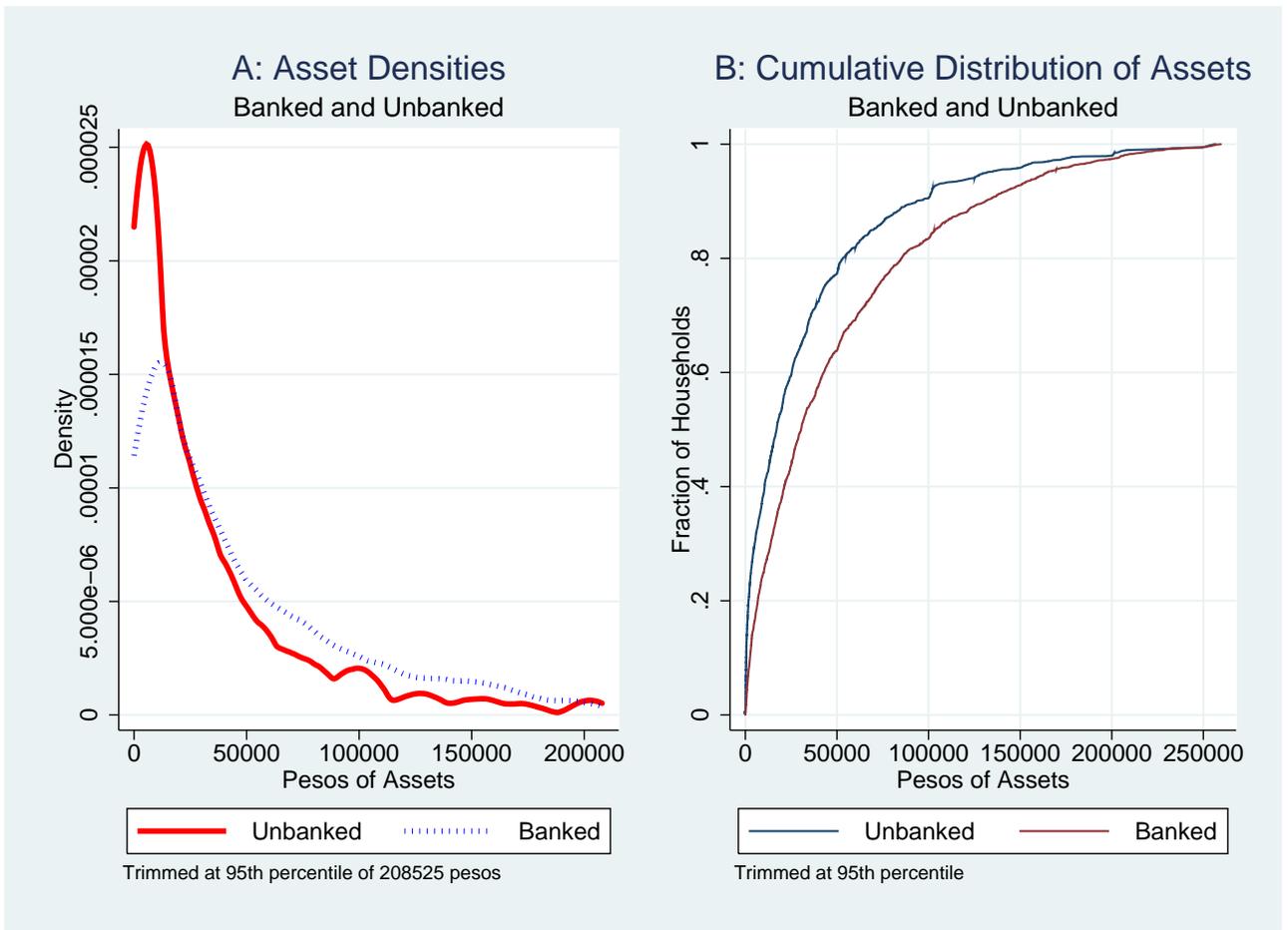


Figure 2: Density and Distribution of Wealth for Banked and Unbanked Households

<b>Table 1: Self-reported reasons for not having a bank account</b>	
<b>Reason</b>	<b>Respondents saying “Yes” (%)</b>
I haven't had money to do it	88.84
I haven't wanted one	6.12
I don't have confidence in the institution	1.91
The required initial deposit is too high	0.75
Interest rates are too low	0.65
Too many requirements	0.51
The membership fee is too high	0.37
The fees are too high	0.33
The branch is too far away	0.23
I don't know what is required to open an account	0.14
I haven't had a permanent job	0.09
The staff doesn't treat the clientele	0.05

*Note: Based on responses of 2141 unbanked households to the question “What is your main reason for not having a bank account?”*

<b>Table 2: Household Characteristics</b>		
	<b>Unbanked Households</b>	<b>Banked Households</b>
<b>Demographics</b>		
Household Size	4.3 [0.1]	4.5 [0.1]
# Adults	2.1 [0.05]	2.4 [0.05]
Average age	31.4 [.8]	30.8 [.6]
% with Male Head	78.9	77.9
<b>Income and Assets ( in pesos)</b>		
Per Capita Income	15364.3 [646.0]	21815.5 [901.4]
Median	10429.1	14350.8
Per Capita Expenditure	16255.85 [504.7]	21100.8 [522.5]
Median	12129.1	16019.0
Per Capita Assets	42347.1 [3973.3]	68999.1 [4747.0]
Median	17478.1	32822.8
Per Capita Liabilities	519.9 [155.4]	3238.8 [437.6]
Median	0	0
<b>Education</b>		
% household heads with no schooling	18.5	11.4
% hh heads with college education	1.7	9.5
N	2140	2531

*Note: Estimates of finite-population means from BANSEFI household survey. Standard errors (linearized) in brackets.*

<b>Table 3A: Household Head's Education</b>		
	<b>Unbanked (%)</b>	<b>Banked (%)</b>
No School	18.5	11.4
Primary School	53.3	44.9
Secondary School	20.6	24.1
Trade	5.8	10.1
College and above	1.7	9.5
<b>N</b>	2,140	2,531

<b>Table 3B: Household Head's Occupation</b>		
	<b>Unbanked (%)</b>	<b>Banked (%)</b>
Boss or entrepreneur	0.3	0.7
Independent professional	0.3	0.7
Self-employed in street	8.3	8
Self-employed, in a shop outside home	3.2	6.9
Self-employed, in a shop inside home	4.1	5.9
Wage, supervisory	3.1	4.1
Wage, non-supervisory	41.1	39.9
Commission employee	3.8	3.9
Peasant or daily farm worker	18.8	14.5
Unknown	16.8	15.3
<b>N</b>	2,140	2,531

<b>Table 4: Household Income, Asset and Expenditure Composition</b>			
	<b>Unbanked</b>	<b>Banked</b>	
<b>A. Income</b>	Wage Income	57.7	57.4
		[1.8]	[1.8]
	Agricultural income	2.4	2.6
		[.9]	[.4]
	Non-agricultural Business Income	10.6	9.9
		[1.1]	[.7]
	Welfare Program Income	5.3	5
		[.5]	[.4]
	Misc. Income	3.6	5.2
	[.4]	[.4]	
Rental Income	0.06	0.2	
	[.04]	[.05]	
House Rental Income (Imputed)	20.1	19.4	
	[.9]	[.7]	
<b>B. Assets</b>	Home	52.1	58
		[2.0]	[1.9]
	Other non-business real estate	3.3	3.9
		[.9]	[.4]
	Business assets	2.7	3
		[.5]	[.3]
	Agricultural Business Assets	7.8	5.3
		[1.4]	[.9]
	Consumer durables	32.4	23.4
	[2.2]	[1.7]	
Informal financial assets	1.4	0.7	
	[.3]	[.1]	
Savings accounts	.	5.3	
		[.6]	
<b>C. Expenditure</b>	Food	38.1	33.5
		[.9]	[.6]
	Household items	15.8	14.2
		[.5]	[.5]
	Services and utilities	10.5	11.8
		[.4]	[.4]
	Rent	15.3	16.8
		[.7]	[.6]
	Education	4.8	6.5
		[.3]	[.4]
	Health Insurance	0.09	0.11
		[.06]	[.03]
	Medical	3.5	2.8
	[.4]	[.2]	
Health	3.6	2.9	
	[.4]	[.2]	
Consumer Durables	2.6	3.9	
	[.3]	[.2]	
<b>N</b>	2,140	2,531	

<b>Table 5: Household Characteristics</b> (Excluding "No Money" Response)			
	<b>Unbanked</b>	<b>Banked</b>	<b>Unbanked</b>
	<b>All</b>	<b>All</b>	<b>Excluding "No Money"</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
<b>Demographics</b>			
Household Size	4.3 [0.1]	4.5 [0.1]	3.8 [.3]
# Adults	2.1 [0.05]	2.4 [0.05]	2.3 [.3]
Average age	31.4 [.8]	30.8 [.6]	34 [1.5]
% with Male Head	78.9	77.9	86
<b>Income and Assets</b>			
Per Capita Income	15364.3 [646.0]	21815.5 [901.4]	17315 [2053.0]
Per Capita Expenditure	16255.85 [504.7]	21100.8 [522.5]	19678.5 [2380.0]
Per Capita Assets	42347.1 [3973.3]	68999.1 [4747.0]	58190.3 [10552.6]
Per Capita Liabilities	519.9 [155.4]	3238.8 [437.6]	712.7 [448.8]
<b>Education</b>			
% household heads with no schooling	18.5	11.4	9
% hh heads with college education	1.7	9.5	4.3
<b>N</b>	2,140	2,531	165

Estimates of finite-population means from BANSEFI household survey. Standard errors (linearized) in brackets. Column (3) *excludes* unbanked households which reported "No Money" as the reason for not having a bank account.

<b>Table 6: Savings Accounts of Banked Households</b>		
% households with a savings account	in Bank	13.8
	in Informal MFI	0.89
	in Formal MFI	88.8
Mean household balances in savings accounts		5314.4 [326.5]
Mean household balances	in Bank	908.5 [216.0]
	in Informal MFI	30.8 [11.5]
	in Formal MFI	4379.4 [238.6]
% accounts that require a maintenance fee		7.3
N		2531
Mean # deposits in a year		13.5 [.4]
N		2035
Mean # withdrawals in a year		8.4 [.5]
N		1428
Mean Yield (% p.a.)		1.5 [.07]
N		812
Initial deposits (pesos)		2161 [373.6]
N		532
Mean maintenance fee (if non-zero) in pesos		596.5 [292.5]
Median fee (if non-zero) in pesos		100
N		69
% accounts that require social participation fee		54
Mean social participation fee (if non-zero)		510.2 [51.0]
Median social participation fee (if non-zero)		500
N		143

*The unit of observation is households. Standard errors in brackets. N gives the number of non-missing observations for each variable.*

<b>Table 7: Features of Savings Accounts</b>				
		<b>Bank</b>	<b>Informal MFI</b>	<b>Formal MFI</b>
Balances (pesos)	Mean	6603	2943	4325.7
	Median	1000	1100	1000
	N	355	38	2613
Yield (% p.a.)	Mean	1.5	3.8	1.7
	Median	0.9	1	0.4
	N	84	14	924
# Deposits in a year	Mean	19.6	29	13.2
	Median	12	24	12
	N	325	35	2341
# Withdrawals in a year	Mean	21.3	4.4	6.3
	Median	12	1	2
	N	274	17	1461
Annual Fee? (%)		35	0	2.7
Fee (pesos) (if non-zero)	Mean	837.8		281.3
	Median	187		100
	N	47		33
Social fee? (%)		0	0	53.2
Social Fee (if non-zero)	Mean			517.3
	Median			500
	N			156
Initial deposit (pesos)	Mean	5467.8	327.4	1192.2
	Median	1000	200	200
	N	153	19	427

*The unit of observation is accounts. Standard errors in brackets. N gives the number of non-missing observations for each variable.*

**Table 8: Correlates of Having a Bank Account**

Dependent Variable: Bank Account Dummy

	(1)	(2)	(3)	(4)	(5)
Consumption per capita	0.053*** (12.38)	0.048*** (10.01)	0.032*** (6.24)	0.031*** (6.00)	0.03*** (7.21)
Assets per capita		0.002*** (4.55)	0.0005*** (3.82)	0.002*** (3.61)	0.001*** (3.49)
Sex of HH head		0.052*** (-2.90)	-0.035** (-1.97)	-0.03 (-1.40)	-0.01 (-0.93)
Average Household Age		-0.0006 (-1.41)	0.0008* (1.68)	0.001* (1.91)	0.001** (2.47)
Number of Adults		0.034*** (5.63)	0.03*** (5.57)	0.032*** (5.35)	0.03*** (5.65)
Cash at home		0.087* (1.94)	0.18** (2.16)	0.16* (1.95)	0.18** (2.27)
Cash at home squared			-0.02 (-1.52)	-0.02 (-1.34)	-0.03** (-2.00)
No primary			-0.18*** (-5.79)	-0.18*** (-5.60)	0.21*** (-6.78)
Some Primary			-0.09*** (-3.25)	-0.09*** (-3.13)	-0.12*** (-4.39)
Primary			-0.08*** (-2.94)	-0.08*** (-2.86)	-0.09*** (-3.23)
Some Secondary			-0.08*** (-1.92)	-0.08* (-1.82)	-0.08* (-1.86)
Secondary			-0.05* (-1.76)	-0.05* (-1.75)	-0.07** (-2.34)
College (some or complete)			0.13*** (3.66)	0.13*** (3.47)	0.11*** (3.16)
Post graduate			0.44*** (12.61)	0.26* (1.88)	0.24** (1.87)
Constant	0.44*** (41.22)	0.38*** (14.65)	0.44*** (12.61)	0.41*** (9.78)	0.41*** (10.32)
Occupation dummies	No	No	No	Yes	Yes
Branch FE	No	No	No	No	Yes
R Squared	0.03	0.04	0.06	0.07	0.07
Observations	4765	4761	4761	4761	4761

*Income, assets and cash measured in thousands of dollars. t-statistics in parenthesis. \*\*\* indicates 1% level of significance.*