

**TITLE:** “Female Labor Supply and Intra-Household Bargaining Power”

**AUTHOR:** Francisca M. Antman, University of Colorado at Boulder

**CONTACT INFORMATION:** Department of Economics, University of Colorado at Boulder,  
256 UCB, Boulder, CO 80309. Phone: 303-492-8872. Fax: 303-492-8960 Email:  
francisca.antman@colorado.edu

**ABSTRACT:** This paper considers the relationship between work status and decision-making power of the head of household and his spouse. Consistent with the hypothesis that greater economic resources yield greater bargaining power, I find that the spouse of the head of household is more likely to be involved in decisions when she has been employed. Similarly, the head of household is less likely to be the sole decision-maker when his spouse works. Results using the survey responses of the head of household and his spouse are fairly similar, indicating that this relationship is robust to concerns about reporting biases.

**SESSION TITLE:** Family Structure and Intra-household Bargaining: Causes and Consequences

**CHAIR:** Erica Field (Duke University)

**DISCUSSANTS:** Santosh Anagol (University of Pennsylvania), Elizabeth Brainard (Brandeis University), Margaret McConnell (Harvard University), Nancy Qian (Yale University)

## “Female Labor Supply and Intra-Household Bargaining Power”

By Francisca M. Antman, University of Colorado at Boulder

A significant portion of the literature on intra-household allocations has been dedicated to testing the unitary model of household decision-making, that is, the theoretical assumption that the family can be treated as though it operates as a single decision-maker (Shelly Lundberg and Robert A. Pollak 1994). Studies in this area are now often set in developing countries and estimate the effects of increasing women’s relative economic resources within the household on variables such as expenditures or outcomes for children (Gustavo Bobonis 2009; Esther Duflo 2003; Duncan Thomas, 1994). The implied mechanism is that greater economic power yields greater bargaining power and thus allows individuals to steer allocations in their preferred direction. As long as the bargaining process is unobserved, however, a concrete link remains elusive. While evidence on these matters is becoming available in the form of surveys on household decision-making (Orazio Attanasio and Valerie Lechene 2002; Ryoko Morozumi 2011), thus far little is known about the effect of female employment on the explicit balance of power within households. This paper takes a first step toward closing that gap by investigating the relationship between female labor supply and explicit measures of intra-household decision-making power.

Specifically, I look at work status of the spouse of the head of household (hereafter “spouse”) and how this relates to the likelihood that the head alone is responsible for decisions involving major household expenditures as well as the likelihood that the spouse is involved in these decisions. By using data from the Mexican Family Life Survey (MXFLS), I am also able to compare the responses of household heads on these questions with those of their spouses,

thereby providing a more accurate view of actual household behavior. Of course, estimation of a causal effect of the spouse's employment on her influence over household decisions is riddled with potential endogeneity problems. First, there is the possibility that causality runs in the opposite direction and second, that families in which spouses have a greater say in household decision-making also have a greater propensity to send the spouse to work due to some omitted variable. Antman (2012) explores these questions by examining changes in employment over time and how this affects changes in the spouse's decision-making power. The results are consistent with the cross-sectional evidence presented here. Spouses that work outside the home are more likely to report that they are involved in household decisions and less likely to report that the head is the sole decision-maker. Responses from household heads agree, suggesting that female employment and intra-household bargaining power are indeed positively linked.

## I. Data and Descriptive Statistics

To explore these questions, I use data from the Mexican Family Life Survey (MXFLS), a two-wave representative panel survey which interviewed respondents in 2002 and again around 2005-2006.<sup>1</sup> The MXFLS collects detailed demographic, expenditure, and labor supply data for all members of the household. The survey is especially suited for this exercise in that it asks both the head of household and his spouse to identify who is responsible for making decisions regarding expenses and time allocation related to many aspects of household management. These areas range from food that is eaten at home, expenditures on children, support for relatives, and the method of contraception.<sup>2</sup> Here, I focus on decisions concerning large

---

<sup>1</sup> Documentation and data are available at <http://www.ennvih-mxfls.org/>.

<sup>2</sup> See Antman (2012) for the results on decision-making in other areas of household management.

expenditures for the home (e.g. refrigerator, car, furniture) as a critical area of household decision-making that is arguably less likely to be plagued by gender-specific cultural norms.

Table 1: Descriptive Statistics By Work Status of the Spouse of Head of Household

	Full Sample	Spouse worked <sup>a</sup>		
		No	Yes	
Head alone makes decision regarding large home expenditures (reported by head)	0.31 (0.46)	0.34 (0.47)	0.23 (0.42)	***
Head alone makes decision regarding large home expenditures (reported by spouse)	0.28 (0.45)	0.31 (0.46)	0.20 (0.40)	***
Spouse is involved in making decision regarding large home expenditures (reported by head)	0.63 (0.48)	0.60 (0.49)	0.72 (0.45)	***
Spouse is involved in making decision regarding large home expenditures (reported by spouse)	0.69 (0.46)	0.65 (0.48)	0.80 (0.40)	***
Head worked*	0.88 (0.32)	0.87 (0.33)	0.91 (0.29)	***
Head's education (years)	6.39 (4.31)	5.91 (4.14)	7.76 (4.47)	***
Spouse's education (years)	6.02 (4.01)	5.47 (3.75)	7.59 (4.32)	***
Head's age	45.99 (14.75)	47.00 (15.44)	43.08 (12.08)	***
Spouse's age	42.57 (13.99)	43.40 (14.79)	40.17 (11.03)	***
Head is male	0.98 (0.14)	0.99 (0.08)	0.94 (0.24)	***
Number of Observations	9019	6693	2326	

Standard deviations in parentheses below point estimates

\*\*\* significant at 1%

<sup>a</sup>During the last 12 months, did \_\_\_\_\_ work or develop any activity to help with household expenditure?

Respondents can report that any combination of the following people is responsible for making the decisions in this area: the respondent himself, his spouse, children, mother, father, brother, sister, in-laws, and grandparents. Based on these responses, I construct variables which indicate the head of household is reported to be solely responsible for the decision and indicators for whether the spouse is reported to be one of the decision-makers involved. The latter includes cases in which she is the sole decision-maker as well as cases in which she is reported to make decisions in conjunction with her partner and others. The availability of both head and spouse's answers to the questions regarding who holds the decision-making power allows me to compare responses for accuracy and thus limits the extent of reporting biases.

Table 1 reports summary statistics on the sample of 9019 household-period observations with non-missing values for all variables included in the regressions below pooled over both waves of the survey. Although spouses are allowed to differ in their responses regarding who holds the decision-making power, their responses appear to be quite similar, suggesting that these responses in fact paint a relatively accurate portrait of household behavior. About 31 percent of household heads report that they alone make decisions regarding major household expenditures and 28 percent of spouses agree. At the same time, 63 percent of household heads report that his spouse is involved in such decisions and 69 percent of spouses report that they are involved. Virtually all of households in the sample are headed by a man (98 percent), justifying the perception that the head of household is almost always male, and thus the spouse's employment is largely equivalent to female employment. Unsurprisingly, results throughout are very similar when limiting the sample to only male-headed households.

Table 1 also shows how these descriptive statistics differ in households where the spouse is reported to have worked in the last 12 months. This represents a significant distinction

because while 88 percent of household heads worked in the last 12 months, only 26 percent (2326/9019) of their spouses worked over the same period. Consistent with the bargaining power hypothesis, heads of households in which the spouse worked are less likely to report that they are solely responsible for the decisions (0.23 versus 0.34) and more likely to report that spouses are involved in making decisions (0.72 versus 0.60). Survey responses of spouses of household heads are very similar in this dimension, with spouses that work less likely to report that heads are solely responsible (0.20 versus 0.31) and more likely to report their own involvement in decisions (0.80 versus 0.65). These household are also younger, more educated, and slightly less likely to be headed by a man, just as one would expect with changing cultural norms surrounding women's work and intra-household decision-making. The highly statistically significant differences in these descriptive variables based on the spouse's work status, all of which might be correlated with both the decision-making environment and the likelihood that the spouse works, suggests that controlling for these characteristics will be important in the regressions below.

## II. Empirical Strategy

To assess the relationship between the spouse's work status and household decision-making, I run the following regressions:

$$(1) \text{HeadMakesDecision}_{it} = \beta_1 \text{SpouseWorked}_{it} + \mathbf{X}_{it}\gamma_1 + \varepsilon_{it}.$$

$$(2) \text{SpouseInvolvedInDecision}_{it} = \beta_2 \text{SpouseWorked}_{it} + \mathbf{X}_{it}\gamma_2 + \eta_{it}.$$

where  $\text{HeadMakesDecision}_{it}$  is a dummy variable equal to one if the head is reported to make decisions alone regarding large home expenditures and zero otherwise,  $\text{SpouseInvolvedInDecision}_{it}$  is a dummy variable equal to one if the spouse is reported to be

involved in making decisions regarding large home expenditures and zero otherwise, and  $SpouseWorked_{it}$  is an indicator variable for whether the spouse is reported to have worked or developed any activity to help with household expenditures during the last 12 months. The vector of covariates,  $\mathbf{X}_{it}$ , includes the following characteristics: an indicator variable for whether the head of household worked or developed any activity to help with household expenditures during the last 12 months, education in years for the head of household and his spouse, the age of the head of household and his spouse, an indicator for whether the head of household is male, and indicators for the year in which the survey took place.

Table 2: Who Makes Household Decisions Regarding Large Home Expenditures?  
OLS Regression Results, Linear Probability Model

	(1)	(2)	(3)	(4)
	Head alone <sup>1</sup>	Head alone <sup>2</sup>	Spouse involved <sup>1</sup>	Spouse involved <sup>2</sup>
Spouse worked <sup>3</sup>	-0.097 [0.011]***	-0.109 [0.011]***	0.096 [0.012]***	0.124 [0.011]***
Head worked <sup>3</sup>	0.063 [0.016]***	0.068 [0.016]***	-0.012 [0.018]	-0.013 [0.018]
Head's education (years)	0.004 [0.002]**	0.004 [0.002]**	-0.003 [0.002]	-0.003 [0.002]*
Spouse's education (years)	-0.008 [0.002]***	-0.008 [0.002]***	0.009 [0.002]***	0.009 [0.002]***
Head's age	0.001 [0.001]	-4.31E-06 [0.001]	-0.002 [0.001]*	-0.000237 [0.001]
Spouse's age	-0.002 [0.001]**	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]
Head is male	0.063 [0.030]**	0.089 [0.026]***	-0.082 [0.033]**	-0.121 [0.027]***
Observations	9019	9019	9019	9019

Robust standard errors, clustered at household level in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

<sup>1</sup>Reported by head

<sup>2</sup>Reported by spouse

<sup>3</sup>During the last 12 months, did \_\_\_\_\_ work or develop any activity to help with household expenditure?

Note: Indicators for survey year are also included

### III. Results

Table 2 reports the results from OLS estimation (linear probability model) on equations (1) and (2) using responses from the head of household (columns 1 and 3) and his spouse (columns 2 and 4) to construct the dependent variables.<sup>3</sup> Both sets of responses provide similar estimates of the relationship between the spouse's work status and household decision-making power. Columns 1 and 2 show that the spouse's employment is associated with a roughly ten percentage point decrease in the likelihood that the head of household makes the decision alone regarding large household expenditures, a result that is statistically significant at the one percent level. At the same time, columns 3 and 4 show that the spouse's employment is associated with a ten to twelve percentage point increase in the likelihood that spouses are involved in these decisions, which is also statistically significant at the one percent level. Taking the roughly 30 percent of households which report that the head of household is solely responsible for the decision and 60 to 70 percent of households that report that the spouse is involved in these decisions (Table 1) as a measure of the baseline probability of the dependent variable, it seems that these are sizable magnitudes indeed.

The remaining coefficients in the model are also consistent with the hypothesis that economic power and decision-making power are closely linked. Variables indicative of the strength of the economic power of the head of household are generally positively related to the

---

<sup>3</sup> Marginal effects from probit estimation (evaluated at the mean of  $\mathbf{X}_{it}$ ) are very similar in magnitude to the coefficient estimates reported here.

probability that the head of household will be the sole decision-maker and negatively related to the likelihood that the spouse will be involved in decision-making. For instance, the variable indicating the head worked is associated with a six percentage point increase in the likelihood that the head makes the decisions alone and the coefficient is statistically significant at the one percent level. The head's years of education is negatively related to the spouse's involvement in decision-making (coefficient -0.003), and statistically significant at the ten percent level. Likewise, variables indicating the strength of the economic power of the spouse have the opposite effects, being negatively related to the probability that the head of household is the sole decision-maker and positively related to the likelihood that the spouse is involved in the decision. For example, the spouse's years of education is associated with a statistically significant drop in the likelihood that the head is the sole decision-maker (coefficient -0.008) and a rise in the likelihood that the spouse is involved in the decisions (coefficient 0.009). Of course, education is not only an indicator of economic power due to the importance of the returns to education, but also an indicator of bargaining power more generally, and it is not possible to differentiate the two effects in the analysis here.

#### IV. Conclusion

The literature on intra-household allocations often links economic power of household members with allocations, expenditures, or outcomes, hypothesizing that those with greater economic power will have greater bargaining power and thus steer the allocation in their preferred direction. The missing link in this chain of causation, however, is the typically unobserved decision-making process within the household. This paper takes a first step toward closing that gap by examining household decision-making data and connecting it with the most widely available means of affecting relative economic resources within the household—spousal

employment. Consistent with the bargaining power hypothesis, the evidence presented here points to a positive relationship between work status and household decision-making power. Antman (2012) addresses whether this relationship is causal by exploiting variation in employment status and household decision-making power over time. The results indicate that there is a causal link between these important areas, suggesting that increasing economic opportunities for women can indeed have far-reaching effects within the home.

## References

- Antman, Francisca M. 2012. "Female Bargaining Power and Household Decision-Making." University of Colorado at Boulder Working Paper.
- Attanasio, Orazio and Valerie Lechene. 2002. "Tests of Income Pooling in Household Decisions." *Review of Economic Dynamics*, 5: 720-748.
- Bobonis, Gustavo. 2009. "Is the Allocation of Resources within the Household Efficient? New Evidence from a Randomized Experiment", *Journal of Political Economy*, 117 (3): 453–503.
- Duflo, Esther. 2003. "Grandmothers and Granddaughters: Old-Age Pensions and Intrahousehold Allocation in South Africa." *The World Bank Economic Review*, 17(1): 1-25.
- Lundberg, Shelly and Robert A. Pollak. "Noncooperative Bargaining Models of Marriage." *The American Economic Review*, 84(2): 132-137.
- Morozumi, Ryoko. "A Test of a Unitary Model on Labor Supply Using Data on Household Decision-Making Systems." *Applied Economics*, 44(33): 4291-4300.
- Thomas, Duncan. 1994. "Like Father, Like Son; Like Mother, Like Daughter: Parental Resources and Child Height." *The Journal of Human Resources*, 29(4): 950-988.