

Banked or Unbanked? Individual and family access to savings and checking accounts

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Abstract

In this paper, we use data on married and unmarried different-sex couples from the U.S. 2004 Survey of Consumer Finances to build on the empirical literature about access to mainstream financial services. We find that, compared to families with higher incomes, low income families are much less likely to have bank accounts and that, even within families with bank accounts, not all individuals have accounts. This is important since individuals without accounts may lack access to financial services and credit building, may be at a financial disadvantage within their family, and may be at financial risk if their partners die or their partnerships end. Education, employment, race, marital status, and women's health are also important predictors of individual as well as family ownership of bank accounts. Our results suggest that there are no important differences in the chances of having accounts for male and female partners, but that family and individual characteristics affect the types of accounts families hold and whether or not money is held jointly.

Asset-building is a new locus of attention for those interested in the well-being of low income families in the U.S. In recent years, policy-makers, community advocates, and academics have brought growing focus and resources to understanding how assets and wealth are distributed, their effects on family well-being, and the design of policies and programs that enable the poor to increase their assets.

Key among these efforts have been programs designed to improve access for low income families to mainstream financial institutions such as banks and credit unions. Many have argued that low income families can lower their financial transactions costs, increase their financial security, and reduce their debt if they can rely on banks instead of resorting to check cashing services, payday lenders, or other marginal financial services. In addition, secure and cost-effective banking services are expected to promote savings and ultimately to help families build assets.

Even though the empirical evidence on these presumed long-run benefits is mostly yet to be produced, a wide range of programs has been created to connect low income families with the mainstream financial sector. These programs often combine services such as matched savings, financial education, home-ownership preparation, or free tax preparation with increased access to mainstream financial institutions by providing checking or savings accounts through partnerships with private sector banks and credit unions.

In line with these programmatic efforts, there is a growing literature trying to identify family characteristics that are associated with lack of access to

mainstream financial institutions.¹ While these studies provide useful information for targeting underserved families, most view the family as a unified decision-making unit and implicitly assume that when a family has access to financial institutions all family members do as well. However, numerous studies suggest that family financial decisions may be better described as the result of complex intrahousehold negotiations that are influenced by individual and family economic and social characteristics. Thus, studies performed at the family level—ignoring individual needs, motivations, abilities, and financial barriers—may miss more efficient points of influence and assistance, or, worse, may lead to incorrect prescriptions.

In this paper, we use data on different-sex couples from the U.S. 2004 Survey of Consumer Finances to build on the empirical literature on access to mainstream financial services. Our contributions are threefold. First, we extend the analysis from the family to the individual level and identify characteristics that might explain whether families, men, and women have checking or savings accounts. Second, in line with the growing body of intrahousehold studies suggesting that partners' individual characteristics may affect family behavior, we expand the list of factors typically considered in this kind of analysis to include individual characteristics of both partners. Finally, we provide a more complete breakdown of how these patterns differ by income category, comparing families in the lowest income quartile with those with higher incomes.

We find that, compared to families with higher incomes, low income families are much less likely to have bank accounts and that access to accounts for individuals is even lower than for families. This is important since individuals without accounts may lack access to financial services and credit building, may be at a financial disadvantage within their family, and may be at financial risk if their partners die or their partnerships end. Education, employment, race,

¹ We use “access” to indicate that a family or individual has a bank account, but this can be affected by institutional factors (e.g., proximity to banks, having legal identity documentation) as well as by family preferences and characteristics.

marital status, and women's health are also important predictors of individual as well as family access to bank accounts. Our results suggest that there are no important differences in the chances of having accounts for male and female partners, but that family and individual characteristics affect the types of accounts families hold and whether or not money is held jointly.

To frame our analysis, we start by reviewing previous work on financial services and intrahousehold decision-making. Then we describe the data we use and present our empirical results. We conclude with an overview of some of the main implications for strategic programmatic and policy interventions.

Who is Unbanked and Why?

Access to mainstream financial services in the U.S. is usually measured by whether someone in the family has a checking or savings account—those families are deemed 'banked.' Over 90 percent of all U.S. families are banked: 89 percent of families hold checking accounts, 47 percent hold savings accounts, and many hold both types of accounts (Bucks et al 2006). While the overall rate of account ownership has risen from 85 percent of families in 1989 to 91 percent in 2001 (Hogarth et al 2005),² the rates continue to be much lower for low income families, with only 76 percent of families in the bottom income quintile banked in 2004 (Bucks et al 2006).

A host of studies have shown that, in the U.S., people who are less educated, unemployed, single, or non-white are less likely to be banked (Washington 2006, Rhine et al 2006, Seidman et al 2005, Hogarth 2005, Berry 2002, Dunham

² Washington (2006) also summarizes evidence from four surveys between 1977 and 2000. She finds a general pattern of increasing numbers of unbanked families between 1977 and 1989, possibly associated with the elimination of prohibitions on interest-bearing checking accounts which had previously encouraged banks to offer no-fee accounts that had drawn low income families. This was followed by decreasing numbers of the unbanked since 1989.

2001).³ All these characteristics are more frequent among low income families and may, along with income, help to explain the higher number of unbanked families in the bottom income quartile.

That the number of unbanked is larger among low income families might also be explained in part by a supply-side argument: banks are less likely to locate in low income neighborhoods (Washington 2006). However, there is considerable evidence suggesting that demand-side arguments play a much more important role. Families' most frequent explanations for why they do not have an account are: they do not have enough money, they do not write enough checks, they do not need an account, and that minimum balances are too high (Bucks et al 2006, Berry 2002).

But given the high proportion of low income families who are unbanked and the presumed connection between family access to bank accounts and the capacity to save, it is important to ask: What is the value of a bank account to low income families? Bank accounts are expected to serve three primary purposes: 1) they facilitate income receipt and conversion to cash, 2) they facilitate payment of financial obligations, and 3) they provide a secure storage mechanism for money (Dunham 2001). Studies have shown that families who are unbanked tend to meet the first by cashing checks at grocery stores, check cashing outlets, and banks (without opening an account), and the second by paying their bills with money orders, through bill payer services, or friends (Dunham 2001). While advocates and policy-makers have long argued that the costs of using alternative financial institutions are high, recent work has found that relying on the formal banking sector might actually be more expensive for very low income families (Berry 2002, Dunham 2001).

³ However, many studies do not distinguish between individual characteristics and family characteristics and at times do not even clarify whose characteristics are being used for the analysis.

The third purpose for having an account, providing a safe location for keeping money, especially longer term savings, is certainly facilitated by having a checking or savings account. However, there is little if any evidence that having an account per se encourages families to save beyond what they would have saved without the account. Studies show that families and individuals with greater assets are more likely to have accounts (e.g., Bucks et al 2006), but do not test whether providing accounts to those who do not already have them will lead them to build their assets. Other studies have found that individuals and families use “behavioral” and “psychological” strategies to commit themselves to saving money (Beverly and Sherraden 1999; Romich and Weisner 2000; Sherraden et al 2005; Thaler and Benartzi 2001). Examples of behavioral strategies that make it easier for families to save and harder to spend savings include mechanisms such as direct deposit to savings accounts, savings accounts that charge per withdrawal, accounts at banks that are inconveniently located, or not having ATM cards (Beverly, Moore and Schreiner, 2001). Among the psychological strategies that help families save are “mental accounts” that segregate money for particular purposes, setting savings goals, and asking others for emotional support for saving. While these behavioral and psychological strategies help families save, it is not clear that simply having a savings account provides equivalent incentives.

Finally, an additional advantage of holding bank accounts and relying on mainstream financial services is the development of a relationship with a bank and the creation of a documented record of financial transactions, both of which could facilitate future financial transactions.

Whether or not these presumed benefits reach all family members and to what extent they do may depend on how families structure their portfolio. In particular, whether partners have joint accounts or individual accounts in their own names may affect who has access to and control over family resources, as well as their individual ability to access credit in the future.

Household bargaining

By and large, economists and sociologists have portrayed families as if they were single-minded decision makers, whose members have preferences that can easily be aggregated, and whose choices reflect consensus or at least consistently dominated decision-making processes. A number of social scientists, however, have challenged these assumptions and rely instead on bargaining models to depict family decision-making as influenced by partners' individual preferences and their relative bargaining power (Lundberg and Pollak 1996; Bittman et al, 2003). These bargaining models of intrahousehold decision-making recognize that family members may differ in their interests, may push for conflicting outcomes, and may experience different levels of well-being. The bargaining framework assumes that the partner with more bargaining power will have a stronger influence on family choices and therefore family outcomes will bear closer resemblance to his or her preferences. How much power each partner has is assumed to depend on his or her alternatives outside the household—how good his or her prospects are for income or resources (through work, family of origin, or new partners) or for other relationships.

Supporting this understanding of family decision-making, empirical research has found that: i) family expenditures and savings are systematically different when women have more bargaining power (Lundberg and Ward-Batts 2000, Lundberg et al 1997, Browning and Lusardi 1996);⁴ ii) money in the hands of women may result in different family and child outcomes than does money in the hands of men (e.g., Lundberg et al 1997, Thomas 1997); iii) married couples' financial management systems are tied to whether women are employed and how much they earn (Heimdal and Houseknecht 2003, Vogler 1998, Paul 1990); iv) individual as well as family characteristics affect family reports about control over

⁴ However, Jianakoplos and Bernasek (2005) did not find that bargaining power for women affected the composition of household investments.

money (Kenney 2006) and about the types of bank accounts families hold (Tres 1993); and v) spouses' bargaining power predicts how married couples structure their bank accounts and how they distribute money among those accounts (Fletschner and Klawitter 2006). In addition, researchers have found that couples who are married are more likely to report equal control or jointly held money than are those who are not married (Kenney 2006, Heimdal and Houseknecht 2003).

This evidence suggests that bargaining power affects family financial decisions including those about who owns and manages bank accounts, and that which partner has access to financial accounts may have implications for individuals within the household as well as for the family as a whole. And, while this understanding of family dynamics expands the menu of strategic policy and program options (one may achieve different results by targeting different family members), it also highlights the need for a better understanding of how families make decisions about account ownership.

The studies of bank accounts mentioned in the previous section were all carried out at the family level. In those studies, a family is defined as having access to formal financial services if someone in the family has a bank account. They implicitly assume that family access guarantees the same benefits for each member of the family, contrary to the new evidence from the intrahousehold literature. While having at least one account in the family could in principle benefit all family members by offering at least indirect access to the financial system, we argue that this need not be the case. More specifically, family members may experience additional benefits if they hold accounts in their own names, and the type and extent of those benefits may hinge on whether the accounts they hold are individually or jointly owned. Having an account may provide an individual with more direct control over funds held there and this, in turn, could increase bargaining power in negotiations regarding the use of the funds or other family decisions. In addition, whether or not each partner has

direct access to an account becomes especially important when the partnership dissolves or one of the partners dies. Finally, being named on an account could help create an on-going relationship with the bank and establish an individual financial record that could affect options for credit for that individual in the future.

The distinction between individual and family access to bank accounts could have implications for social welfare practice given that asset-building programs and programs designed to improve access to financial institutions often have rules linking account ownership to requirements such as participating in financial literacy activities or attending meetings. As a result, these programs may affect or prescribe who owns accounts and whether they do it individually or jointly. As we have argued, the ownership of these accounts might affect individual or family well-being, though we know of no studies documenting differential effects of individual versus jointly owned bank accounts on family expenditures and asset building.

While we do not have information on the processes couples use to make decisions about account ownership, the data we have do allow us to explore the outcomes of those decisions. For each couple in our sample, we can determine whether they have checking or savings accounts and whether the accounts are held jointly or individually. Thus, we are able to determine whether each partner is banked or not, where we define a person as banked if he or she has an individual or joint account in his or her name. We contribute to the literature on financial access to bank accounts by identifying who is banked at the family and individual levels, by exploring characteristics that are linked to being banked, and by taking an in-depth look at how those patterns vary by income category. Together, these results provide a more complete picture of how families negotiate their banking decisions within their social and institutional context.

Data and Methodology

We use data from the 2004 Survey of Consumer Finances (SCF), a triennial study sponsored by the Federal Reserve Board that surveys a random sample of U.S. households and an over-sample of high income families from U.S. tax records.⁵ The survey gathered detailed information about family assets and liabilities, ownership of multiple bank accounts and liquid assets, and a good set of demographic and economic characteristics for individual family members.

Sample

The sample for our analysis was restricted to different-sex couples in which both members were between the ages of 25 and 55 (n=1637 couples). We limited the data to couples because our analysis focuses on the effects of family negotiations between adult partners, and to different-sex couples because same-sex couples are likely to have different intrahousehold bargaining patterns and to make decisions within a different social context. Married and unmarried couples face different legal and social contexts, and we control for marital status in our multivariate analyses, but we chose to include both types of couples to better inform program and policy efforts to target the unbanked.⁶ The age restrictions in our sample eliminate families that are most likely to be making significant investments in individual education (younger couples) or retirement savings (older couples) because those decisions involve different institutional incentives.⁷

⁵ Weights adjust for this oversampling and for non-response patterns in the descriptive statistics we provide. In addition, the SCF contains 5 replicate cases with imputed values for all missing data which we use here for both descriptive and multivariate analyses. See Montalto and Sung (1996) for a description of the statistical procedures for multiple imputations for missing data.

⁶ Information on state marriage and divorce policies could help us identify important aspects of marriage affecting the bargaining process, but the geographic location of the couples is not available in the public SCF dataset.

⁷ For example, government or private financial aid may dictate asset limits and implicit tax rates that drive family decisions about who holds money. Similarly, retirement savings may be greatly affected by social security rules or by employment related pension programs.

Outcome measures

The SCF asks families about the amounts, if any, held in a wide range of household assets, including more liquid assets such as bank accounts, money market accounts, and certificates of deposit. For these liquid assets, the SCF also asks how each asset is held: as a joint account, or in one individual's name.⁸ We combine information from these questions on ownership of checking and saving accounts and certificates of deposits to construct indicators of whether or not the couple has accounts, whether or not each partner has individual accounts of each type, and whether or not they have joint accounts. We are also able to determine the proportion of these liquid assets held in each type of account. Together, these variables summarize which families and individuals are banked and allow us to look for characteristics that predict who is likely to have bank accounts.

Individual and Family Characteristics

Because we are interested in analyzing how patterns of account ownership vary by income, we divided our sample into quartiles using a measure of family needs-adjusted income.⁹ The income measure is either family income for the past year, or if the family reports that income was unusually high or low compared to a "normal" year, then it is the amount they would have expected if it had been a "normal" year.¹⁰ We use this measure of normal income as it will most closely influence the strategy the family will choose for longer term money management.

⁸ The question asks (with variations for who responds): "Is this a joint checking account, or is the account in your name, in your husband's name, or something else?"

⁹ We use income divided by the square root of family size (similar to Smeeding 2005) and get quartiles from our weighted sample to partition the sample.

¹⁰ To construct the measure of income, the SCF adds up income from multiple sources for the past year and then asks families if this is unusually high or low compared to income in a "normal" year. If they say income is different than normal they are asked to provide what their income would have been in a "normal" year.

Almost all unbanked families are in the bottom quartile of needs-adjusted income and therefore in our analysis we compare the bottom quartile (n=314) with the other three income quartiles combined (n=1323).¹¹ Our multivariate analyses also include a continuous measure of family income given that, even within a income quartile, we expect families with higher incomes to be more likely to be banked. We also use a measure of whether the family believed that its income was predictable and expect that families with more predictable income will be more likely to have bank accounts.¹²

The models include several variables to reflect individual characteristics of the male and female partners that may influence individual or family account ownership. For each partner, we include age, education (having at least some college and having a college degree or more, with high school degree or less as the reference category), reported health (an indicator of good or excellent health with fair or poor health as the reference category), years of work experience (calculated as full-time equivalent), and employment (indicators of part-time and full-time employment for women and of full-time employment for men¹³). We expect both partners' characteristics to be positively related to whether the family is banked, and each partner's individual characteristics positively associated with whether or not he or she is individually banked. We account for the race of the survey respondent (given that this information is not collected for other household members) with indicators for Black/African American, Hispanic/Latino, and "Other" respondents.¹⁴ From previous research, we expect that compared to Whites, families with an African American or Latino respondent will be less likely to be banked.

¹¹ The quartiles are not of equal size because the cut points are based on weighted data and the SCF includes an oversample of high income families.

¹² The questions asks "Do you usually have a good idea of what your family's next year's income will be?".

¹³ There are very few men with part-time employment so we did not include a dummy for that category.

¹⁴ In the public data set, the SCF combines Asian, Native American/Alaska Native, and Native Hawaiian/Pacific Islander with "other".

Bank accounts may also be affected by family characteristics. To allow for that, our models include variables capturing whether the couple is married or not, the number of years the couple has been married or has lived together, and whether there are children living in the household. Given previous studies, we expect that married couples will be more likely to be banked and have joint accounts, and less likely to have individual accounts, and that this pattern will be stronger the longer a couple has been together (for both married and unmarried couples). We expect that couples with children will be more likely to have joint accounts given the expenses associated with child-rearing.

The models also contain a set of variables that describe the configuration of the interview: which partner responded to the survey and whether or not the other partner was present. Since the survey attempts to interview the partner with the most financial knowledge,¹⁵ we expect individuals to be more likely to have accounts when they are the survey respondents. In addition, because partners may not have full information about each others' accounts, we expect individuals to be more likely to have a reported solely-owned account when they served as respondent than when the information was reported by their partners. Finally, while having both partners present during the interview maximizes the information available on all accounts, it might affect what they report if they are unwilling to share information about their individual accounts with each other. In other words, how families structure their portfolio of bank accounts and what they report might be related to how the interview was configured.¹⁶ In earlier work, we found that when married women responded to the survey, their husbands were less likely to be reported as having individual accounts and that a smaller proportion of money was reported in those accounts compared to families in which husbands answered the survey. Finally, we include an indicator of

¹⁵ Lindamood and Hanna (2005) document the efforts carried out by the SCF to interview the most financially knowledgeable spouse.

¹⁶ We also tried models with separate indicators for the interview configuration for married and unmarried couples, but the interactions were never significant and did not substantially change the other results.

whether the survey was administered by phone or in-person interview given that families who received phone interviews may be systematically different than those with in-person interviews.¹⁷

Appendix A has descriptive statistics for the family and individual characteristics.

Multivariate Models

We use these family and individual characteristics to analyze who is likely to have bank accounts in three stages. First, we analyze which families are more likely to be banked. We then analyze which individuals within the family have access to either an individual or joint account: Which men are likely to be banked? And which women are likely to be banked? Finally, we use the same factors to look at the types of accounts owned: Which men are likely to have individual accounts? Which women are likely to have individual accounts? And which couples are likely to have joint accounts? We refine this analysis by estimating these models of family and individual access to accounts separately for checking and savings accounts and by income category.

For the first stage of the analysis, we estimate the chances that a family will be banked using a probit model. We do this for all families and then repeat the analysis separately for families in the bottom quartile and higher quartiles. These models replicate previous studies analyzing the chances that a family would be banked, but incorporate individual characteristics for both partners.

For the second stage of the analysis, we model the determinants of individual access to accounts by using a bivariate probit model. This allows us to simultaneously analyze individual access for both partners in a family, to identify gender-differentiated patterns for male and female partners, and to take

¹⁷ Almost half the interviews for the 2004 SCF were conducted by phone—interviewers were instructed to do phone interviews when respondents indicated that an in-person interview was not convenient (Bucks et al 2006, p.A37).

advantage of the additional information provided by characteristics that may affect access for both partners but are not incorporated in our model. We report this analysis separately for families in the first and higher quartiles.

The third stage of the analysis further examines individual access to accounts and possible control over funds, by separating individually-owned and joint accounts. We use multivariate probit models to simultaneously estimate the characteristics associated with access to individually owned accounts for men and women and to joint accounts, recognizing that these outcomes are likely to be connected by individual or family characteristics not included in our model. We enhance this section by analyzing the share of money held in each type of account to evaluate the influence of individual and family characteristics on the extent to which partners have control over and access to those funds. For couples who have at least one bank account, we model the effects of characteristics on how funds are allocated across accounts: the proportion of funds in joint accounts, the proportion in individual accounts for men, and the proportion in accounts solely-owned by women. For this we use three tobit models which take into consideration that the share of money in each account is limited to being between 0 and 1.

Together, these models of family and individual access to accounts create a more nuanced picture of the choices made by families and the influences of family and individual characteristics on those outcomes.

Empirical Analysis

We start by describing family and individual access to accounts in Table 1. The left side of the table describes the proportion of families and individuals owning accounts for the full sample. The middle and right side of the table show account ownership for those in the bottom income quartile and the top three quartiles,

respectively. These results highlight four themes consistent throughout our analysis: 1) income is a major determinant of having an account; 2) individuals are less likely than families to have accounts; 3) men and women are equally likely to have accounts; and 4) joint accounts are the most common account type and hold the largest share of family resources.

Most families have accounts: over 90 percent of all couples had at least one account. However, the chances for those in the bottom income quartile were much lower with only 76 percent of families having accounts compared to the near universal rate of 98 percent for those in the top three quartiles. The gap is even more pronounced for individuals than for households: only 69 percent of individuals in low income families had either an individual or joint account compared to 95 percent of individuals in the higher quartiles. Interestingly, within each income group, the levels of individual access were identical for men and women. These figures point to considerable room for increasing access to family and individual accounts by targeting those in the lower income quartile.

Having a checking account facilitates financial transactions, while savings accounts provide a secure interest-bearing location for asset-building. Given these differences, we disaggregate the analysis by type of account. The proportion of families with checking accounts was higher than the proportion with savings accounts in both income groups. Seventy-three percent of lower income families had checking accounts, but only 39 percent had savings accounts. For higher income families, almost all had checking accounts (97 percent), but only 71 percent had savings accounts. Rates of individual rather than family access were lower for both types of accounts in each income group. Two-thirds of men and women in lower income families had checking accounts but only a third of them had savings accounts. In higher income families, over 90 percent of individuals had checking accounts and 63 percent had savings accounts.

Finally, it is also important to understand how families structure their account portfolio: whose names appear on the accounts? How is their money distributed between individual and joint accounts? As before, individuals in the bottom income quartile had fewer² joint and individual accounts. In both income groups, joint accounts were the most common type of account (58 percent for the bottom quartile and 85 percent for the higher quartiles). While individual accounts were less common in the lower income group than in the higher income group, the rate of ownership was nearly identical for men and women within each income group (18 percent for men and women in the lower quartile and, in the higher income group, 27 and 28 percent for men and women, respectively).

In both income groups, families with accounts held most of their money in joint accounts. Families in the lower quartile had a somewhat smaller share of their funds in joint accounts, with 68 percent of money held jointly compared to 75 percent for higher income families. Men and women held almost equal shares of the family's funds in individual accounts (15 percent for men and 16 percent for women in the lower income group and 13 percent for men and 12 percent for women in the higher income group).

On the whole, these numbers suggest that individuals have less access to accounts than do families, but that the rates of access do not differ by gender. More importantly, income appears to be a critical factor affecting the chances of being banked for both families and individuals, with those in the bottom income quartile being noticeably likely to have each type of account.

Almost a quarter of families and a third of individuals in the lowest quartile did not have access to any account. This presents an opportunity to improve their access to mainstream financial institutions. In order to inform possible targeting efforts, we explore this using multivariate analysis to identify family and individual characteristics associated with having access to accounts. Furthermore, among low income families and individuals who had accounts most had checking

accounts. To better understand these two different patterns, we repeat the multivariate analysis separately for checking and savings accounts.

Who is more likely to be banked?

Our multivariate findings show some consistent patterns across models for families and individuals, for men and women, for both income groups and for both checking and savings accounts. More specifically, income, education, employment, race, and marital status all show important associations with being banked. However, the outcomes also show some important differences that will be useful for understanding family decision-making and program design as we will discuss in the section on policy implications.

The first column in Table 2 shows the coefficients for a probit model estimating the impact of individual and family characteristics on which families had bank accounts of any type. Columns 2 and 3 show similar models for individuals ('Did the male partner have an individual or joint account?' and 'Did the female partner have an individual or joint account?') using a bivariate probit model. We repeat the family and individual analyses for separate subsamples of those in the bottom quartile (columns 4, 5, and 6) and in the upper quartiles (columns 7, 8, and 9).

For the full sample, families with higher incomes were more likely to have accounts, but the effect of income is nonlinear as it is offset somewhat by the dummies indicating the family's income quartile. Having predictable income did not seem to affect the likelihood of having an account. Families were more likely to be banked if the male partner had a college degree or if either partner was employed full time. These factors (income, employment, and education) may serve as proxies for a family's need for transactions accounts, which is frequently reported as key reason for having (or not having) bank accounts.

A strong and unexpected result indicates that families in which women reported being in good or excellent health were more likely to be banked (though, as we discuss below, this pattern is limited to the lowest income quartile). The strength and persistence of this result across most of our analyses is unexpected and we will return to this issue in our discussion section.

Consistent with earlier studies, families in which the respondent was Black or Hispanic were less likely to be banked and married couples were more likely to be banked than were unmarried couples. But contrary to our expectations the chances of a couple being banked did not seem to be related to the number of years they had been together or to whether or not they had children in the household.

Many of the patterns associated with family accounts persist when looking at individual accounts: income, education, employment, women's health, race, and marital status all remain important. And, consistent with the gender equity in the likelihood of holding accounts, many of the individual and family characteristics seem to affect men's and women's accounts in similar ways.

Income affected accounts for both men and women, though the pattern is not identical. Women with older male partners were less likely to have accounts, but men's age didn't affect men's accounts and women's age did not affect accounts for either partner. Similarly, men's education had stronger effects than did women's education on both men's and women's chances of being banked.¹⁸ Years of work experience for male partners increased the chances of having accounts for both men and women, and women's work experience increased accounts for women (though the size of the effect is much smaller than that for men's experience). Men's and women's employment was positively related to having accounts, though most of the coefficients were not statistically significant.

¹⁸ Education for partners is highly correlated, so some of the inconsistencies may reflect multicollinearity.

Women's health was positively associated with accounts for men, women, and families as a whole. Individual and family access was lower in families with Black or Hispanic respondents.

Men and women who were married were more likely to have accounts, as were those in couples who had been married or lived together for longer periods. Unlike in the analysis at the family level, the sex of the survey respondent provided information about men's and women's likelihood of having accounts. More specifically, in families in which women responded to the survey, men were less likely to have accounts and women were more likely to have accounts. Since the survey asked that the partner with the most financial knowledge serve as respondent, this result seems to suggest that that person was also more likely to have an account.

Given that families in the bottom income quartile were more likely to be unbanked, we disaggregate the analysis to further understand how the influence of family and individual characteristics differed by income. Overall, our results suggest that the effects of employment and education were larger for families and individuals in the upper quartiles and the influence of income, women's health status, and interview configuration were greater for the bottom income quartile.

Within the bottom income quartile, families and individuals with higher incomes were more likely to be banked and this effect was much larger for this group than for the upper income group. Having predictable income increased the chances of being banked only for upper income families, although we expected that unpredictable income would have been a problem more for those with low incomes.

As in the full sample results, women were less likely to be banked when they had an older male partner within both income groups (Columns 6 and 9). The

coefficients for education are generally positive and some are sizeable for the lower income quartile, but only one is statistically significant (women's college education increased individual access for women, Column 6). In contrast, among families in the upper income quartiles, men's education had a significant effect for accounts for both men and women, and women's education affected accounts for men.¹⁹ More years of work experience for men or women did not predict accounts for those in the bottom income quartile, but men's work experience increased the likelihood of individual accounts for those in the upper income group (Columns 8 and 9) and women's experience increased their own likelihood (Column 9). Men's and women's fulltime employment was generally positively associated with family and individual accounts for both income groups, but few of the coefficients are significant. Women's health had a strong influence on the chances of being banked for families and individuals within the bottom income quartile, but not for families in the upper income group. Men's health affected the chances that men in the lower income quartile had bank accounts, but not the chances for women or the family as a whole or for those in the upper income group. Families with a Black or Hispanic respondent were less likely to have family or individual access to bank accounts in both income groups.

Family characteristics are important for both income groups. Those who were married were more likely to have accounts, though not all coefficients are statistically significant for the bottom income quartile. Years married or living together helps predict accounts only for those in the upper income group, though is still positively associated with family and individual accounts in the first income quartile. Finally, which spouse responded to the survey (chosen as being more knowledgeable) seems to have different effects by income category. Within the bottom income quartile, families with female respondents were less likely to have accounts and men in those families were less likely to have accounts. In contrast, within the upper income quartiles, in families with female respondents,

¹⁹ Again multicollinearity between partners' education may explain why some results are not significant.

women were much more likely to have accounts. These patterns will be further clarified when we later distinguish between joint and solely owned accounts.

For the analysis of male and female individual accounts for the full sample and for both income groups, the value of rho is positive, large, and significant. This suggests that there are factors that we have not included in the model that have a similar influence on both men's and women's accounts. Those unobserved factors could include characteristics such as proximity to banks, financial knowledge, or family motivation to save. These common factors seem to be more important for the lower income families given the much larger correlation for those partners (.64 versus .47 for the higher income partners).

To summarize, the results in Table 2 suggest that income, education, employment, women's health, marital status, time in partnership, race, and sex of respondent are all important in determining whether families and individuals use mainstream financial services. Within the bottom income quartile, those in the lowest income families, families in which women were not in good health, unmarried couples, Black and Hispanic families, and families with female respondents were less likely to be banked. Policy efforts should consider these as potential target populations for programs that aim to increase access to financial accounts.

Who is more likely to have checking or savings accounts?

Because checking and savings accounts serve different financial purposes and families are much less likely to have savings accounts, we estimate separate models to assess the influence of characteristics on the chances of having checking and savings accounts. Financial literacy and access programs may need to target different clients than do asset-building programs if the characteristics predicting ownership of checking accounts differ from those associated with who has savings accounts. Again, we estimate separate models

for the bottom and higher income quartiles. The proportion of families and individuals with checking and savings accounts varies radically for the two income groups and it is possible that the characteristics explaining who is likely to have each type of account also differ for the two.

Table 3 shows the results of estimating the probability that families, men, and women have checking and savings accounts. The left half of the table shows results for the lowest income quartile, the right half presents results for the upper quartiles. As before, results for the family are estimated with a probit model and results for men and women are estimated jointly using a bivariate probit to account for unobserved characteristics that may affect accounts for both partners. Many of the patterns previously described emerge across most of the models predicting ownership of checking and savings accounts: income, education, women's health, marital status, years in relationship, race, and having a female respondent all affect the likelihood of having either type of account.

Starting with the bottom income quartile, the results in the left half of Table 3 show that family income had a positive effect on the probabilities of having checking and savings accounts for families (Columns 1 and 4), of having checking accounts for men and women (Columns 2 and 3). Women with older partners were less likely to have checking or savings accounts. College degrees for men and women generally increased the chances of having both types of accounts, but the effects were statistically significant only for savings accounts and even then not for all models. Full-time employment affected neither family nor individual checking or savings accounts, but women who were employed part-time were more likely to have checking accounts. Women's health appears to have mattered more for checking accounts than for savings accounts and its effect is fairly uniform on family, men's, and women's accounts. Men's health again affected accounts only for men and only through increasing the chances of having checking accounts not savings accounts. Relative to families with White respondents, those with Black or Hispanic respondents were less likely to have

checking or savings accounts for the family or individuals. However, for both the bottom and the upper income quartiles, having a Black respondent had a larger impact on checking accounts, whereas having a Hispanic respondent had a larger effect on savings accounts.

Those who were married were more likely to have checking accounts, but marital status did not seem to affect access to savings accounts.²⁰ Families with female survey respondents were less likely to have checking or savings accounts for the family or individual accounts for men, though many of these coefficients are not statistically significant.

Columns 7 through 12 show equivalent results for the upper income quartiles. Income was less important and individual characteristics were more important in predicting access for families in this income category than for the lower income families. Families with predictable income were more likely to have checking accounts and women in these families were more likely to have savings accounts. As with the lower income group, college degrees for both men and women were positively associated with having savings accounts, but for upper income families, it also affected the chances of having checking accounts. Within this income category, women's employment was one of the strongest influences on whether or not families, men, and women had access to savings accounts. As in all the other models, families with White respondents were more likely to have family and individual checking and savings accounts than were families of color. Families with children were more likely to have savings accounts, individuals who were married were more likely to have checking and savings accounts, and the likelihood of having accounts increased the longer couples had been together (though not all coefficients are statistically significant).

²⁰ We speculate that married couples could be investing in other assets such as homeownership rather than in savings accounts, but we have not tested this.

Once again, the positive and significant coefficients for rho indicate that within each family, there were characteristics we have not accounted for that had a similar effect on men's and women's access to checking and savings accounts. This is stronger in the models explaining access to savings accounts and stronger for lower income families than for those in the upper income quartiles.

Our analysis up to this point indicates that many of the same factors influence family and individual access to both checking and savings accounts. However, among families in the first income quartile, income, women's health, and marital status seem to have had larger effects on whether they had access to checking accounts, whereas education and years in the relationship influenced access to savings accounts. In the upper income quartile, women's employment had large effects, especially in predicting access to savings accounts. Given that 30 percent of families and 40 percent of individuals in this income category lacked access to savings accounts, targeting programs to build their access to savings accounts could yield important gains in asset-building.

Who is more likely to have individual or joint accounts?

Thus far we have analyzed accounts for men and women without distinguishing between accounts they hold individually and those they hold jointly with their partners. In this section, we go one step further and analyze the factors affecting whether they hold individual accounts (solely owned by men or women) or joint accounts. Having individual or joint ownership of an account may affect an individual's control over funds in the account and could affect future credit ratings. Again, in the analyses that follow, we separate families in the lower income quartile from those in higher income quartiles.

Table 4 shows the factors affecting how likely men and women are to have solely-owned accounts (columns 1 and 2 for the lower income quartile and 4 and 5 for the upper income quartiles) or joint accounts (columns 3 and 6). These

models are again estimated using multivariate probits to take account of unobserved characteristics that may affect more than one of the three outcomes. To simplify the discussion of results, results in Table 4 are estimated without separating checking and savings accounts.²¹

Among families in the bottom quartile, those with higher incomes were more likely to have all three types of accounts (men's, women's, and joint). The effects of individual characteristics were less uniform within this quartile: only men's age and women's health had statistically significant impacts on the type of accounts the couple held. When women were healthy, men and women were more likely to have both individual and joint accounts (though the effect on women's accounts is not statistically significant). Because its effects on men's and women's accounts were nearly symmetric, this result seems to suggest that women's health affected family financial status rather than women's power within the family.

Families in the upper income group were less likely to have joint accounts when male partners were older, and more likely to have joint accounts when male partners had more than high school education or were employed full time. A college degree for men also increased the chances of men having individual accounts. Women's age and education did not seem to have significant effects on account ownership. Women who had more work experience were more likely to hold individual accounts in their name, consistent with a story in which work experience gives women greater bargaining power within the household because of increased wage potential.

Compared to couples with White respondents, those with Black or Hispanic respondents were less likely to hold joint accounts regardless of their income category and those in the bottom quartile were more likely to hold individual accounts (though statistically significant only for men). Individual accounts for

²¹ Results from models that separate checking and savings accounts are included in Appendix C.

men were also more likely for those in the “other race” category, but these results were highly volatile across our models probably due to the very small number of respondents in that category.

In both income groups, married couples were more likely to hold joint accounts and less likely to have individual accounts, and a similar pattern emerges with additional years in a relationship (especially for those in the upper income group). This suggests that marriage and longer relationships lead to greater financial interdependence or that financially interdependent couples were those most likely to marry or to stay together longer.

Finally, who responded to the survey did not seem to matter in the lower income quartile, but among families in the upper income quartile men were much less likely to have individual accounts when women were the respondents. Furthermore, for higher income families, the responses varied depending on whether or not the male partner was present during the interview. If the male partner was not present, women were more likely to report joint accounts and individual accounts for women. The choice of survey respondent and presence of partner are clearly associated with family patterns of financial decision-making, or at least with the reports of family decisions.

For both income groups, the estimates of the correlations due to unobserved characteristics suggest that families were likely to choose either joint accounts or individual accounts for both partners (rho is positive for the correlation between men’s and women’s accounts, but negative for the correlations between individual accounts and the joint account). This pattern was strongest for the upper income group.

How is money allocated across accounts?

In addition to deciding who owns the accounts, families decide how much money is allocated to each account. We evaluate the factors that affect these decisions and present the results in Table 5. This analysis is limited to families with at least one account because we are considering the share of money in each account and this is only defined when at least some money is being held. The dependent variable in each model is the money held in that type of account (joint, men's, and women's) as a proportion of the total money in all accounts, and since these shares are bounded between 0 and 1, we estimate the models using Tobit models. Unfortunately, we are unable to estimate the models simultaneously.²²

Families with higher incomes tended to hold a smaller share in joint accounts and more in individual accounts though the coefficients are statistically significant only for those in the higher income quartiles. Few of the coefficients on individual characteristics are statistically significant, though some are still large and many of the patterns are similar to those for the likelihood of having accounts.²³ For both income groups, when men were older, more money was held in their individual accounts and less was held in women's accounts or joint accounts (again not all statistically significant). In the upper income group, when men were employed full time, less money was held in women's accounts and more in joint accounts. In contrast, women's work experience increased the share in women's accounts and decreased the share in joint accounts. Black and Hispanic families tended to have fewer resources in joint accounts and more in individual accounts in both income groups.

²² Routines for estimating trivariate tobit models with upper and lower bounds are unavailable. In Appendix D, we provide estimates of an alternative specification using bivariate tobits for men's and women's share of total assets. This approach allows us to account for common unobservable factors. However this comes at a cost. First, we are not distinguishing between individual accounts and joint accounts. Second, the program we used for the bivariate tobits only allows us to impose a lower bound to the outcomes, ignoring the upper bound.

²³ The reduced statistical significance of the results may reflect a lower efficiency of the estimates because we are not taking advantage of joint estimation of the outcomes.

Married couples in both income categories held a larger share of their resources jointly and as did couples who have been together longer (although it was only statistically significant for the higher income group). Lastly, in both income groups, having a female respondent was associated with a lower share of resources in men's accounts and a greater share in women's accounts (though not all coefficients are significant).

The analyses of individual and joint ownership and the share of resources in these accounts reinforce the notion that race, marital status, and the duration of a relationship affect the ways in which couples hold their money. More specifically, married and longer term couples were more likely to have joint accounts and to keep larger shares in those accounts, and Black or Hispanic families were less likely than White families to have joint accounts and were more likely to hold resources in individual accounts.

Discussion and Policy Implications

Our results indicate that individual and family access to checking and savings accounts are closely associated with income, employment, education, health, race, marital status, and how long a couple has been together. Asset-building and financial literacy programs may be able to use this information to further target efforts to expand account access to those most in need. However, to effectively use this information requires differentiating among the multiple reasons why families or individuals may be unbanked. In the discussion that follows, we focus our attention mostly on families in the lowest quartile of needs-adjusted income where most of the unbanked are concentrated.

As we described earlier, families and individuals may demand bank accounts in order to: 1) receive and convert payments (e.g., paychecks or benefit checks); 2) make payments to others; 3) securely store money or savings; and, 4) build an

on-going relationship with the financial system to enable future access to credit. However, they will only do so if they are aware of the services banks can offer and prefer them over other alternatives they might have.

Some families may not need bank accounts because they are not receiving or making enough payments to make it worthwhile. Indeed, our results show that very low income families (those with the lowest incomes among families in the bottom quartile) and couples where at least one of the partners is not employed are more likely to be unbanked.²⁴ These families may benefit less from new access to bank accounts and more from programs that offer job training, education, or financial literacy, or from new financial services such as electronic benefits transfer of benefits checks. New savings accounts may also not benefit these families if their incomes are too low to allow regular savings or if asset limits in transfer programs create untenable consequences for building savings. Still, some families in this group might be receiving or making enough payments that they could benefit from policies or bank products that reduce barriers and transaction costs to banking such as minimum balances, monthly fees, and costly checks.

A second category of families may be unbanked because they lack accurate information about the costs and availability of financial services associated with bank accounts. These are families who need these services and for whom available bank services would have been cost-effective. Yet they may be unaware of the services offered by banks—bank products have changed considerably over the last decade in response to policies, advocacy, and marketing—or of how the costs of bank services compare to those of other institutions. Our results indicate that less educated families were less likely to have bank accounts even after controlling for income and employment, and that the effects of education were greater when predicting access to savings

²⁴ The notion that these families are unlikely to feel that bank services are cost-effective is also supported by surveys asking families to give reasons for not having accounts (Bucks et al 2006, Berry 2002).

accounts. These low education families may benefit from community education or financial literacy programs that provide information about bank services and cost comparisons. This group may also be a fruitful target for savings programs such as Individual Development Account programs that combine financial literacy training with subsidies and incentives for saving.

Finally, some families may need bank accounts (and possibly have adequate information) but find it difficult to avail themselves of these services because they lack required documentation, are far from bank branches, or face other barriers that implicitly or explicitly discriminate against them. Our results indicate that Blacks and Hispanics are less likely to be banked than are Whites. While our analysis does not provide further insight into why they are unbanked, it is important to note that this pattern emerges even though we control for income, education, employment, and marital status. Moreover these results are consistent for both checking and savings accounts and for all income categories. Families of color may live or work farther from banks, may lack required documentation to open accounts (especially immigrant families), or may face other barriers that make access to bank accounts more difficult, including direct discrimination. We are unable to distinguish among these or other possible explanations and therefore cannot offer informed policy recommendations.

As a group, our findings on marital status and relationship duration provide information about the patterns of individual and family ownership of accounts as well as about the chances of a family being banked. Being married mattered more for families in the higher income quartiles than for the lower income group, for checking accounts than for savings, and for joint accounts than for solely-owned accounts. In general, partners who are not married are less likely to have joint checking accounts, a finding consistent with studies suggesting that they may be less likely to handle their money cooperatively (Kenney 2006, Heimdal and Houseknecht 2003). The number of years a couple has been together also affected their chances of having joint accounts, and the impact was stronger for

savings accounts and among families in the higher income group. So, couples who have been together for more years are more inclined to save jointly.²⁵ Newer couples and unmarried couples might then be appropriate targets for checking or savings accounts. In the absence of research showing clear benefits for either joint accounts or individual accounts, we refrain from making recommendations as to which type of account should be encouraged.

Race and the sex of the respondent also were associated with the types of accounts families held and the shares of money in each type. Families with Black or Hispanic respondents were more likely to have individual rather than joint checking or savings accounts than were families with White respondents. In addition, we found that families and individuals' reported portfolio varied depending on which partner responded to the survey. This could be the result of the association of the respondent choice with how couples allocate financial tasks, how much they communicate about financial issues, or with which partner has financial power. Both the results on race and on the sex of the respondent point again to families systematically making money-handling choices that affect the types of bank accounts they hold.

Together, these results show that relationship characteristics including marital status, relationship duration, and race affect the likelihood and configuration of bank accounts for families. Again, given the lack of information about benefits to any particular family system of accounts and money-handling, community services and programs may want to be cognizant of family preferences and to accommodate them when possible.

Lastly, we found that women's health affected individual and family access to bank accounts, especially among those in the lowest income quartile. Since we control for income level and predictability and employment, we are unclear what

²⁵ This is less likely among low income families perhaps because their income might be entirely tied up on real property such as houses and vehicles.

is being captured by this variable. Families in which women were not healthy were less likely to have all three type of accounts (solely-owned accounts for men and women, and joint accounts), suggesting that this condition might be affecting the need or ability of the family to use banks rather than intrahousehold dynamics.²⁶ Men's health was associated only with increased access for men and only for checking accounts, not savings accounts. Thus it seems unlikely that women's health was only a proxy for some aspect of employment or income that should operate similarly for men. Instead, it seems that women's health, but not men's health is associated with some aspect of overall family economic well-being not otherwise captured in the model. This result calls out for exploration in future work.

Conclusions

Most families need access to cost-effective financial services that allow them to receive and make payments, securely store savings, and build a credit history. Yet not all have bank accounts. Our work contributes to the growing literature attempting to describe who is likely to be unbanked. We rely on the SCF, a comprehensive dataset on family finances, to more fully explicate the characteristics associated with family and individual access to bank accounts. Our results point to a gap between family access and individual access, but not to gender differences in levels of access. Many of the same characteristics that determine access for families (income, education, employment, and race) also have large effects on which individuals have access to bank accounts. Individual and family characteristics also help explain how families structure their liquid asset portfolios (jointly or individually). Together these results support the notion that individuals within the household have different financial access to accounts

²⁶ We found no other studies that included health as an explanatory factor in models explaining the chances of being banked, but Lundberg and Ward-Batts 2000 found that family net worth was greater when women were in better health. Unlike in our work they found that men's health also affected family net worth.

and that individual as well as family characteristics matter in determining that access.

While this paper advances our understanding of the characteristics associated with families and individuals who are more likely to be unbanked, it also points to at least three areas for future research. To the best of our knowledge, there is no conclusive body of research demonstrating that access to bank accounts per se has a positive effect on asset-building. Even less is known about the differential effects of individual versus jointly owned accounts on individual and family well-being. Finally, while we have identified characteristics associated with those more likely to be unbanked, further work is needed to explain the underlying barriers preventing them from using these services or encouraging them to use alternatives. Additional work in these areas will inform and greatly benefit efforts to expand access to mainstream bank services and to promote asset-building.

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Table 1: Proportion of Families and Individuals with Accounts by Income Quartile

	Full Sample	First Income Quartile	Upper Income Quartiles
Family has Bank Account	92%	76%	98%
Individual Access to Accounts:			
Male Partner has individual or joint account	88%	69%	95%
Female Partner has individual or joint account	88%	69%	95%
Checking Accounts:			
Family has account	91%	73%	97%
Male Partner has individual or joint account	86%	65%	93%
Female Partner has individual or joint account	87%	67%	94%
Savings Accounts:			
Family has account	63%	39%	71%
Male Partner has individual or joint account	55%	32%	63%
Female Partner has individual or joint account	55%	33%	63%
Individual and Joint Accounts:			
Male Partner has individual account	25%	18%	27%
Female Partner has individual account	25%	18%	28%
Couple has joint account	78%	58%	85%
Share in Accounts for those with at least one account:			
Share of savings in male partner's acct.	0.14	0.15	0.13
Share of savings in female partner's acct.	0.13	0.16	0.12
Share of savings in joint acct.	0.74	0.68	0.75
Sample Size	1637	314	1323

Notes: Proportions estimated using weights and accounting for multiple imputations of missing data. Standard deviations and standard errors shown in Appendix A. Upper quartiles are larger in unweighted numbers of observations because of oversampling.

Table 2: Probability of Being Banked for Families and Individuals by Income Quartile

	Full Sample			First Income Quartile			Upper Income Quartiles		
	Families (1)	Men (2)	Women (3)	Families (4)	Men (5)	Women (6)	Families (7)	Men (8)	Women (9)
Family Income Quartile:									
First	1.243	-0.914 ***	-0.779 ***						
Second	1.150 *	-0.583 ***	-0.272						
Third	0.845	-0.188	-0.101						
Family Income (in \$10,000)	0.261 ***	-0.001 **	0.001	0.377 ***	0.277 ***	0.275 ***	0.141 *	-0.0005 *	0.001
Income predictable	0.204	0.187	0.155	0.036	-0.093	0.109	0.607 *	0.231	0.081
Male Partner characteristics:									
Age	-0.009	-0.009	-0.051 ***	-0.007	0.018	-0.042 **	0.020	-0.016	-0.050 **
Education: some college	0.234	0.240	0.443 **	0.325	0.414	0.366	0.288	0.129	0.413
Education: college degree	0.495 *	0.344 **	0.399 **	0.030	0.080	0.164	0.873 *	0.502 **	0.576 **
Years work experience	0.015	0.026 **	0.035 ***	0.020	0.016	0.022	-0.011	0.032 *	0.041 **
Employed full time	0.437 **	0.289 *	0.189	0.243	0.148	0.058	0.777 **	0.346	0.258
Health good or excellent	-0.066	0.207	0.047	0.101	0.360 *	-0.006	-0.574	0.112	-0.059
Female Partner characteristics:									
Age	0.009	-0.013	0.015	0.021	-0.019	0.022	-0.019	-0.009	0.004
Education: some college	0.244	-0.151	-0.035	0.288	0.000	0.185	0.314	-0.168	-0.210
Education: college degree	0.073	0.263	0.137	0.476	0.396	0.681 *	-0.071	0.410 *	0.051
Years work experience	0.009	0.001	0.018 *	-0.002	0.010	0.006	0.023	-0.013	0.025 *
Employed full time	0.520 ***	0.158	0.187	0.345	-0.114	0.205	0.748 *	0.278	0.133
Employed part time	0.156	0.213	0.293	0.220	0.120	0.352	0.194	0.222	0.233
Health good or excellent	0.562 ***	0.343 **	0.399 ***	0.725 ***	0.608 ***	0.584 ***	0.531	0.152	0.313
Black Respondent	-0.764 ***	-0.527 ***	-0.566 ***	-0.734 **	-0.524 **	-0.544 **	-1.063 **	-0.746 ***	-0.903 ***
Hispanic Respondent	-0.495 ***	-0.343 **	-0.572 ***	-0.545 **	-0.501 **	-0.636 ***	-0.695 *	-0.156	-0.581 **
Other Race Respondent	-0.179	-0.003	-0.191	0.741	0.858	0.172	-0.775	-0.263	-0.383
Family Characteristics:									
Children in Household	-0.058	0.100	0.093	0.048	-0.062	0.042	-0.065	0.071	0.027
Married	0.397 **	0.717 ***	0.785 ***	0.328	0.539 **	0.318	0.313	0.791 ***	1.079 ***
Years married or living together	0.011	0.020 **	0.023 **	0.004	0.015	0.020	0.033	0.023 **	0.036 **
Interview Configuration:									
Male respondent with partner	0.108	0.163	0.195	-0.269	0.045	-0.076	0.609	0.187	0.268
Female respondent with partner	-0.378	-0.331 *	0.467 **	-0.850 **	-0.678 **	-0.106	0.239	-0.271	1.090 ***
Female respondent only	-0.145	-0.231	0.481 ***	-0.644 **	-0.628 ***	0.034	0.585	-0.096	0.790 ***
Phone Interview	-0.478 ***	-0.143	-0.170	-0.520 **	-0.215	-0.443 **	-0.724 **	-0.232	-0.014
Constant term	-2.447 **	0.523	0.283	-1.523 *	-1.300	-0.722	-0.809	0.326	0.060
Rho: Correlation in error terms			0.64***			0.87***			0.47***

Notes: Family models are estimated with probit models; Models for men's and women's access are estimated with Multivariate Probit Model.

All models are estimated accounting for multiple imputations for missing data.

* indicates significant at 10 percent; ** indicates significant at 5 percent; *** indicates significant at 1 percent

Table 3: Probability of Checking and Savings Accounts for Families and Individuals by Income Quartile

	First Income Quartile						Upper Income Quartiles					
	Checking Accounts			Savings Accounts			Checking Accounts			Savings Accounts		
	Families (1)	Men (2)	Women (3)	Families (4)	Men (5)	Women (6)	Families (7)	Men (8)	Women (9)	Families (10)	Men (11)	Women (12)
Family Income (in \$10,000)	0.327 ***	0.193 **	0.217 **	0.217 **	0.089	0.121	0.145 **	-0.0005 *	0.0006	-0.0001	-0.0001	-0.0002
Income predictable	0.114	0.122	0.211	0.162	0.139	0.074	0.460 *	0.216	0.076	0.095	0.1333	0.1639 **
Male Partner characteristics:												
Age	-0.020	0.001	-0.049 **	-0.022	-0.024	-0.047 *	-0.019	-0.022	-0.042 **	-0.015	-0.016	-0.025 **
Education: some college	0.253	0.216	0.367	-0.207	0.023	-0.213	0.527	0.239	0.580 **	0.179	0.198	0.006
Education: college degree	0.023	0.232	0.153	0.332	0.335	0.515 *	0.958 **	0.551 ***	0.619 ***	0.187 *	0.229 **	-0.021
Years work experience	0.026	0.016	0.023	0.010	0.014	0.035 *	-0.001	0.033 *	0.030 *	0.017	0.019 *	0.010
Employed full time	-0.038	-0.028	0.019	0.187	0.270	0.125	0.376	0.404 *	0.123	0.156	0.207	0.138
Health good or excellent	0.222	0.401 **	0.071	-0.104	-0.077	-0.099	-0.380	0.142	0.116	0.022	-0.021	-0.029
Female Partner characteristics:												
Age	0.013	-0.012	0.025	0.006	-0.004	0.001	0.030	-0.002	0.020	-0.004	-0.012	0.001
Education: some college	0.158	-0.134	0.141	0.148	0.093	0.101	0.225	-0.047	-0.038	0.108	0.064	0.093
Education: college degree	0.386	0.123	0.524	0.555 **	0.517 *	0.349	0.095	0.552 ***	0.082	0.204 *	0.123	0.195 *
Years work experience	0.007	0.018	0.012	0.004	0.011	-0.002	0.003	-0.016	0.013	0.003	0.000	-0.003
Employed full time	0.136	-0.173	0.189	-0.029	-0.135	0.003	0.569 *	0.255	0.203	0.327 ***	0.319 ***	0.429 ***
Employed part time	0.223	0.225	0.471 *	0.199	0.207	-0.003	0.211	0.270	0.362	0.307 ***	0.263 **	0.322 ***
Health good or excellent	0.644 ***	0.500 **	0.574 ***	0.280	0.341	0.153	0.532 **	0.169	0.260	0.041	-0.059	0.000
Black Respondent	-0.700 ***	-0.565 **	-0.591 **	-0.346	-0.285	-0.363	-0.656 **	-0.800 ***	-0.838 ***	-0.307 *	-0.265	-0.313 *
Hispanic Respondent	-0.357	-0.402 *	-0.485 **	-0.446 **	-0.567 ***	-0.465 **	-0.442	-0.158	-0.447 *	-0.428 ***	-0.365 **	-0.529 ***
Other Race Respondent	0.858	1.024	0.313	0.191	0.364	-0.123	-0.420	-0.356	-0.228	-0.203	-0.164	-0.278 *
Family Characteristics:												
Children in Household	0.274	0.112	0.144	0.007	-0.033	0.128	-0.208	-0.051	0.039	0.241 ***	0.116	0.069
Married	0.489 **	0.819 ***	0.466 **	-0.073	-0.034	0.101	0.293	0.790 ***	1.048 ***	0.215	0.411 ***	0.423 ***
Years married or living together	0.013	0.014	0.022	0.022	0.023	0.020	0.008	0.023 **	0.017	0.012 **	0.014 **	0.021 ***
Interview Configuration:												
Male respondent with partner	-0.141	-0.010	-0.076	-0.128	0.001	0.032	0.881 *	0.216	0.420 *	-0.082	-0.112	0.001
Female respondent with partner	-0.505	-0.642 **	0.018	-0.273	-0.343	-0.087	0.336	-0.218	0.916 ***	0.033	-0.158	0.115
Female respondent only	-0.371	-0.648 ***	0.048	-0.242	-0.262	-0.113	0.455 *	-0.040	0.731 ***	0.239 **	-0.010	0.352 ***
Phone Interview	-0.506 **	-0.285	-0.498 **	-0.344 *	-0.092	-0.350 **	-0.628 **	-0.266 **	-0.139	0.000	-0.028	-0.035
Constant term	-1.300	-1.081	-0.820	-0.724	-0.5217	0.016	-1.036	0.087	-0.506	-0.381	-0.202	-0.269
Rho: Correlation in error terms			0.85***			0.94***			0.57***			0.91***

Notes: Family models are estimated with probit models; Men's and women's access are estimated with Multivariate Probit Models.

All models are estimated accounting for multiple imputations for missing data.

* indicates significant at 10 percent; ** indicates significant at 5 percent; *** indicates significant at 1 percent

Table 4: Probability of Individual and Joint Accounts by Income Quartile

	<u>First Income Quartile</u>			<u>Upper Income Quartiles</u>		
	Men's (1)	Women's (2)	Joint (3)	Men's (4)	Women's (5)	Joint (6)
Family Income (in \$10,000)	0.176 *	0.211 **	0.247 ***	0.0003 *	0.0002	-0.0003
Income predictable	0.268	0.289	-0.158	0.025	-0.086	0.068
Male Partner characteristics:						
Age	0.057 **	0.005	-0.022	0.017	-0.006	-0.039 **
Education: some college	0.071	0.162	0.359	0.170	0.070	0.280 *
Education: college degree	-0.210	-0.145	0.230	0.224 *	-0.054	0.240 *
Years work experience	-0.007	0.012	0.015	0.017	0.011	0.021
Employed full time	0.404	0.166	0.025	0.010	-0.091	0.483 ***
Health good or excellent	0.055	-0.027	0.105	-0.160	-0.037	0.159
Female Partner characteristics:						
Age	-0.028	-0.014	0.000	-0.011	0.016	0.003
Education: some college	-0.078	0.199	0.089	-0.105	0.101	-0.096
Education: college degree	0.289	0.024	0.480	0.094	0.180	0.131
Years work experience	-0.008	0.000	0.016	0.006	0.014 **	-0.003
Employed full time	-0.086	0.327	-0.060	-0.050	0.017	0.075
Employed part time	0.033	0.217	0.027	0.133	0.099	0.258
Health good or excellent	0.420 *	0.365	0.480 **	-0.050	0.110	0.048
Black Respondent	0.574 **	0.379	-0.664 ***	0.153	0.121	-0.702 ***
Hispanic Respondent	0.531 **	0.356	-0.676 ***	0.087	-0.042	-0.477 ***
Other Race Respondent	1.065 **	-2.267	0.290	0.226	-0.068	-0.288
Family Characteristics:						
Children in Household	-0.174	-0.080	0.033	0.006	-0.083	0.092
Married	-0.246	-0.330	0.748 ***	-0.890 ***	-0.768 ***	1.541 ***
Years married or living together	-0.025	-0.012	0.030 **	-0.032 ***	-0.027 ***	0.035 ***
Interview Configuration:						
Male respondent with partner	0.110	-0.144	0.177	-0.095	-0.098	0.104
Female respondent with partner	-0.154	0.243	-0.345	-0.361 **	-0.104	0.149
Female respondent only	-0.217	0.391	-0.205	-0.379 ***	0.172 *	0.249 *
Phone Interview	0.171	-0.083	-0.251	-0.046	-0.031	-0.063
Constant term	-3.015 ***	-2.168 **	-1.063	0.066	-0.366	-0.540
Rho: Correlation in error terms						
Men's and women's accts.	0.283 **			0.435 ***		
Men's and Joint accts.	-0.391 ***			-0.559 ***		
Women's and Joint accts.	-0.352 ***			-0.600 ***		

Notes: Models are estimated with Multivariate Probits and account for multiple imputations for missing data.
 * indicates significant at 10 percent; ** indicates significant at 5 percent; *** indicates significant at 1 percent

Table 5: Share of Money Held in Individual and Joint Accounts by Income Quartile

	First Income Quartile			Upper Income Quartiles		
	Men's (4)	Women's (5)	Joint (6)	Men's (7)	Women's (8)	Joint (9)
Family Income (in \$10,000)	0.178	0.197	-0.256	0.0002 *	0.0002 *	-0.0003 **
Income predictable	0.169	0.270	-0.357	0.007	-0.063	0.035
Male Partner characteristics:						
Age	0.111 **	-0.004	-0.069	0.025 **	-0.005	-0.019 *
Education: some college	-0.375	0.032	0.444	0.069	-0.021	0.005
Education: college degree	-0.560	-0.123	0.485	0.090	-0.091	0.033
Years work experience	-0.030	0.016	-0.001	0.003	0.006	-0.004
Employed full time	0.579	0.211	-0.618	-0.041	-0.143 *	0.200 *
Health good or excellent	0.266	-0.294	0.146	-0.112	-0.009	0.086
Female Partner characteristics:						
Age	-0.056	-0.004	0.035	-0.013	0.011 *	0.001
Education: some college	-0.374	0.243	0.008	-0.085	0.117	-0.040
Education: college degree	0.392	0.156	-0.071	0.011	0.083	-0.039
Years work experience	-0.019	-0.009	0.033	0.004	0.007 *	-0.009 *
Employed full time	-0.228	0.453	-0.308	-0.085	0.025	0.051
Employed part time	0.073	0.281	-0.217	0.032	0.051	-0.054
Health good or excellent	0.356	0.174	-0.541	-0.056	0.071	-0.010
Black Respondent	1.153 **	0.653 *	-1.511 ***	0.265 **	0.210 **	-0.445 ***
Hispanic Respondent	1.152 ***	0.646 *	-1.539 ***	0.203 *	0.010	-0.217 *
Other Race Respondent	1.242	-4.354	-0.940	0.113	0.005	-0.115
Family Characteristics:						
Children in Household	-0.447	-0.053	0.357	0.002	-0.044	0.039
Married	-0.908 **	-0.937 ***	1.752 ***	-0.731 ***	-0.550 ***	1.427 ***
Years married or living together	-0.027	-0.024	0.047	-0.023 ***	-0.016 ***	0.031 ***
Interview Configuration:						
Male respondent with partner	0.094	-0.170	0.109	-0.083	-0.015	0.086
Female respondent with partner	-0.289	0.602	0.001	-0.326 ***	0.045	0.186
Female respondent only	-0.361	0.706 **	-0.302	-0.342 ***	0.154 ***	0.118
Phone Interview	0.380	-0.018	-0.230	-0.034	-0.011	0.025
Constant term	-3.189 **	-1.542	3.002 *	0.226	-0.074	-0.021
Standard error	1.392 ***	1.208 ***	1.739 ***	0.707 ***	0.622 ***	0.859 ***

Notes: Models are estimated using separate Tobit analyses with limits at 0 and 1 that do not account for correlations across outcomes.

All models are estimated accounting for multiple imputations for missing data.

* indicates significant at 10 percent; ** indicates significant at 5 percent; *** indicates significant at 1 percent

Appendix A: Descriptive Statistics by Income Quartile

	<u>First Income Quartile</u>			<u>Upper Income Quartile</u>		
	Mean	Std. Dev.	Std Error	Mean	Std. Dev.	Std Error
Expected needs-adjusted Family Income Quartile:						
First	1	0	0	0	0	0
Second	0	0	0	0.33	0.47	0.02
Third	0	0	0	0.34	0.47	0.01
Fourth	0	0	0	0.33	0.47	0.01
Expected Family Income (in \$10,000s)	3.16	1.14	0.07	12.06	21.08	0.58
Income Predictable	0.54	0.50	0.03	0.77	0.42	0.01
Male Partner characteristics:						
Age	38.55	8.09	0.48	42.22	7.72	0.21
Education: some college	0.15	0.35	0.02	0.17	0.38	0.01
Education: college degree	0.14	0.35	0.02	0.54	0.50	0.01
Years work experience	17.70	8.62	0.50	22.16	8.15	0.22
Employed full time	0.71	0.45	0.03	0.88	0.32	0.01
Health good or excellent	0.78	0.42	0.02	0.92	0.27	0.01
Female Partner characteristics:						
Age	36.63	7.84	0.46	40.46	7.82	0.22
Education: some college	0.19	0.39	0.02	0.19	0.39	0.01
Education: college degree	0.15	0.36	0.02	0.54	0.50	0.01
Years work experience	10.23	8.30	0.48	16.04	8.61	0.24
Employed full time	0.42	0.49	0.03	0.62	0.49	0.01
Employed part time	0.17	0.37	0.02	0.16	0.36	0.01
Health good or excellent	0.76	0.42	0.02	0.89	0.31	0.01
Black Respondent	0.14	0.35	0.02	0.06	0.24	0.01
Hispanic Respondent	0.29	0.45	0.03	0.07	0.25	0.01
Other Race Respondent	0.03	0.17	0.01	0.05	0.23	0.01
White Respondent (base group)	0.54	0.50	0.03	0.81	0.39	0.01
Family Characteristics:						
Children in Household	0.84	0.37	0.02	0.71	0.46	0.01
Married	0.78	0.42	0.02	0.91	0.28	0.01
Years married or living together	12.04	8.74	0.50	13.95	9.10	0.25
Interview Configuration:						
Male respondent with partner	0.14	0.35	0.02	0.15	0.36	0.01
Female respondent with partner	0.16	0.36	0.02	0.13	0.34	0.01
Female respondent only	0.45	0.50	0.03	0.34	0.48	0.01
Male respondent only (base group)	0.25	0.43	0.02	0.37	0.48	0.01
Phone Interview	0.66	0.47	0.03	0.49	0.50	0.01

Notes: All Descriptive statistics are weighted to account for sampling and use information on multiple imputations for missing data.

Appendix B: Proportion of Families and Individuals with Accounts by Income Quartile

	<u>Full Sample</u>			<u>Income in Lowest Quartile</u>			<u>Income above First Quartile</u>		
	<u>Mean</u>	<u>Std. Dev.</u>	<u>Std Error</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Std Error</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Std Error</u>
Family has Bank Account	92%	0.26	0.01	76%	0.43	0.02	98%	0.14	0.00
Individual Access to Accounts:									
Male Partner has individual or joint account	88%	0.32	0.01	69%	0.46	0.03	95%	0.22	0.01
Female Partner has individual or joint account	88%	0.32	0.01	69%	0.46	0.03	95%	0.22	0.01
Checking Accounts:									
Family has account	91%	0.28	0.01	73%	0.44	0.03	97%	0.17	0.00
Male Partner has individual or joint account	86%	0.34	0.01	65%	0.48	0.03	93%	0.25	0.01
Female Partner has individual or joint account	87%	0.34	0.01	67%	0.47	0.03	94%	0.24	0.01
Savings Accounts:									
Family has account	63%	0.48	0.01	39%	0.49	0.03	71%	0.45	0.01
Male Partner has individual or joint account	55%	0.50	0.01	32%	0.47	0.03	63%	0.48	0.01
Female Partner has individual or joint account	55%	0.50	0.01	33%	0.47	0.03	63%	0.48	0.01
Individual and Joint Accounts:									
Male Partner has individual account	25%	0.43	0.01	18%	0.38	0.02	27%	0.44	0.01
Female Partner has individual account	25%	0.44	0.01	18%	0.39	0.02	28%	0.45	0.01
Couple has joint account	78%	0.41	0.01	58%	0.49	0.03	85%	0.36	0.01
Share in Accounts for those with at least one account:									
Share of savings in male partner's acct.	0.14	0.29	0.01	0.15	0.33	0.02	0.13	0.28	0.01
Share of savings in female partner's acct.	0.13	0.28	0.01	0.16	0.33	0.02	0.12	0.26	0.01
Share of savings in joint acct.	0.74	0.39	0.01	0.68	0.44	0.03	0.75	0.38	0.01
Sample Size	1637			314			1323		

Notes: Estimated using weights and accounting for multiple imputations of missing data.

Appendix C: Probability of Individual and Joint Checking and Savings Accounts by Income Quartile

	Checking Accounts						Savings Accounts					
	First Income Quartile			Upper Income Quartiles			First Income Quartile			Upper Income Quartiles		
	Men's	Women's	Joint	Men's	Women's	Joint	Men's	Women's	Joint	Men's	Women's	Joint
Family Income (in \$10,000)	0.119	0.171 *	0.175 *	0.0003 **	0.0003 *	-0.0003 *	0.175	0.478 ***	0.066	0.0003 *	0.0001	-0.0002
Income predictable	0.363	0.290	-0.016	0.014	-0.176 **	0.073	0.155	-0.242	0.075	0.028	0.130	0.145 *
Male Partner characteristics:												
Age	0.070 **	0.009	-0.034	0.027 *	-0.006	-0.031 **	-0.063	-0.076	-0.021	0.007	-0.010	-0.031 **
Education: some college	0.155	0.227	0.253	0.137	0.076	0.254 *	0.243	-0.401	-0.002	0.300 **	-0.051	0.130
Education: college degree	-0.237	-0.150	0.311	0.185	0.030	0.215 *	-0.428	-0.315	0.479 *	0.187	-0.224 *	0.181 *
Years work experience	-0.002	0.006	0.016	0.010	0.005	0.015	0.034	0.141 ***	0.011	0.023 *	0.008	0.014
Employed full time	-0.009	0.141	-0.036	-0.031	-0.169	0.396 ***	1.022 **	0.089	0.064	0.099	-0.027	0.245 *
Health good or excellent	0.155	-0.018	0.198	-0.039	-0.089	0.188	-0.471	0.116	-0.145	0.004	0.054	-0.100
Female Partner characteristics:												
Age	-0.053 *	-0.012	0.011	-0.010	0.024 **	0.006	0.025	-0.060	-0.004	-0.011	0.007	-0.003
Education: some college	-0.350	0.176	0.044	-0.115	0.095	0.044	0.524	0.202	0.077	0.051	0.094	0.133
Education: college degree	-0.235	-0.026	0.330	0.054	0.091	0.211	1.327 ***	0.663	0.478 *	0.119	0.273 **	0.142
Years work experience	-0.006	0.004	0.019	0.001	0.010	-0.009	0.005	-0.028	0.008	0.007	0.007	-0.006
Employed full time	0.025	0.252	-0.132	0.053	0.030	0.044	-0.101	0.379	-0.077	-0.034	0.260 **	0.412 ***
Employed part time	0.015	0.143	0.164	0.128	0.049	0.229	0.139	-1.285	0.174	0.106	0.212	0.285 ***
Health good or excellent	0.359	0.294	0.434 **	-0.014	0.129	0.117	0.788 **	0.064	0.239	-0.081	-0.014	0.030
Black Respondent	0.685 **	0.330	-0.723 ***	0.090	0.043	-0.775 ***	0.530	0.531	-0.485 *	0.158	0.152	-0.462 ***
Hispanic Respondent	0.534 **	0.280	-0.566 ***	0.121	-0.097	-0.429 **	0.108	0.524	-0.707 ***	0.012	-0.293	-0.455 ***
Other Race Respondent	0.676	-3.030	0.439	0.369 **	0.064	-0.365 *	1.543 **	-2.052	-0.182	-0.084	-0.047	-0.206
Family Characteristics:												
Children in Household	-0.241	-0.076	0.168	0.007	-0.049	0.012	-0.007	0.570	0.107	0.137	-0.050	0.115
Married	-0.040	-0.305	0.929 ***	-0.964 ***	-0.866 ***	1.524 ***	-0.724 **	-0.966 **	0.308	-0.508 ***	-0.500 ***	1.272 ***
Years married or living together	-0.014	-0.013	0.028 *	-0.036 ***	-0.029 ***	0.031 ***	0.007	0.024	0.023	-0.022 ***	-0.009	0.029 ***
Interview Configuration:												
Male respondent with partner	-0.052	-0.235	0.131	-0.118	-0.129	0.165	0.299	-0.151	0.100	-0.136	0.078	-0.070
Female respondent with partner	-0.334	0.306	-0.272	-0.463 ***	-0.045	0.186	-0.165	0.618	-0.470	-0.426 **	0.137	0.093
Female respondent only	-0.405	0.386	-0.308	-0.375 ***	0.088	0.230 **	-0.133	0.186	-0.140	-0.245 **	0.335 ***	0.269 ***
Phone Interview	0.025	0.034	-0.260	-0.101	0.047	-0.040	0.694 **	-0.626 *	-0.140	-0.030	-0.088	0.005
Constant term	-2.434 **	-2.173 **	-1.169	-0.336	-0.419	-0.881 *	-2.993 **	-1.005	-0.679	-0.880 *	-1.016 *	-1.250 ***
Rho: Correlation in error terms												
Men's and women's accts.	0.31 **			0.50 ***			0.46 **			0.33 ***		
Men's and Joint accts.	-0.41 ***			-0.67 ***			0.23 *			-0.10 **		
Women's and Joint accts.	-0.43 ***			-0.71 ***			0.07			-0.05		

Notes: Models are estimated with Multivariate Probit Model. All models are estimated accounting for multiple imputations for missing data.

* indicates significant at 10 percent; ** indicates significant at 5 percent; *** indicates significant at 1 percent

Appendix D: Share of Money Held in Individual or Joint Accounts by Income Quartile Bivariate Tobits

	First Income Quartile		Upper Income Quartiles	
	Men	Women	Men	Women
Family Income (in \$10,000)	-0.197	-0.178	0.000 *	0.000 *
Income predictable	-0.270	-0.169 **	0.063	-0.007
Male Partner characteristics:				
Age	0.004	-0.111 **	0.005	-0.025 **
Education: some college	-0.032	0.375	0.021	-0.069
Education: college degree	0.123	0.560	0.091	-0.090
Years work experience	-0.016	0.030	-0.006	-0.003
Employed full time	-0.211	-0.579	0.143 *	0.041
Health good or excellent	0.294	-0.266	0.009	0.112
Female Partner characteristics:				
Age	0.004	0.056	-0.011 *	0.013
Education: some college	-0.243	0.374	-0.117	0.085
Education: college degree	-0.156	-0.392	-0.083	-0.011
Years work experience	0.009	0.019	-0.007 *	-0.004
Employed full time	-0.453	0.228	-0.025	0.085
Employed part time	-0.281	-0.073	-0.051	-0.032
Health good or excellent	-0.174	-0.356 ***	-0.071	0.056
Black Respondent	-0.653 *	-1.153 **	-0.210 **	-0.265 **
Hispanic Respondent	-0.646 *	-1.152 ***	-0.010	-0.203 *
Other Race Respondent	4.354	-1.242	-0.005	-0.113
Family Characteristics:				
Children in Household	0.053	0.447	0.044	-0.002
Married	0.937 ***	0.908 **	0.550 ***	0.731 ***
Years married or living together	0.024	0.027	0.016 ***	0.023 ***
Interview Configuration:				
Male respondent with partner	0.170	-0.094	0.015	0.083
Female respondent with partner	-0.602	0.289	-0.045	0.326 ***
Female respondent only	-0.706 **	0.361	-0.154 ***	0.342 ***
Phone Interview	0.018	-0.380	0.011	0.034
Constant term	2.542 **	4.189	1.074 ***	0.774 **

Notes: Models are estimated using bivariate tobit analyses with limits at 0 but not at 1; Models do account for correlation across outcomes.

All models are estimated accounting for multiple imputations for missing data.

* indicates significant at 10 percent; ** indicates significant at 5 percent; *** indicates significant at 1 percent