# Wife vs. Husband: Does It Matter Who Answers the Survey?*

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**Abstract**

Information on assets is used to conduct empirical research and to guide public policy. When using these variables, practitioners assume that they are less susceptible to misreporting. To test this assumption, I use data from poor households participating in Mexico's PROGRESA program. The same questions on assets were asked to the wife and to the husband. I find: (1) important discrepancies in the information reported between the spouses. For example, there is disagreement in 24% of the couples on the possession of a washing machine; (2) this result has consequences for identifying families living in poverty. For example, if asked to husbands 10.1% of the households would be classified as non-poor, but as poor if asked to wives; and (3) the discrepancies observed are partially explained by unanswered questions to a cognitive test applied at the beginning of the interview. This result is robust to a bounding argument for omitted variable bias implemented by Oster (2017). Overall, these findings suggest that the information on assets is not free of misreporting and who answers the survey matters.

Keywords: Poverty Measurement, Household Survey, Measurement, Gender.

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# 1 Introduction

Household surveys are one of the main instruments to conduct empirical research and policy decisions. Thus, understanding the quality of surveys is an issue of first importance. One of the variables most used in household surveys is income. Yet, there is evidence of misreporting of this variable. For example, Meyer and Mittag (2015) find evidence of individuals underreporting income to get assistance from the government. Other variables commonly used are information on household's assets. Information on assets appears to be less susceptible to misreporting. At least, this appears to be the consensus among practitioners. Information on assets is used to target programs to the poor; generate multidimensional measures of poverty; and for testing baseline differences in randomized controlled trials, among other uses.

To examine the accuracy of survey data on assets, I use a random sample of 960 couples participating in the social program PROGRESA[1] in Mexico. Separately, questions about the possession of eighteen assets were asked to both the wife and the husband. I find discrepancies in the information reported between spouses in every item analyzed. The mismatching goes from 2.2% to 32.6%. For example, there is a disagreement in 21.5% of the couples on the possession of a refrigerator. In particular, the husband reported having a refrigerator and the wife did not in 9.6% of the households. And, the husband reported not having a refrigerator and the wife having one in 11.9% of the households.

Then, I analyze to what extent the mismatching observed was random or not.

[1]Mexico implemented the PROGRESA program in 1997. This program transfers money to low-income families under the condition that they send their children to school.

The survey has four sections with the following order: (1) cognitive test, (2) psychological tests, (3) socioeconomic questions, and (4) childhood questions. My hypothesis is that individuals who are signaling problems to answer the first section will have problems in the rest of the survey. In particular, I use the number of unanswered questions to a cognitive test supplied at the beginning of the survey. I find that non-response by men predicts disagreement in the information reported between spouses. Then, I follow the procedures proposed by Altonji et al. (2005) and Oster (2017) to show that this result is unlikely to be driven by omitted variables.

Finally, I analyze the consequences of disagreement in the information reported on: (1) classification of poverty; and (2) subjective well-being. In relation to the first point, I find that who reports the information matters. For example, 10.1% of households would be classified as non-poor if asked to the husband, but as poor if asked to the wife. In relation to individual's well-being, I analyze satisfaction with life and health perception. I find an association between information disagreement and wife's satisfaction with life. Yet, using an instrumental variable (IV) approach[2], I do not find evidence that information disagreement impacts the wife's satisfaction with life.

This paper relates to a literature about causes and consequences of misreporting in household surveys. Meyer et al. (2018) examine three large used household surveys in the United States.[3] They find important misreporting in participation

[2]Identification relies on an instrumental variable proposed by Lewbel (2012). This instrumental variable is generated from exogenous regressors and heteroskedastic random errors.

[3]Survey of Income and Program Participation (SIPP), American Community Survey (ACS), and Current Population Survey (CPS).

in the food stamp program. This misreporting was associated with household characteristics such as age, speaking poor English, and being non-U.S. citizen. Ambler et al. (2017) analyze effects of disagreement on information reported about assets on well-being. They find that disagreement on information reported is associated with women's well-being including use of birth control, number of groups in which wife is active, and having a loan.[4]

There are three main contributions of this paper. First, this paper adds to a growing literature about causes of misreporting. In particular, I use non-response to a cognitive test to predict problems in the data regarding assets. Many times the non-response is eliminated from the main analysis. Yet, non-response has valuable information about the quality of data. Second, this paper contributes to a literature analyzing effects of asymmetric information within the household on well-being. Finally, I present evidence that who answers the survey matters for social programs targeting poverty.

The rest of the paper is organized as follows: Section 2 reviews the related literature; Section 3 introduces the data; Section 4 describes the empirical strategy; Section 5 presents the results; and Section 6 concludes.

[4]They do not find evidence of correlation between disagreement and women's Body Mass Index.

# 2 Why Do People Misreport information?

Philipson and Malani (1999) point out that economists pay much more attention to the consumption of data than to the production of data. They propose that data collection process can be analyzed as a principal-agent problem. In particular, the investigator is the principal and the individuals who provide information are the agents. The problem is that the agents have preferences (does the respondent want to tell the truth?) and problems of information (does the respondent know the truth?). Being this situation the principal source of erroneous reporting.

Judge and Schechter (2009) proposed that Benford's law can be used as a tool to detect problems in survey data. The idea behind Benford's law is that, in large data sets, numbers with a first digit of 1 are observed more often than those starting with 2, and so on.[5] Judge and Schechter (2009) analyzed data from nine commonly used datasets. These data include the Matlab Health and Socioeconomics Survey (MHSS) from Bangladesh, the PROGRESA data from Mexico, the Living Standards Measurement Survey (LSMS) from Peru, the Agricultural Resource Management Survey (ARMS) from the United States, among others. Their principal result is that data from developing countries are of poor quality, and data from the United States are of better quality. Finally, they find that female and male respondents give data of similar quality.

Yet, recent evidence calls into question the quality of data collected through household surveys in the United States. Meyer et al. (2018) examine three large used household surveys in the United States. They find subreport in participation

[5]In particular, Benford's law proposes that: P(First digit is d)= $log_{10}(1 + \frac{1}{d})$, where d goes from 1 to 9.

on the food stamps program for the three surveys analyzed. The subreport is 23% for the Survey of Income and Program Participation (SIPP), 35% in the American Community Survey (ACS), and 50% in the Current Population Survey (CPS). They find that misreporting is associated to household characteristics (householder age, speaking poor English, and non-U.S. citizens). In additon, they find other variables associated with misreporting (being disabled, householder's education, and living in a rural area); yet, the effects are mixed or inconclusive.

Bound et al. (2001) identify three potential reasons of misreporting: cognitive process, social desirability, and survey design. The cognitive process involves comprehension of the question, effort to answer the survey, and recalling information. About social desirability, it refers to the process to answer socially desirable answers whether they are true or not. Finally, survey design can affect how the individuals answer the survey. A clear example is the size of the survey.

Martinelli and Parker (2009), using data from PROGRESA, find evidence that supports the social desirability hypothesis. In particular, they find overreporting in goods that may have a social "status" (concrete floor, tap water, and toilet). Kilic and Sohnesen (2017) present evidence regarding survey design. Using an experiment conducted in Malawi, they find that the size of the survey matters. In particular, the same households answered the same questions differently depending on the length of the questionnaire.

Finally, another aspect that affects the quality of data are the interviewers. Onwujekwe et al. (2006), using data from Nigeria, found discrepancies on socio-

economic information obtained by different interviewers visiting the same home. In addition, they find different answers when the same numerator interviews the household twice.

# 3 Data

An important precedent to this project is the work of Martinelli and Parker (2009). They investigate misreporting in the PROGRESA program.[6] They used self-reported data by families to take part of the program in urban areas. Then, they compared the self-reported data with data collected through a household visit. They find underreporting in all the items analyzed (car, truck, phone, video recorder, washing machine, refrigerator, gas stove, water tank, and satellite TV) and overreporting in goods that may have a "status" value (concrete floor, tap water, and toilet). Additionally, they find evidence that this behavior is associated with a rational behavior. In particular, the benefits[7] of participating in the program were greater than the costs of providing false information.

The database used by Martinelli and Parker (2009) allows them to compare, to a certain extent, the data reported by the interviewees with the "true" data. Yet, there are two assumptions: (1) individuals did not have a strategic behavior to match the self-reported information with the information collected in their houses.

[6]PROGRESA (now rebranded as Prospera) is the biggest social program in Mexico attending more than six million families. This program offers cash transfers to families living in poverty on the condition that they send their school-age children to the school.

[7]Martinelli and Parker (2009) estimate that the average monthly cash benefits of participants for urban households is about 26.4 % of the average applicant's household pre-program expenditure.

In particular, after self-report information was collected in the attention modules, applicants were informed that they would receive a household visit. This rule may have given some advantage information to some individuals. For example, qualitative evidence shows that people behave strategically about what to say and what to hide during interviews to increase the chances of entering to the program (Escobar Latapí and González de la Rocha, 2005); and (2) it is assumed that the interviewers do their job properly and have the ability to verify the information inside the home. Martinelli and Parker (2009) recognize that some goods (such as cars, trucks, phones, and video recorders) are potentially difficult to verify by the enumerators.

This paper analyzes the effect of disappearing the incentive to participate in PROGRESA on the quality of information regarding assets. To achieve this goal, I use a study that analyzes the effects of psychological variables on social mobility. This study has the advantage that the information was collected by a private University, but not by the PROGRESA program. This eliminates partially the incentive to subreporting indicated by Martinelli and Parker (2009). Yet, this strategy presents the limitation that interviewers were not able to enter to the houses and verify the information.[8] Given this limitation, the strategy to verify the quality of the information was to ask separately to the wives and husbands. By removing the incentive to participate in PROGRESA, I expect that the information reported by the spouses coincide. And, these cases with disagreement in the information reported are random and not systematic.

The survey is composed of four parts in the following order: (1) cognitive test;

[8]Since the survey was not collected by the PROGRESA program.

(2) psychological tests; (3) socioeconomic aspects; and (4) childhood. The questions about assets are part of module (3). The question regarding possession of assets is as follows: "Is there a (name of the asset) in this home?" The 18 assets on which they were asked were television, photographic camera, music device, sofa, washing machine, gas stove, refrigerator, landline, bicycle, automobile, farm animals, other land (apart from home), machinery or work equipment, apartment or room for rent, motorcycle, savings, local business, and canoe or boat. For the sample design, it was used the list of 5 million households enrolled in the program on May 2009. From the 5 million households, localities with fewer than 45 households were excluded. Thus, the list was reduced to 2.4 million households. From this list, a probabilistic survey of 1,960 households was selected: 850 households in rural and 1,110 in urban areas (Palomar, 2012). From the 1,960 households, 960 households were randomly selected to collect information for the wives and husbands.[9] The survey was collected between October and December of 2010.

Table 1, column 1, shows the information reported by husbands and column 2 shows what is reported by wives. There are no important discrepancies when comparing columns 1 and 2. For example, 42.4% of husbands reported the possession of a washing machine in their houses, while this percentage is 43.3% for wives. This result suggests that eliminating the incentive of participating in PROGRESA improves the quality of data regarding assets. Column 3 presents the percentage of cases when the information provided by husbands did not coincide with the information provided by wives. This suggests problems with the data reported. For example, in the case of having a refrigerator, the information provided by husbands

[9]If the respondent was a widow, a single mother, or the husband works outside the locality, that house was replaced with another from the selected sample of 1,960 households.

did not match the information provided by wives in 21.5% of the households. In particular, in 9.6% of the households, the husband reported having a refrigerator and the wife did not (see column 4). And in 11.9% of the households, the husband reported not having a refrigerator and the wife reported having one (see column 5).

From a methodological perspective, the important question is to know whether the disagreement observed in the information reported by the spouses is random or not. It is possible that individuals who from the beginning send signals of having problems to answer the survey, they will not report precise information in the rest of the survey. Answering a survey requires some effort. To analyze this hypothesis, I use the non-answers to the first module of the survey that measures cognitive abilities using a Raven test.[10]

Table 2 shows that, on average, there are 2.62 items in which the information reported by the spouses does not match within the households. It is observed that only in 14.2% of households does the information reported by the spouses coincide completely. In the rest of the homes the disagreement in the reported information can go from one item to a maximum of 12 items. Table 2 also presents information on the non-response of the Raven test for wives and husbands. The Raven test includes 12 questions. On average, husbands did not answer 0.30 and wives 0.20 of the questions. It is observed that 91.64% of husbands answered all the questions and in the case of wives this percentage is 94.46 %. The non-response number was from 0 to 12 questions from both wives and husbands.

[10]The Raven test is designed to measure the non-verbal, abstract, and cognitive functioning. It includes a matrix of geometric designs, with one piece missing. The interviewed choose one diagram from a set of eight answers. The Raven test used in this survey has 12 questions and it was adopted to the Mexican case by Palomar (2012).

Table 2 presents information regarding other variables that I will use as controls. In the case of age, the husbands are relatively older than wives, 48.7 and 44.8 years old respectively. About education, 64% percent of the husbands can read and write. This percentage is a little higher for the case of wives (68%). Regarding speaking an indigenous language, it is not observed an important difference (5% for both wives and husbands). I also include information for having a disability (motor, visual, or auditory). It is observed that 7% of the husbands and 6% of the wives have a disability. Another variable that is included as a control is living in a free union. The type of marital arrangement possibly affects the exchange of information within the household. It is observed that 21% of households report living in a free union.

Another variable used as a control is the occurrence of a natural disaster during the 12 months before the interview. The data used to measure natural disasters came from the National Center for the Prevention of Disasters (CENAPRED). The information is classified by type of disaster (hydrometeorological, earthquakes, droughts, and others) for all municipalities in the country. Individuals who suffer a natural disaster can be more aware of the assets they lost and have a better measure of them. It is observed that 15% of the households analyzed suffered some type of natural disaster in the 12 months before the survey.

Finally, I use controls related to psychological characteristics of the individuals. In particular, I include self-esteem, self-control, and stress. It is expected that stressed individuals may have difficulties in reporting the information. Individuals

with higher self-esteem are expected to be less susceptible of being affected by "social desirability" and report more precise information. Finally, in the case of self-control, there is evidence that individuals with low levels of self-control tend to have a deviant behavior (Vazsonyi and Jiskrova, 2018). Thus, it is expected that they report less accurate information.

The self-esteem questions are based on Rosenberg (1965); the self-control questions are based on the Self-Regulation Questionnaire of Brown et al. (1999); and the stress questions are based on the Perceived Stress Questionnaire of Levenstein et al. (1993). These tests were adapted to the Mexican context by Palomar (2012). Principal components were used to get a measurement of these variables. Then, these results were standardized to have a mean of zero and a standard deviation of one. Table 2 presents the results for wives and husbands. There are no differences between spouses regarding self-esteem. In the case of self-control, husbands report a higher level of self-control (.06) than wives (-.06). Finally, in the case of stress, husbands report less stress (-.08) than wives (.08).

# 4 Estimation Strategy

## 4.1 Identification Strategy

I analyze the effects of non-response data from a cognitive test on the differences in the assets reported by the wife and the husband. I will estimate the following regression:

$$Y_{ijh} = \beta_1 T_{ih} + \beta_2 T_{jh} \gamma_1 X_{ih} + \gamma_2 X_{jh} + \nu_{localities} + e_{ijh} \quad (1)$$

Where $Y_{ijh}$ is an index adding, at the level of house (h), the number of assets when there was a disagreement in the information reported between the husband (i) and the wife (j).[11] $T_{ih}$ and $T_{jh}$ represent non-response on the cognitive test for the husband and the wife, respectively. Both indices are standardized. $X_{ih}$ and $X_{jh}$ represent a vector of control variables for the husband and the wife. $\nu_{localities}$ represents fixed effects at the level of municipality. These fixed effects control for the team that collected the survey in that specific area. Finally, $e_{ijh}$ is an error term with mean zero. Standard errors are clustered at the municipality level. The coefficients of interest are $\beta_1$ and $\beta_2$. They represent the effects of non-response on the disagreement on the answers regarding assets.

An important challenge for this specification is the potential presence of omitted variable bias. In particular, non-response in the cognitive test may be correlated with other psychological variables not presented in the data. If such variables correlate with the outcome of interest, then they are in the error term e and their correlation with T will generate bias in the estimated impacts of the variables of interest. To check the robustness of these results, I use a bounding approach proposed by Altonji et al. (2005) and refined by Oster (2017). Altonji et al. (2005) observed that a common approach to evaluate robustness to omitted variable bias is to include additional control variables on the right hand side of the regression. If such additions do not affect the coefficient of interest, then this coefficient can be

[11] In particular, the absolute value was taken when there is a disagreement between the information reported by the spouses. These values are added in and index, and then this index is standardized.

considered to be unlikely biased. This strategy implicitly assumes that selection on observables is informative about selection on unobservables. Oster points out that it is not only necessary to add controls, but to observe the movements in the R-squared. Oster formalizes this idea, and provides conditions for bounds and identification. If the bounds exclude zero, then the results from the regressions can be considered to be robust to omitted variable bias.[12]

Finally, I will analyze the effects of the disagreement in the information reported on subjective well-being. To measure subjective well-being, I use satisfaction with life and health's perception. I estimate the following regression:

$$Y_i = \beta_1 D_{iih} + \beta_2 X_i + \nu_{localities} + e_i \tag{2}$$

[12]Oster shows that a consistent estimator of the parameter of interest can be obtained. Yet, it is a function of two parameters unknown by the econometrician: (1) the R-squared for a hypothetical model that contains both the observable and unobservable variables; and, (2) the proportion of selection of unobservables on observables. Oster defines $R_{max}$ as the overall R-squared that would be obtained from a regression of the dependent variable ($Y$) on the variables of interests (T), observables ($X$), and unobservables ($W$). Also, Oster defines $\delta$ to be a parameter that ensures the equality $\frac{Cov(T,W)}{Var(W)} = \delta \frac{Cov(T,X)}{Var(X)}$. This formalizes the idea that the size and sign of the relationship between T and $X$ provides information about the size and sign of the relationship between T and $W$. Oster argued that selection on unobservables should not be greater than selection on observables. Thus, the lower bound of $\delta$ is zero and the upper bound is one. To determine $R_{max}$, Oster tested the robustness of treatment parameters from randomized control studies published in top economic journals between 2008 and 2013. Oster uses $R_{max} = min\{\pi \tilde{R}, 1\}$ with various values of $\pi$ and $\tilde{R}$ being the R-squared of regressing Y on T and $X$. She found that only 20% of results were robust when $R_{max} = 1$ while using $R_{max} = 1.3\tilde{R}$ (or $\pi = 1.3$) reproduced 90% of randomized results.

Oster suggests that $\beta^*$ (the parameter of interest) be calculated for the following ranges of $\delta$: $0 \leq \delta \leq 1$. This allows one to construct the set $[\beta^*(\delta = 0), \beta^*(\delta = 1)]$ assuming $R_{max} = 1.3\tilde{R}$. If this set excludes zero, the results from the controlled regressions can be considered robust to omitted variable bias. In other words, the results indicate that $\beta^* \neq 0$. An alternative value for $R_{max}$ is given by González and Miguel (2015), who used $R_{max} = \tilde{R} + (\tilde{R} - R^0)$, where $R^0$ is the R-squared when regressing Y on T without controls. In addition to the $R_{max}$ proposed above, I will use a conservative $R_{max} = 1$.

Where $Y_i$ is a measure of subjective well-being for individual i; $D_{iih}$ is an index adding the number of assets when there was disagreement in the information reported by the spouses; and $X_i$ is a group of controls. The controls are age, ability to read and write, speaking and indigenous language, and having a disability (motor, visual, or auditory). I also control for living in a free union, suffered a natural disaster in the last 12 months, and living in a rural area. $\nu_{localities}$ represents fixed effects at the level of municipality and $e_i$ is an error term with mean zero. Standard errors are clustered at the municipality level.

A problem with this specification is a potential reverse causality from subjective well-being to disagreement in the information reported. A widely used alternative to identify causal relationships is the use of external instruments. Yet, finding an appropriate instrument is often difficult in practice. Another way of dealing with this endogeneity problem has been proposed by Lewbel (2012). Lewbel (2012) suggests an instrumental variable called identification through heteroskedasticity. In particular, he proposes to exploit the correlation between exogenous variables and heteroscedasticity of model disturbances to achieve identification without imposing any exclusion restrictions. Following Lewbel, one can model the reverse effect of well-being on disagreement in the information reported as:

$$D_{ijh} = \gamma_1 Y_i + \gamma_2 X_i + \nu_{localities} + \xi_i \tag{3}$$

Where the variables $D_{ijh}$, $Y_i$, and $X_i$ are as defined in Equation (2) and $\xi_i$ is the error term. The heteroscedasticity-based identification strategy assumes the

existence of heteroscedasticity in $\xi_i$ (and as a consequence on $D_{ijh}$ ). In particular, it is assumed that: $cov(X_i,\xi_i^2) \neq 0$. Lewbel suggest using $[X_i - E(X_i)]\hat{\xi}_i$ as an instrument for $D_{ijh}$ in estimating (2). Where $\hat{\xi}_i$ is the predicted residuals obtained by estimating equation (3) excluding $Y_i$ on the right-hand side. Finally, Lewbel points out that the condition $cov(X_i,\xi_i^2) \neq 0$ need to hold only for a subset $z_i$ of the vector $X_i$. More detailed explanations can be found in Lewbel (2012).

# 5 Results

## 5.1 Principal Results

Table 3 column 1 presents the effects of non-reponse in a cognitive test on differences in assets reported by the spouses. I control for age, ability to read and write, speaking and indigenous language, and having a disability for the wife and the husband. The results show that a one standard deviation increase in the number of non-response on the cognitive test by husbands increase by .10 standard deviations a standardized index regarding differences in assets reported by the couple. There is no evidence that non-response of the cognitive tests by wives explain disagreements in the information reported. Column 2 incorporates dummy variables for living in a free union and suffering a natural disaster in 2010. Column 3 incorporates municipality fixed effects. The coefficient associated with non-response by husbands continues being statistically significant. Although, a slight decrease is observed.[13]

[13]Other interest results are the following: (1) it is not observed that age or education explain the disagreements in the information reported; (2) when a wife speaks an indigenous language

## 5.2 Robustness Checks

It is possible that the coefficient associated to non-response of the husband is affected by omitted variable bias. Table 4 presents results using Oster's methodology to analyze the robustness of this result. Panel A presents the results under the assumption that $0 \leq \delta \leq 1$, i.e. assuming that the relationship between the variable of interest and the (aggregated) controls has the same sign as the relationship between the variable of interest and the (aggregated) unobservables. Column 1 estimates bounds using the value of the $R_{max} = 0.28$ proposed by Oster (2017), which yields a very tight bounds estimate of [0.085, 0.089]. To check the robustness of this estimate of the bounds, I also estimate bounds using the $R_{max} = 0.43$ proposed by González and Miguel (2015) in Column 2. The bounding estimated is: [0.085, 0.097]. To further check the robustness of the results, I use the extreme value that $R_{max} = 1$, which yields a bounding estimate of [0.085, 0.131] in Column 3. Panel B presents the results when $-1 \leq \delta \leq 0$. The case $-1 \leq \delta \leq 0$ assumes that the relationship between T and the (aggregated) controls has different sign than the relationship between T and (aggregated) unobservables. Using the $R_{max} = 0.28$ proposed by Oster, the bounding estimated is: [0.081, 0.085]. Using the $R_{max} = 0.43$ proposed by Gonzalez and Miguel, the bounding is: [0.072, 0.085].

decreases the disagreement in the information reported; (3) when a wife or a husband present a disability problems, it is observed a decrease in the disagreement on the information reported. This result is into some extent surprising. One potential explanation is that people with disability pass more time in the house. Thus, they can provide more precise information. Meyer et al. (2018) find evidence of disability on predicting misreporting on participation in a social program; (4) I do not find evidence that cohabiting affected the disagreement in the information reported; (5) I find evidence that households that were affected by a natural disaster reduce the problem of disagreement; and (6) finally, I observe that living in a rural area predicts disagreement in the information reported.

Finally, using a conservative $R_{max} = 1$, the bound is: [0.038, 0.085]. To sum up, the effect of number of items not answered in the cognitive test by husbands is robust to omitted variable bias when using Oster's methodology.

Other variables that can affect the results may be related to psychological aspects. To check the robustness of the results, I include the following controls: self-esteem, self-control, and stress. There are two aspects that should be noticed: (1) the incorporation of these controls will reduce the number of observations due to missing values; and (2) these variables could be mechanisms through which non-response affects the disagreement in the information reported. Particularly, this may be the case of stress. The fact of retrieving a cognitive test at the beginning of the survey could generate stress in the individuals. And, as a consequence, these individuals will report less accurate information. Table 5 presents the results controlling for self-esteem (column 1), self-control (column 2), and stress (column 3). The coefficient associated with number of non-responses in the cognitive test by husbands continues being statistically significant. None of the controls regarding psychological variables are statistically significant, with the exception of husband's self-esteem. In particular, there is a negative relationship between husband's self-esteem and disagreement in the information reported by the couple. This result reflects the hypothesis that people with better self-esteem manage better the social pressure related to what is socially desirable.[14]

I also analyze to what extent the observed result changes by the type of asset analyzed. One possibility is that individuals pay more attention to large assets

[14]Yet, it is not clear why we observe only this effect for husbands. On average, there is no significant difference in the self-esteem of wives and husbands (see Table 2).

than small ones. If this is true, it is expected that the non-response by men predict disagreements on small goods and not on large ones. There are two limitations to prove this possibility: (1) I do not know with exactitude the size of the assets; and (2) it is debatable what size is considered large or small. Considering these limitations, I classify as large assets: sofa, washing machine, gas stove, refrigerator, bicycle, automobile, farm animals, land (apart from home), machinery or work equipment, apartment or room for rent, motorcycle, local business, and canoe or boat. And, as small assets: television, photographic camera, music device, and landline. The results are presented in Table 6. It is observed that the coefficient associated with non-response by men continues being significant regardless the classification of assets.

Finally, I analyze the assets by productivity. It is possible that husbands report productive assets more appropriately because they are more familiarized with them. The survey does not establish information about whether these assets are used for productive purposes or not. So, I assume as productive assets the following: machinery or work equipment, farm animals, local business, apartment or room for rent, other land (apart from home), and savings. And, as non-productive goods: television, photographic camera, music device, sofa, washing machine, gas stove, refrigerator, landline, bicycle, automobile, motorcycle, and canoe or boat. The results are presented in Table 6. Column 3 represents productive goods and Column 4 non-productive goods. The result shows that non-response by husbands impacts the index of non-productive goods, but not the productive ones. This result suggests that husbands make an effort to report in a more precise way the productive assets than the assets within the house.

## 5.3 Effects of Disagreements of Information on Subjective Well-Being and Classification of Households in Poverty

Table 7 presents a linear regression model (OLS regression) of disagreement in the information reported on wife's life satisfaction (column 1), husband's life satisfaction (column 2), wife's perception of health status (column 3), and husband's perception of health status (column 4). The results show no effects of disagreement in the information reported on subjective well-being. The only exception is wife's life satisfaction. In particular, it is observed that one standard deviation increase on disagreement will decrease wife's life satisfaction on 0.089 standards deviation. Yet, this result can be biased as a consequence of omitted variables and reverse causality. Table 8 presents the results using an instrumental variable constructed through heteroscedasticity following Lewbel (2012). Using this strategy, there is no evidence that disagreement on the information reported affects wife's satisfaction with life.

One of the principal use of information about assets is the generation of proxy means tests to identify families under the condition of poverty. Does the differences in the information reported between spouses have consequences for poverty identification? To answer this question I use the Progress out of Poverty Index (PPI). This is an index managed by Innovations for Poverty Action to identify families on poverty. It has been developed for more than 45 countries. I use these measure because it is transparent in the sense that the variables used for its construction

are public Schreiner (2017). The index uses 11 socioeconomic indicators[15] to estimate the likelihood that a household has consumption below a given poverty line.

From the data, it is possible to recover 6 out of the socioeconomic indicators proposed by the PPI[16]. Regarding the other 5 items, I decided to present the results for two cases: (1) I give the value of zero (not having the item) for the wife and for the husband. This increases the probability of the households being classified as poor; and (2) I give the maximum value per item for the wife and for the husband. This decreases the probability of the households being classified as poor. Then I analyze how good was this measure for targeting families living on poverty.[17] Table 9 Panel A presents the results for case (1). The results show that there are differences on the targeting depending of who answer the survey. For example, for 10.1% of the cases the household will be classified as non-poor if asked to the husband, but as a poor if asked to the wife. In a similar way, for 8.1% of the cases a household will be classified as poor if asked to the husband, but as a non-poor if asked to the wife. Panel B presents the results for case (2). In this case, it is observed that 3.7% of the households will be classified as non-poor if asked to the husband, but as poor if asked to the wife. In addition, for 4.0% of the cases a household will be classified as poor if asked to the husband, but as non-poor if asked to the wife.

[15]The items used are: number of household members with 17-years old or younger, education by the male head/ spouse, material of the floor, having kitchen sink for washing dishes, gas stove or microwave, piped water, washing machine, number of fans, car, computer, and mobile phone

[16]I use members with 12-years old or younger, education by the male head/ spouse, material of the floor, microwave, washing machine, and having a car

[17]The PPI goes from 0 points (higher probability of being poor) to 100 (lower probability of being poor). I assume that an agency incorporates a family when it has a score of 34 or less. This guarantees a probability of 72.9% that the household is poor.

# 6 Summary and Concluding Remarks

In this paper, I analyze how reliable is the information regarding assets. I use a unique data that asks the same questions to the wife and to the husband participating in the Mexican social program PROGRESA. I find important discrepancies in the information reported between the spouses. These discrepancies are partially explained by non-response to a cognitive test applied at the beginning of the interview. This result is in line with a literature that put emphasis on the roll of cognitive process when answering a survey (Bound et al., 2001). Using a bounding methodology proposed by Oster (2017), the result is robust to a problem of omitted variable bias.

Then, I explore the effects of disagreement on information reported on subjective well-being. To measure subjective well-being, I use satisfaction with life and health's perception. I find evidence that disagreement on information reported is correlated with wife's satisfaction with life. Yet, when using an instrumental variable strategy proposed by Lewbel (2012), I do not find a causal effect. Finally, I analyze how disagreement on the information reported affects the classification of households living in poverty. In particular, I use the Progress out of Poverty Index (PPI) which has been implemented in more than 45 countries. Using this index, I find evidence of important problems of misclassification. For example, 8.1% of the households will be classified as poor if asked to the husband, but as a non-poor if asked to the wife.

Practitioners need to be careful when using data regarding assets. For example, when using data to identify individuals living in poverty, policy makers recognize that individuals have incentives to underreport income. As a consequence, they use variables such as the possession of assets to proxy the real income of the households. It is assumed that these variables are less susceptible to misreporting. Yet, this paper presents evidence that contradicts this assumption.

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# 7 Appendix

Table 1: Assets' Descriptive Statistics

| | Husband's report possession of (%): | Wife's report possession of (%): | Percentage that do not match (%) | Husband: Yes Wife: No | Husband: No Wife: Yes |
|---|---|---|---|---|---|
| Music device | 59.6 | 57.8 | 32.6 | 17.2 | 15.4 |
| Bicycle | 42.6 | 36.9 | 30.1 | 18.0 | 12.1 |
| Farm animals | 30.0 | 30.3 | 25.8 | 12.8 | 13.0 |
| Washing machine | 42.4 | 43.3 | 24.0 | 11.6 | 12.4 |
| Gas stove | 19.9 | 22.0 | 22.8 | 10.4 | 12.4 |
| Refrigerator | 63.2 | 65.5 | 21.5 | 9.6 | 11.9 |
| Sofa | 23.7 | 23.5 | 19.3 | 9.7 | 9.6 |
| Landline | 15.8 | 17.1 | 14.0 | 6.3 | 7.7 |
| Automobile | 18.9 | 15.9 | 13.5 | 8.2 | 5.3 |
| Photographic camera | 8.5 | 6.5 | 10.9 | 6.4 | 4.5 |
| Other land (apart from home) | 8.1 | 6.0 | 10.5 | 6.3 | 4.2 |
| Television | 91.2 | 90.7 | 8.5 | 4.5 | 4.0 |
| Machinery or work equipment | 5.6 | 3.2 | 7.5 | 5.0 | 2.5 |
| House, apartment or room to rent | 4.4 | 3.6 | 7.0 | 3.9 | 3.1 |
| Motorcycle | 4.9 | 5.4 | 5.8 | 2.6 | 3.2 |
| Savings | 1.8 | 3.6 | 4.8 | 1.5 | 3.3 |
| Local business | 2.6 | 2.9 | 3.7 | 1.7 | 2.0 |
| Canoe or boat | 1.9 | 1.7 | 2.2 | 1.3 | 0.9 |

Source: Survey of Resilience and Social Mobility (Progresa-Oportunidades Program)

Table 2: Summary Statistics

| | N | Mean | SD | Min | Max |
|---|---|---|---|---|---|
| Number of assets with mismatch | 957 | 2.62 | 1.98 | 0 | 12 |
| Raven missign values (husband) | 957 | 0.30 | 1.50 | 0 | 12 |
| Raven missign values (wife) | 957 | 0.20 | 1.28 | 0 | 12 |
| Age of husband | 957 | 48.71 | 13.03 | 19 | 107 |
| Age of wife | 954 | 44.81 | 12.19 | 19 | 99 |
| Can read and write (husband): 1 Yes 0 No | 956 | 0.64 | 0.48 | 0 | 1 |
| Can read and write (wife): 1 Yes 0 No | 956 | 0.68 | 0.47 | 0 | 1 |
| Speak some indigenous language (husband): 1 Yes 0 No | 952 | 0.05 | 0.21 | 0 | 1 |
| Speak some indigenous language (wife): 1 Yes 0 No | 954 | 0.05 | 0.21 | 0 | 1 |
| Motor, visual, or auditory disability (husband): 1 Yes 0 No | 957 | 0.07 | 0.26 | 0 | 1 |
| Motor, visual, or auditory disability (wife): 1 Yes 0 No | 957 | 0.06 | 0.23 | 0 | 1 |
| Free union: 1 Yes 0 No | 954 | 0.21 | 0.41 | 0 | 1 |
| Suffered a natural disaster in 2010: 1 Yes 0 No | 957 | 0.15 | 0.36 | 0 | 1 |
| Rural:1 Yes 0 No | 957 | 0.48 | 0.50 | 0 | 1 |
| Satisfied with life (husband): 1 to 10 | 954 | 8.05 | 2.09 | 1 | 10 |
| Satisfied with life (wife): 1 to 10 | 954 | 8.14 | 2.09 | 1 | 10 |
| Perception of health status (husband): 1 (very bad) to 5 (very good) | 950 | 3.39 | 0.70 | 1 | 5 |
| Perception of health status (wife): 1 (very bad) to 5 (very good) | 949 | 3.28 | 0.61 | 1 | 5 |
| Self-esteem (husband) | 930 | 0.01 | 1.01 | -4.57 | 0.95 |
| Self-esteem (wife) | 946 | -0.01 | 0.99 | -4.26 | 0.95 |
| Self-control (husband) | 931 | 0.06 | 1.01 | -3.82 | 1.26 |
| Self-control (wife) | 934 | -0.06 | 0.99 | -4.25 | 1.26 |
| Stress (husband) | 920 | -0.08 | 1.02 | -1.88 | 2.43 |
| Stress(wife) | 925 | 0.08 | 0.97 | -1.88 | 2.43 |

Source: Survey of Resilience and Social Mobility (Progresa-Oportunidades Program)

Table 3: OLS Estimates: Effects of Raven Missing Values on the Index of Differences in Assets

| | (1) | (2) | (3) |
|---|---|---|---|
| Dependent variable: Number of assets with mismatch (standardized) | | | |
| Husband's Raven missign values (standardized) | 0.105** | 0.094** | 0.085** |
| | (0.041) | (0.039) | (0.036) |
| Wife's Raven missign values (standardized) | 0.002 | -0.002 | -0.041 |
| | (0.021) | (0.021) | (0.045) |
| Age of husband | -0.005 | -0.004 | -0.001 |
| | (0.004) | (0.004) | (0.004) |
| Age of wife | 0.012*** | 0.010** | 0.008 |
| | (0.004) | (0.004) | (0.005) |
| Can read and write (husband): 1 Yes 0 No | 0.157* | 0.153* | 0.123 |
| | (0.079) | (0.081) | (0.083) |
| Can read and write (wife): 1 Yes 0 No | 0.066 | 0.089 | 0.131 |
| | (0.095) | (0.085) | (0.087) |
| Speak some indigenous language (husband): 1 Yes 0 No | -0.295* | -0.191 | -0.061 |
| | (0.171) | (0.167) | (0.168) |
| Speak some indigenous language (wife): 1 Yes 0 No | -0.294** | -0.287** | -0.251* |
| | (0.119) | (0.114) | (0.144) |
| Motor, visual, or auditory disability (husband): 1 Yes 0 No | -0.283** | -0.185 | -0.202* |
| | (0.127) | (0.113) | (0.111) |
| Motor, visual, or auditory disability (wife): 1 Yes 0 No | -0.342*** | -0.349*** | -0.303** |
| | (0.123) | (0.128) | (0.138) |
| Free union: 1 Yes 0 No | | -0.017 | -0.060 |
| | | (0.075) | (0.086) |
| Suffered a natural disaster in 2010: 1 Yes 0 No | | -0.443*** | -0.136** |
| | | (0.112) | (0.064) |
| Rural:1 Yes 0 No | | 0.295*** | -0.261** |
| | | (0.097) | (0.114) |
| Municipality FE | No | No | Yes |
| $R^2$ | 0.04 | 0.09 | 0.22 |
| Observations | 945 | 942 | 942 |

Note: Clustered standard errors displayed in parenthesis at the municipality level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Bounding Methodology: Effects of Raven Missing Values on the Index of Differences in Assets

| | (1) | (2) | (3) |
|---|---|---|---|
| | Oster (2016) | Gonzalez and Miguel (2015) | ($R_{max} = 1$) |
| | **Panel A** : | $0 \leq \delta \leq 1$ | |
| **Husband's Raven missign values (standardized)** | [0.085, 0.089] | [0.085, 0.097] | [0.085, 0.131] |
| | **Panel B** : | $-1 \leq \delta \leq 0$ | |
| **Husband's Raven missign values (standardized)** | [0.081, 0.085] | [0.072, 0.085] | [0.038, 0.085] |

Note: Intervals in brackets are the bounds. Other controls include for the wife and the husband: age, can read and write, speak indigenous language, and disabiliy (motor, cisual, or auditory). In addtion: free union, living in a municipality suffering a natural disaster in 2010, rural, and municipality fixed effects.

Table 5: Robustness checks: Effects of Raven Missing Values on the Index of Differences in Assets by Type

| | (1) | (2) | (3) | |
|---|---|---|---|---|
| Dependent variable: Number of assets with mismatch (standardized) | | | | |
| Husband's Raven missign values (standardized) | 0.085** | 0.084** | 0.082** | |
| | (0.038) | (0.037) | (0.040) | |
| Wife's Raven missign values (standardized) | -0.039 | -0.037 | -0.036 | |
| | (0.045) | (0.051) | (0.042) | |
| Self-esteem (husband) | -0.076** | | | |
| | (0.038) | | | |
| Self-esteem (wife) | 0.008 | | | |
| | (0.035) | | | |
| Self-control (husband) | | -0.031 | | |
| | | (0.042) | | |
| Self-control (wife) | | -0.003 | | |
| | | (0.032) | | |
| Stress (husband) | | | 0.042 | |
| | | | (0.036) | |
| Stress(wife) | | | 0.020 | |
| | | | (0.033) | |
| Age of husband | -0.001 | -0.001 | -0.000 | |
| | (0.004) | (0.004) | (0.005) | |
| Age of wife | 0.008 | 0.008* | 0.006 | |
| | (0.005) | (0.005) | (0.005) | |
| Can read and write (husband): 1 Yes 0 No | 0.152* | 0.133 | 0.116 | |
| | (0.086) | (0.090) | (0.090) | |
| Can read and write (wife): 1 Yes 0 No | 0.137 | 0.144 | 0.146 | |
| | (0.094) | (0.094) | (0.094) | |
| Speak some indigenous language (husband): 1 Yes 0 No | -0.047 | -0.088 | -0.035 | |
| | (0.171) | (0.165) | (0.181) | |
| Speak some indigenous language (wife): 1 Yes 0 No | -0.214 | -0.238* | -0.290* | |
| | (0.137) | (0.138) | (0.160) | |
| Motor, visual, or auditory disability (husband): 1 Yes 0 No | -0.225** | -0.198* | -0.262** | |
| | (0.110) | (0.118) | (0.105) | |
| Motor, visual, or auditory disability (wife): 1 Yes 0 No | -0.296** | -0.333** | -0.314** | |
| | (0.138) | (0.144) | (0.146) | |
| Free union: 1 Yes 0 No | -0.034 | -0.040 | -0.027 | |
| | (0.088) | (0.089) | (0.091) | |
| Suffered a natural disaster in 2010: 1 Yes 0 No | -0.160** | -0.078 | -0.313*** | |
| | (0.068) | (0.071) | (0.090) | |
| Rural:1 Yes 0 No | -0.286** | -0.265** | -0.288*** | |
| | (0.122) | (0.120) | (0.070) | |
| Municipality FE | Yes | Yes | Yes | Yes |
| $R^2$ | 0.22 | 0.22 | 0.21 | |
| Observations | 907 | 897 | 880 | |

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Effects of Raven Missing Values on the Index of Differences in Assets by Type

| | (1) Large Assets | (2) Small Assets | (3) Prodctive Assets | (4) Non-productive Assets |
|---|---|---|---|---|
| Husband's Raven missign values (standardized) | 0.079** | 0.068* | 0.069 | 0.067** |
| | (0.036) | (0.034) | (0.048) | (0.026) |
| Wife's Raven missign values (standardized) | -0.020 | -0.062 | -0.027 | -0.036 |
| | (0.035) | (0.040) | (0.056) | (0.036) |
| Age of husband | -0.005 | 0.005 | 0.007 | -0.004 |
| | (0.004) | (0.006) | (0.004) | (0.005) |
| Age of wife | 0.008* | 0.003 | 0.003 | 0.008 |
| | (0.005) | (0.006) | (0.005) | (0.005) |
| Can read and write (husband): 1 Yes 0 No | 0.080 | 0.110 | 0.109 | 0.093 |
| | (0.079) | (0.077) | (0.080) | (0.081) |
| Can read and write (wife): 1 Yes 0 No | 0.122 | 0.113 | 0.097 | 0.108 |
| | (0.076) | (0.103) | (0.072) | (0.091) |
| Speak some indigenous language (husband): 1 Yes 0 No | -0.067 | -0.031 | -0.159 | 0.005 |
| | (0.152) | (0.138) | (0.154) | (0.163) |
| Speak some indigenous language (wife): 1 Yes 0 No | -0.300** | -0.087 | -0.067 | -0.263* |
| | (0.142) | (0.149) | (0.188) | (0.152) |
| Motor, visual, or auditory disability (husband): 1 Yes 0 No | -0.111 | -0.235** | -0.197* | -0.144 |
| | (0.116) | (0.111) | (0.099) | (0.118) |
| Motor, visual, or auditory disability (wife): 1 Yes 0 No | -0.302** | -0.195 | -0.217* | -0.253* |
| | (0.135) | (0.148) | (0.121) | (0.150) |
| Free union: 1 Yes 0 No | -0.064 | -0.038 | -0.080 | -0.032 |
| | (0.094) | (0.076) | (0.075) | (0.089) |
| Suffered a natural disaster in 2010: 1 Yes 0 No | -0.244*** | 0.104* | 0.114* | -0.216*** |
| | (0.062) | (0.060) | (0.060) | (0.065) |
| Rural:1 Yes 0 No | -0.051 | -0.466*** | 0.108** | -0.360*** |
| | (0.085) | (0.150) | (0.054) | (0.121) |
| Locality FE | Yes | Yes | Yes | Yes |
| Other controls | Yes | Yes | Yes | Yes |
| $R^2$ | 0.22 | 0.14 | 0.18 | 0.18 |
| Observations | 942 | 942 | 942 | 942 |

Note: Clustered standard errors displayed in parenthesis at the municipality level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Correlations of Assets Mismatch on Wife and Husband's Well-being

| | Life Satisfaction Woman (1) | Life Satisfaction Men (2) | Health Status Woman (3) | Health Status Men (4) |
|---|---|---|---|---|
| Number of assets with mismatch (standardized) | -0.089*** | 0.000 | -0.051 | 0.025 |
| | (0.033) | (0.033) | (0.040) | (0.023) |
| Age of wife | -0.002 | | -0.018*** | |
| | (0.003) | | (0.003) | |
| Can read and write (wife): 1 Yes 0 No | -0.015 | | -0.126 | |
| | (0.107) | | (0.086) | |
| Speak some indigenous language (wife): 1 Yes 0 No | -0.014 | | -0.179 | |
| | (0.157) | | (0.176) | |
| Motor, visual, or auditory disability (wife): 1 Yes 0 No | -0.105 | | -0.101 | |
| | (0.167) | | (0.154) | |
| Age of husband | | -0.004 | | -0.017*** |
| | | (0.003) | | (0.002) |
| Can read and write (husband): 1 Yes 0 No | | 0.102 | | -0.121* |
| | | (0.101) | | (0.062) |
| Speak some indigenous language (husband): 1 Yes 0 No | | -0.148 | | -0.015 |
| | | (0.135) | | (0.094) |
| Motor, visual, or auditory disability (husband): 1 Yes 0 No | | -0.016 | | -0.248** |
| | | (0.129) | | (0.106) |
| Free union: 1 Yes 0 No | 0.003 | -0.008 | -0.036 | 0.014 |
| | (0.086) | (0.088) | (0.083) | (0.060) |
| Suffered a natural disaster in 2010: 1 Yes 0 No | 0.110** | 0.202*** | 0.227*** | -0.142*** |
| | (0.046) | (0.046) | (0.044) | (0.035) |
| Rural:1 Yes 0 No | -0.543*** | -0.010 | -0.028 | -0.234** |
| | (0.131) | (0.236) | (0.093) | (0.116) |
| Municipality FE | Yes | Yes | Yes | Yes |
| $R^2$ | 0.12 | 0.14 | 0.13 | 0.17 |
| Observations | 944 | 946 | 939 | 942 |

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Impact of Assets Mismatch on Wife and Husband's Well-being: Lewbel's Instrumental Variables

| | Life Satisfaction Woman (1) | Life Satisfaction Men (2) | Health Status Woman (3) | Health Status Men (4) |
|---|---|---|---|---|
| Number of assets with mismatch (standardized) | -0.029 | 0.185 | -0.047 | -0.116* |
| | (0.077) | (0.183) | (0.049) | (0.062) |
| Age of wife | -0.002 | | -0.011*** | |
| | (0.003) | | (0.002) | |
| Can read and write (wife): 1 Yes 0 No | -0.023 | | -0.074 | |
| | (0.102) | | (0.051) | |
| Speak some indigenous language (wife): 1 Yes 0 No | -0.000 | | -0.112 | |
| | (0.156) | | (0.102) | |
| Motor, visual, or auditory disability (wife): 1 Yes 0 No | -0.086 | | -0.066 | |
| | (0.158) | | (0.091) | |
| Age of husband | | -0.009 | | -0.016*** |
| | | (0.006) | | (0.002) |
| Can read and write (husband): 1 Yes 0 No | | 0.192 | | -0.103* |
| | | (0.198) | | (0.061) |
| Speak some indigenous language (husband): 1 Yes 0 No | | -0.299 | | -0.020 |
| | | (0.269) | | (0.099) |
| Motor, visual, or auditory disability (husband): 1 Yes 0 No | | 0.001 | | -0.275** |
| | | (0.252) | | (0.110) |
| Free union: 1 Yes 0 No | 0.007 | 0.000 | -0.023 | 0.003 |
| | (0.082) | (0.179) | (0.048) | (0.060) |
| Suffered a natural disaster in 2010: 1 Yes 0 No | -0.927*** | 1.350** | -0.490*** | -0.642*** |
| | (0.189) | (0.608) | (0.108) | (0.157) |
| Rural:1 Yes 0 No | -0.527*** | 0.029 | -0.021 | -0.273*** |
| | (0.128) | (0.484) | (0.054) | (0.105) |
| Municipality FE | Yes | Yes | Yes | Yes |
| $R^2$ | 0.12 | 0.14 | 0.13 | 0.14 |
| Observations | 944 | 946 | 939 | 942 |

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Classification of Poverty based on who Answer the Survey: Wife vs. Husband

**Panel A**

| | | Wife | |
|---|---|---|---|
| | | Poor | Non-poor |
| Husband | Poor | 9.7% | 8.1% |
| | Non-poor | 10.1% | 72.1% |

**Panel B**

| | | Wife | |
|---|---|---|---|
| | | Poor | Non-poor |
| Husband | Poor | 88.1% | 4.0% |
| | Non-poor | 3.7% | 4.2% |

The classification of poverty is estimated using the Progress out of Poverty Index (PPI). The index uses 11 socioeconomic indicators. It is possible to recover 6 out of the socioeconomic indicators. Regarding the other indicators, Panel A assumes value of zero (not having the item) for the wife and for the husband and Panel B assumes the maximum value per item for the wife and for the husband.