Gender and Value of Decision-making Within the Household: Experimental Evidence from Colombia

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October 22, 2022

Gender and Value of Decision-making.pdf

Abstract

Freedom of choice is a fundamental aspect of individuals' social, economic, and political lives, and it is considered the ultimate goal of development. However, one paradoxical aspect is that men are the primary decision-makers in many cultures at the household and community levels. We use a two-stage field experiment to examine whether men's and women's underlying motivations to exert agency differ. In the first stage, participants make a donation decision on an individual and a joint endowment. In the second stage, and without previous announcements, participants can delegate the decision to either a random device, their spouses, or a stranger. This stage allows us to identify whether men and women value agency equally. Similar to Neri and Rommeswinkel (2017), the treatment conditions vary the control individuals exert on others' payoff to disentangle the role of preferences for independence, power, or self-reliance as mechanisms explaining agency. We find gender differences regarding the preferences to keep the decision rights. Our findings imply that men strongly prefer freedom, while similar behaviour is not found in women paired with their spouses.

Keywords: Behavior, Gender, Welfare

JEL Classification: Q01, D60, I15, I31, J16, O13, R20, R52

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1 Introduction

The ability and freedom to make decisions is a fundamental dimension of individuals' social, economic, and political lives (Sen, 1999). Economists and policymakers have therefore worked to provide individuals, particularly the most marginalized, the opportunity to exert agency and meaningfully participate in economic decision-making. However, to successfully encourage individuals to make decisions, it is imperative to comprehend how the decision-making process occurs (Afzal et al., 2016). While traditionally, the economics literature has analyzed decisions for their instrumental value in achieving outcomes, more recently, studies have found that individuals also assign a positive intrinsic value to decision rights (Bartling et al., 2014; Owens et al., 2014). The intrinsic value of decision rights may be motivated by individuals' preferences for power to influence the outcomes of others, autonomy (freedom) to make one's own decisions and non-interference by any other individual (Ferreira et al., 2017; Neri and Rommeswinkel, 2015).

While exerting agency has been shown to have intrinsic value, not everybody reports the same levels of autonomy. For example, Vaz et al. (2016) argue that women make decisions driven more by external drivers such as social pressure or active coercion rather than guided by internal autonomy. Particularly, women in Chad are, on average, significantly less autonomously motivated than men across domains such as household activities, employment, household purchases, and participation in groups. Similarly, Afzal et al. (2016) show that women in Pakistan are less willing to pay for agency when facing an unknown man. The authors argue that women's reluctance to exert agency might result from fear of retaliation, internalized social norms and failure of aspirations. Thus, men continue to be the primary decision-makers at both the household and community levels in many cultures (Doepke et al., 2012; Jayachandran, 2015b). Hence, the need to understand how decisions are taken and what motivates women and men to keep their decision rights, both outside and within the household.

In this paper, we investigate whether the intrinsic value of decision-making differs between women and men and what motivates them to retain their decision rights. To answer these questions, we conduct a lab-in-the-field experiment with charitable giving donations. Our two-stage experiment varies the control individuals exert on others' payoff to disentangle the motivations to exert agency. In the first stage, participants make a donation decision on an individual and a joint endowment. This allows us to distinguish the importance of donating to a social cause from the value of keeping agency. In the second stage, and without previous announcements, participants can delegate the decision to either a random device, their spouses, or a stranger. Similar to Neri and Rommeswinkel (2015), stage two and the treatment conditions aim to disentangle the preferences for independence, power, or self-reliance to exert agency. Moreover, we analyze the role of

women empowerment and the effect of conflict within the household on the motivations to keep agency.

Our study takes place in the context of rural Antioquia in Colombia. Rural Antioquian women generally tend to decide less individually than urban women and are more vulnerable than urban women DANE (2020). They have, on average, four years less of education, own the smallest properties in terms of land, and have a significant 15 percentage points gap between ownership and decision-making participation over land. Regarding their decision participation in the household, The Colombian Time Use Survey show that rural women tend to make fewer decisions individually than urban women DANE (2022b). We interview 1337 individuals in 776 households.

We find no gender differences regarding the intrinsic value of keeping decision rights. However, gender differences exist in the motivations to exert agency within the household. Men have a strong preference for freedom over their wives. Men are willing to pay 70 per cent more for the possibility of making their own decisions. Similar behaviour is not found for women paired with their spouses in either of the treatments. However, women living in a more conflicting household, where both spouses are highly willing to keep decision rights, express a preference for non-interference from their husbands. We also find that women's empowerment translates into women preferring non-interference and men preferring power over their spouses.

We contribute to the existing literature that studies the intrinsic motivations to keep decisions rights. As noted, using different lab experiments, Bartling et al. (2014) and Ferreira et al. (2017) find that individuals derive utility from practising a sense of control over their outcomes and assign a positive intrinsic value to keep decision rights. The result is corroborated by Neri and Rommeswinkel (2015), in which the authors randomly vary preferences for autonomy, self-reliance and power in a lab experiment to elicit individuals' motivations to keep decision rights. Their findings suggest a strong preference for non-interference, while no evidence is found for power. Similarly, Ferreira et al. (2017) find that power does not impact decision rights. However, while recent studies show that individuals attempt to preserve decision rights, they do not consider how the decisions are made within the household, nor do they analyze differences across genders.

The current study also contributes to the existing literature on the willingness to pay for agency and intra-household bargaining in developing countries. In Egypt, women are willing to pay less to implement their own donation decisions when facing their husbands in Egypt (Ibanez & Karbala, 2018). Women have also been found to be more likely to let their spouses make decisions, but not when facing a random couple in Uganda (Iversen et al., 2011) and India (Mani et al., 2011). More recently, Almås et al. (2018) found that women are willing to sacrifice some household income to receive the cash transfer and gain more power over resources. Our focus on the motivations to keep the decision rights by gender complements the literature on how the decision-making process occurs.

The rest of the paper is structured as follows. In Section 2 we discuss the context of the study. Section 3 presents the experimental design and procedures. Section 4 describes the data. Section 5 outlines the empirical strategies, Section 6 presents the results. Section 7 discusses and concludes.

2 Context

Women play an important role in the livelihoods and well-being of rural communities. Increasingly, they form part of the formal and informal labor force (ILO, 2018; ILO, 2019), while also being responsible for the majority of the unpaid care and domestic work within the household (Jayachandran, 2015a). Rural women, however, also face significant challenges associated with disproportionately multi-dimensional poverty and structural barriers and social norms that affect their ability to participate in household and community decision-making. On the one hand, access to land and resources is constrained for women in many countries. This fact often reduces their ability to obtain economic autonomy (DANE, 2022a; Guereña, 2017; IGAC, 2012). On the other hand, most of the work they engage in remains hidden and with little or no pay (Jayachandran, 2015a).

The setting of this study is rural Antioquia, Colombia, which is the department with the largest rural population in the country.[1] It is located in the northwest in the heart of the Andes. Rural economic activity in Antioquia is based on coffee production, livestock and mining. In contrast to the urban demographic composition, census data shows that women are the minority - 48.16 per cent vs approximately 52 per cent. Additionally, rural communities are primarily young, as evidenced by the fact that 37.5 per cent of women and 37.2 per cent of men have less than 20 years of age (DANE, 2020).

According to the Antioquian local government, rural Antioquian women are also vulnerable (Gobernación de Antioquia, 2016). The average number of years of schooling is 6.3 years, equivalent to the sixth year of high school.[2] Women in this area work on self-consumption tasks in their production unit. These activities are generally characterized by low productivity, mostly due to differences in use and access to inputs, smaller benefits and little pay. Additionally, the historical Colombian armed conflict has disproportionately affected women in rural areas. As of 2016, in Antioquia, crimes against freedom and sexual integrity were committed against women at a rate that was thirteen times higher than that of men (Gobernación de Antioquia, 2016).

Within households, the decision-making process between rural couples is unequal. Rural women report making fewer decisions individually than rural men and urban women (DANE, 2022b). For instance, while 53.3 per cent of women express that they have chosen

[1] It amounts to 11.83 per cent of the total population.

[2] In contrast, urban women have almost 10 completed years of education.

to have a salaried job in rural individually, urban women make this decision at a 60 per cent rate. The decision to plan or make financial investments also displays gender gaps in rural areas. While 12 per cent of men in rural areas make this decision individually, only 7.7 per cent of urban men in urban areas.

Furthermore, women living in rural Antioquia face several challenges that prevent them from having equitable access and control over land and productive resources. Approximately half of the land owners in Antioquia are sole male owners compared to a fifth owned only by female owners. These gender gaps are widened when measuring the production quality of these properties. On average, women own the smallest properties with common uses (DANE, 2022a). However, more than land ownership is needed to formally dispose of the property in this context (Deere, 2011). Women's access to land and decision-making over it shows significant gender bias. The National Agrarian Census found a 15 percentage points gap between the percentage of women owners and their participation in decision-making (DANE, 2022a).

3 Experimental Design

This experiment was designed to measure women's and men's intrinsic value of decision-making within and outside the household. In a two-stage experiment, we elicit subjects' preferences regarding the motivations to keep decision rights and individuals' willingness to follow up on them. In the first stage, the participant's task is to decide on the value to donate from their budget to the Red Cross. The donation decision was made individually and as the delegate of the couple - i.e. a stranger or the spouse. In the second stage, participants need to either accept the donation decision of the partner or pay to keep his/her own donation decision in a 2x3 between-subject design. The two scenarios are when the partner donates differently or is equal to their donation. The three treatments vary in the control individuals exert on others' payoff. In a post-experimental survey, we ask individuals about their beliefs regarding their partners' individual and joint donation decisions.

Stage 1: Donation

In the first stage, we consider two separate tasks: an individual and a joint donation. Participants receive 10.000 COP as a participation fee and are told they can earn an additional amount of 0, 20.000 COP, or 40.000 COP in a lottery. The participants' first task is to decide whether or not to donate individually and the specific amount they wish to give to the Red Cross in Colombia if they win the lottery. In the second task, participants are randomly paired with either a stranger or their spouse and are told each member of the couple could earn either 0 or 20.000 COP in a lottery [3]. As the delegate,

[3]Our experiment considers the assignment to a stranger partner as another woman and also another

each participant is given the task of deciding if each member of the couple will donate 0 or 4.000 COP out of the individual 20.000 COP. However, participants do not know if their decision was implemented since the final decision maker is only selected after the experiment is over.

Stage 2: Decision Right

After revealing their preferred donations, and without any previous announcements, participants are told that their partner is now the delegate of the couple. Participants need to decide if they would prefer to accept their partner's donation decision as the delegate of the couple or to pay to keep their own donation decision. We ask participants for their willingness to pay to keep the decision or accept their partner's decision in two possible scenarios and one of three treatments [4]. The two scenarios involve: when the partner donates differently and when the donation is the same. The three treatments vary in the control individuals exert on others' payoff, allowing us to identify the role of preferences for non-interference, freedom, and power in retaining decision rights. In the first treatment buying the decision right means that both individuals would donate a fixed amount selected exogenously. Therefore, keeping the decision right implies **non-interference** from any other participant. In treatment two, buying the decision right means donating according to own preferences while the other person donates a fixed amount. In this procedure, as the participant who buys the decision determines his or her payment, this treatment implies **freedom** in addition to non interference. Finally, in treatment three, if the decision right is bought, the new decisive player takes the donation decision for the couple. Under this procedure, keeping the decision rights implies the decisive player influences the payment of the other, exerts **power**, additionally to freedom and non-interference.

Participants can pay between 0 and 5,000 COP in units of 1,000 to keep the decision right. Whether the decision right is bought is determined when comparing the stated willingness to pay with a value, between 0 and 5.000, randomly selected by a computer. Only if the participant submits a higher value than the one selected by the computer the participant retains the decision rights for the pair. Participants were told that only at the end of the experiment one of the several decisions made in the experiment would be randomly chosen for payment. Similarly, there was a chance that the additional budget would be zero, and participants would only get paid the participation fee. Therefore,

man. Randomization into these two groups was not balanced, and only 173 individuals were randomly paired with another man. Figure A1 in the appendix shows that behavior regarding the willingness to keep decision rights is not statistically different when comparing participants assigned to a stranger woman and a stranger man. Therefore, we pooled this group and referred to this partner as a stranger.

[4]Our results involve a between-subject analysis where we account for response bias by considering only the first treatment an individual was presented. Participants answered all three treatments presented in random order. Comprehension of the task does not systematically vary between treatment groups but might not have allowed participants correctly identify the differences when explanations were presented

the final amount paid could be different within the couple and not necessarily be a consequence of their own decisions but bad luck.

3.1 Experimental Setting

The data was collected between November 2021 and February 2022, and surveys were administered on tablets using ODK. To guarantee anonymity, survey was designed to be self-administered, using a tablet and headphones for each participant, where they could also read and listen to part of the instructions. Unlike a paper-based approach, using CAPI allows the participants to submit their answers directly to data storage units without revealing the decisions made to the enumerators or their partners.

The sample selected was drawn using a two-step procedure. First, we drew a representative sample of 22 municipalities in Antioquia. Next, within municipalities, a sample of households was drawn through the community leaders of the villages, who gave us a list of all couples of at least 18 years of age. All the couples in our sample needed to fulfil three demographic characteristics in order to participate in the study: (i) all participants needed to be at least 18 years old; (ii) live in one of the chosen 22 municipalities; and (iii) both husband and wife to be present on the day of the survey to complete the survey. A map with the location of municipalities can be found in Figure A2 in the Appendix

Enumerators went then door to door and arranged an appointment with the couples to participate in the study, for which they would receive a 10.000 COP participation fee and the possibility to earn additional money. Given the remoteness of the sampled municipalities and the division of labor in rural households, however, one of the main logistical challenges in the setting was to find available times to interview both members of the couple simultaneously. In addition, the survey length implied that both participants needed to spare at least an hour from their usual productive routines. As a result, most of the interviews were conducted after several visits and during the early morning hours or in the evening after the day's activities [5].

Enumerators brought the appropriate equipment during the appointment and explained the rules and procedures. The experiment was answered by each person of the couple separately and independently, which ensured that participants did not communicate or see the other person's answers during the experiment. Sociodemographic characteristics and general household information were collected at the beginning of the interview. Additionally, individuals answered a post-experimental survey about risk preferences, decision-making within the household, main reasons to donate and keep decision right, and potentially used of the money earned with the experiment.

[5]For 215 individuals, representing 16.08% of the sample, it was not possible to schedule a time where both spouses were available. However, we included the responses from these participants in our analysis. We econometrically account for the lack of household partners when appropriate.

4 Data

4.1 Sample

Our sample consists of 1337 individuals residing in 776 households. As described in Table 1, 51 per cent of our participants are women, the average household size is 3.7 individuals, and 1.4 children per household. Participants belong to relatively low-income households reporting a subjective economic status of 2.3, on a scale from one to six where six is the richest and one is the poorest.[6] Finally, the subjective economic status correlates with the Wealth Index, the result of a principal component analysis (PCA), calculated using 11 variables that relate to the characteristics of the house and the assets that households reported owning (pearson correlation p-value=0.0000).

In Panel B of Table 1, we describe the socioeconomic characteristics of the sample by the gender of the individual respondent. The sample comprised 651 men and 686 women.[7] As shown in the table, there is a significant imbalance between men and women. First, on average, respondents are 44 years old, and men are four years older than women. This difference is statistically significant at the 1 per cent level. Approximately 54 per cent of both men and women report being married, and 91 per cent of the men declared to be the household head, compared to only 5 per cent of the women.

There are also significant differences between the distribution of men's and women's highest levels of education attained. Approximately 10 per cent of the sampled individuals report none or only preschool schooling. However, the proportion of men with no education level is twice as large as that of women (12.6 vs 6 per cent). The majority of the sampled individuals, 48 per cent, 53 per cent of the men and 44 per cent of the women, have completed elementary school. In contrast, more women have completed middle school, high school and some form of higher education. The differences for these three categories amount to 3.4 pp. (17.7 vs 14.3), 8.4 pp. (24.5 vs 16.1) and 4.2 pp (7.2 vs 2.9), respectively. Across all education levels, the gaps between men and women are statistically significant, except in preschool.

The third group of variables in Panel B describe economic activity. Although 44 per cent of the total sampled individuals do the house chores, 83 per cent of the women are in charge of this activity, whereas only three per cent of men make this claim. In contrast, male participants are 15.5 pp. more likely to have a formal contract and report three more hours of paid work than women. Again, all three differences presented in column 4 are statistically significant at the 1 per cent level.

The final group of variables describ self-reported decision-making within the household. In the post-experimental survey, respondents were asked to rate their

[6] Traditionally in Colombia, higher strata residents (5 and 6) pay more for utilities subsidizing the first three strata. This scale is generally known by everyone.

[7] The difference is a consequence of the households in which there was only one respondent.

Table 1 – Descriptive Statistics

Panel A: Household Characteristics			
	(1) Mean	(2) S.D.	(3) Skewness
Women	0.513	0.500	-0.052
Number of Children	1.408	1.177	0.779
Household size	3.673	1.325	0.785
Subjective economic status	2.333	0.958	0.483
Wealth Index	-0.001	1.459	0.604
Total Number of Households	776		

Panel B: Socioeconomic Characteristics by Gender					
	(1) Full Sample	(2) Men	(3) Women	(4) Diff. in means	(5) p-value
Age	44.075	46.192	42.067	4.124	0.000
Married	0.543	0.537	0.548	-0.010	0.701
HH Head	0.471	0.917	0.048	0.868	0.000
Highest Education Level					
None	0.092	0.126	0.060	0.066	0.000
Preschool	0.006	0.007	0.004	0.003	0.433
Elementary-School	0.486	0.533	0.441	0.092	0.000
Middle-School	0.160	0.143	0.177	-0.034	0.090
High-School	0.204	0.161	0.245	-0.084	0.000
Higher-Education	0.051	0.029	0.072	-0.042	0.000
Economic Activity					
Household Chores	0.437	0.028	0.826	-0.799	0.000
Formal contract	0.115	0.196	0.041	0.155	0.000
Working Paid Hours (per week)	42.368	45.459	39.540	5.918	0.000
Decision Making					
Respect own opinion (1-6)	5.176	5.354	5.007	0.346	0.000
Part. Decision making (1-5)	4.328	4.374	4.285	0.088	0.049
Decision Education	0.445	0.635	0.259	0.376	0.000
Decision Money	0.492	0.741	0.255	0.486	0.000
Decision Savings	0.436	0.622	0.261	0.361	0.000
Decision Land	0.344	0.353	0.335	0.018	0.488
Independent Income (> 60%)	0.616	0.890	0.356	0.535	0.000
Observations	1337	651	686		

Notes: *Decisions over education, money, savings, and land are a dummy equal 1 if the decision is made by the individual him/herself or jointly with their partner. Columns (1), (2) and (3) refers to the group means. P-value:* $*p< 0.1$*;* $**p< 0.05$*;* $***p< 0.01$.

participation in decision-making on a scale from one to five and the respect they get from spouses on a scale from one to six. As shown, men report participating more in decision-making (4.374 vs 4.285) and feeling more respected (5.354 vs 5.007) than women at the household level. Respondents were also asked to disclose if they participate in household decisions over the children's education, money, savings and land. Across all dimensions, except decisions over land, men report significantly higher levels of participation, with sizeable gaps in the first three.

4.2 Internal Validity

In Table A1 in the Appendix, we provide the summary statistics and balance test for the sample of interest regarding the type of partner individuals are randomly coupled with (either their spouses or a stranger). As noted, differences across types of partners are small in magnitude and mostly statistically insignificant. This suggests that the randomization effectively created two balanced groups. There are two notable exceptions: participants assigned to their spouse are older than those assigned to a stranger, participate less in decisions over land, and have fewer formal contracts. Similarly, in Table A2 in the Appendix, we provide the summary statistics of participants in each of the treatments and orthogonality test to show that groups are balanced in most of the characteristics. Groups only differ on the level of education. We will control for these imbalances in our analysis.

5 Empirical Strategy and Hypothesis

5.1 Empirical Strategy

The choice to keep the decision right is the result of two processes: first, to buy or not the decision right and second, the amount the individual is willing to pay for it, conditional on wanting to buy the decision right in the first place. Therefore, we utilize a double-hurdle model that explicitly models the willingness to buy the decision right in the first hurdle (the extensive margin) and the willingness to pay to keep the decision in the second (intensive margin). The first hurdle is estimated using a Probit model, and the second one utilizes a Tobit model that permits corner solutions. The model was developed by Cragg (1971) and has the advantage of having fewer restrictions than Tobit models.

The hurdle model corresponds to our preferred econometric specification for several reasons. First, when modelling the choice to buy the decision right, it is important to account for the high percentage of zeros. Because unobserved variables may affect both decisions, the assumptions regarding the process that generates the zeros will have important implications for the econometric model. If the errors in the two hurdles are correlated, then the coefficients associated with the willingness to pay for the decision right are biased. Econometrically, in a double hurdle, two separate stochastic processes determine the discrete and continuous choices.[8] Second, it can also be shown that double-hurdle models provide consistent and asymptotically efficient coefficients for the parameter of interest (Burke, 2019).

In equation (1), we fit the double hurdle model to assess the motivations to exert agency on both the propensity to buy the decision right and the willingness to pay to

[8]The zeros in the dependent variable of the second-stage will lead an OLS model to be biased because of the lack of variability.

keep the decision right:

$$Y_{it} = \sum_{k=1}^{3} \beta_k T_{tk} \times Spouse_i \times Female_i + \sum_{k=1}^{3} \alpha_k T_k + \gamma Spouse_i + \delta Female_i + \sigma X + \upsilon_{it} \tag{1}$$

In equation (1), Y_{it} indicates either the willingness to buy the decision right (WTB) in the first hurdle or the willingness to pay (WTP) in the second. WTB is an binary variable equal to one if individual i decides to buy the decision right for decision t and zero otherwise. The first hurdle is estimated using a probit econometric model. Next, WTP is a discrete variable, ranging between 0 and 5 that describes the amount individual i is willing to spend to keep the decision right in decision t. The second hurdle is estimated, fitting a linear hurdle model for the bounded dependent variable.

Treatment variables are represented by T_{tk}, which equals one if decision t corresponds to treatment k and zero if it describes any other treatments. As discussed in Section 3, treatments are designed to elicit the individual's preferences for freedom, power and non-interference. The first treatment indicates a preference exclusively for **non-interference**, while the second treatment estimates preferences for **freedom** in addition to non-interference. Finally, the third treatment indicates a preference for **power**, in addition to freedom and non-interference. The rest of the variables include $Female_i$, which is a binary variable equal to one for female respondents and zero for males and $Spouse_i$, which is equal to one if the individual was randomly assigned to play against their spouse and zero if they were set to play against a stranger. Finally, X is a vector of individual-level controls, including socioeconomic characteristics and municipality fixed-effects.[9]

Our coefficient of interest corresponds to the triple interaction between the treatment, the partner and the female indicator. Using **non-interference,** the first treatment, as the baseline coefficient, we estimate the individuals' preferences for power and freedom following equation (2) by comparing the third treatment to the baseline treatment. We estimate the preferences for freedom in equation (3) by contrasting the second treatment and the baseline.

$$\begin{aligned} ThirdTreatment - Baseline &= Power + Freedom + NonInterference - NonInterference \\ &= Power + Freedom \end{aligned} \tag{2}$$

[9]Socioeconomic characteristics include loss aversion level, age and age squared, if individuals are the household heads, whether they have obtained a higher education degree, and whether they are married.

$$\begin{aligned} SecondTreatment - Baseline &= Freedom + NonInterference - NonInterference \\ &= Freedom \end{aligned} \tag{3}$$

Within household estimation

There are a number of reasons to believe there are heterogeneous effects regarding the motivations to exert agency within the household. Specifically, if the individuals' spouse is generally making decisions within the household the donation decision might be always hand over to the spouse in charge. Therefore, differential effects are expected for individuals according to his or her bargaining power within the household.

A large body of literature has linked factors such as women's property, financial assets, and engagement in market labor, as well as education, and social and political assets, trust and spousal contributions to the household as key determinants of women's authority over household decisions (Antman, 2014; Attanasio and Lechene, 2002; Doss, 2006; Quisumbing and Maluccio, 2003; Duflo and Udry, 2004; Ashraf, 2009; Iversen et al., 2011). While asking directly participants who in the household make decisions regarding different aspects is an alternative to measure bargaining power, self-reporting is more likely to be influenced by social desirability bias (Schaner, 2017). We therefore, use two indicators to analyze the role of bargaining power on motivations to keep decision rights: conflict within the household and women's empowerment level. First, conflict within the household is derived from the experiment and it is considered our objective measure of bargaining power. Conflict is defined as the situation when both husband and wife compete to keep the decision rights, both express a high bargaining power. The variable for a conflicting household is equal to 1 if both members of the couple are always willing to pay 3 or more to keep the decision right.[10]. Second, we measure bargaining power in a more subjective matter using women empowerment We use the methodology developed by Lombardini et al. (2017) and create an index that is context-specific, multi-dimensional and comparable among all members of our sample. We use our post-experimental survey to capture three relevant dimensions of empowerment: personal, relational and environmental that are combined in the empowerment index. The personal dimension elicits satisfaction with one's life; the relational dimension identifies how the decision-making process works within households regarding family matters and land management; the environmental dimension focuses on social norms and beliefs regarding women's participation at their homes and in politics. We then classify households with empowered women if the wife has an empowerment index equal to or greater than our sample's mean women's empowerment index. For this analysis, we limit our sample to 436 participants randomly paired with their spouses and where both spouses were present for the survey. We then run the double-hurdle model separately for conflicting and non-conflicting households and households with and without empowered wives.

[10] 3 is the expected value of the lottery that randomly selects between 0 and 5 when deciding for the decision maker

5.2 Hypothesis

Empirical evidence has shown that individuals value decision rights beyond their instrumental benefits (Fehr et al., 2013). However, the fact that decisions are intrinsically valuable is expected to be highly situational dependent, affected by the stake size of the decision and the conflict of interest between the agents involved in the decision (Bartling et al., 2014). Women are more likely to let their spouses make investment decisions but not when facing a random couple in Bangladesh (Abbink et al., 2020). Therefore, in our study, the conflict of interest arises from the individuals' ultimate payoff/difference after the donation and the beliefs about the partner's donation. First, in our experiment, individuals need to decide whether or not to buy the decision right and how much to pay to keep the decision right in two scenarios that will ultimately affect the outcome of the participant. One scenario is where the donations are equal (low conflict of interest), and the second is when the donations of the partner differ (high conflict of interest). Additionally, our sample is randomly assigned to play with a stranger or with their spouses. Our first hypothesis is

H1: *Individuals WTB and WTP to keep decision rights are higher when there are differences in the donations of the partner and when facing a stranger rather than their spouse.*

Additional literature exploring the ultimate motivations that drive a preference to keep decision rights has shown that individuals' motivation to keep the decision right is more related to individuals disliking others interfering in their outcomes. Neri and Rommeswinkel (2014) proposed that individuals could be motivated by the utility obtained as a consequence of one's actions (Freedom), the actions of someone else (Power), or not the consequence of a choice at all (Non-Interference).Authors find evidence that individuals in the lab prefer non-interference over freedom, meaning that individuals dislike letting other individuals interfere in their outcomes. Similarly, Ferreira et al. (2017) study the rationale behind the intrinsic value of decision-making in a lab experiment. Authors use the preference for independence from others, a desire for power and a preference for self-resilience in a cross-cultural analysis by comparing French and Japanese. They find that individuals express a clear desire to implement one´s decision, but the French give a higher value than the Japanese. Regarding the motivations, authors find that both cultures are motivated by self-resilience, the will to implement a decision that result from one´s rational deliberation. Since the gender dimension has not been studied in the motivations to keep decision rights, some insights from the literature on decision-making by gender guide our analysis. Particularly related to decision-making, literature has pointed out differences in the perception of decision-making processes by gender. Becker et al. (2006), for example, found that women in Guatemala, relative to their husbands, tend to under-report their household decision-making power. Likewise, Acosta et al. (2020) conclude that in the northern region of Uganda, men are disproportionately more likely than women to report sole male decision-making. In contrast, women are disproportionately more likely to report either joint decision-making or sole female decision-making. Furthermore, Anderson et al. (2017) in rural Tanzania and Ghuman et al. (2006) in five South Asian countries found that husbands

tended to report more authority for their wives than wives reported for themselves.

H2: *Women will be willing to pay more for non-Interference of their partners, while men will be willing to pay more for power over their partners.*

We expect to find heterogeneous effects regarding the motivations to keep decision rights, particularly within the household, depending on the bargaining power of individuals. In this study, we use existing conflict and the empowerment level of women in the household as indicators of bargaining power. A broad theoretical and empirical literature shows that improving opportunities of women outside the household affect the participation of women within the household and might translate in bargaining power (Bradshaw, 2013). However, additional literature has shown that women are, on average, significantly less autonomously motivated than men across domains such as household activities, employment, household purchases, and participation in groups (Vaz et al., 2016). Therefore, women with high bargaining power, participating more on the allocation of resources within the household, will be more autonomous.

H3: *Women living in a more conflicting household and with higher empowerment indicators are willing to pay more for additional freedom.*

6 Results

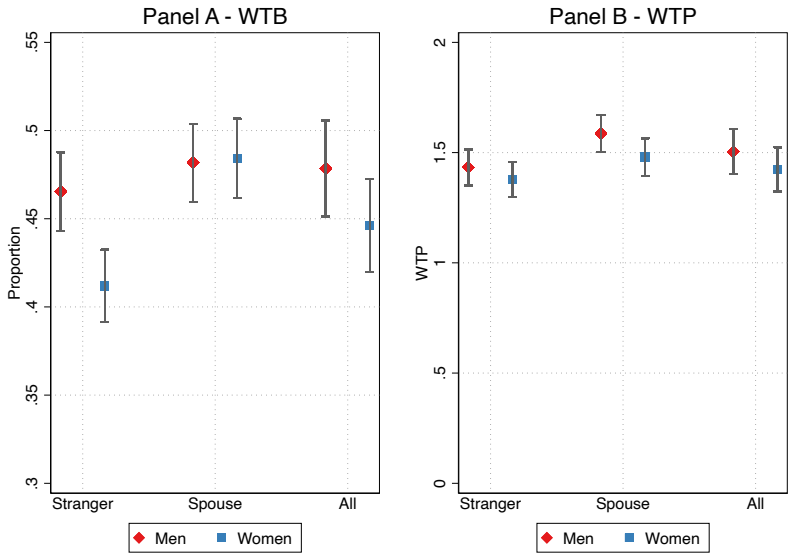
6.1 Willingness to Implement Decisions

We analyze the relationship between gender, the partner assigned, and the willingness to keep decisions right in general. Panel A of Figure 1 shows that, on average, men express a statistically significantly higher willingness to buy the decision right compared to women. 47.8 per cent of men while 44.6 per cent of the women express being willing to buy the decision right (Mann-Whitney two-sample statistic p-value=0.046). When facing a stranger, women are significantly less willing to buy the decision right than men (Mann-Whitney two-sample statistic p-value=0.031). In particular, both women and men are significantly more willing to buy the decision right when facing their spouses than a stranger (Mann-Whitney two-sample statistic p-value=0.002 and p-value=0.089 respectively). Additionally, Panel B of Figure 1 shows that overall the average amount to pay to keep the decision right is not statistically different between genders, nor when considering the randomly assigned partners. However, within women and men, the partner's identity is important. Both women and men are willing to pay significantly more if facing their spouse than a stranger (Mann-Whitney two-sample statistic for women p-value=0.021, for men p-value=0.017).

Motivations

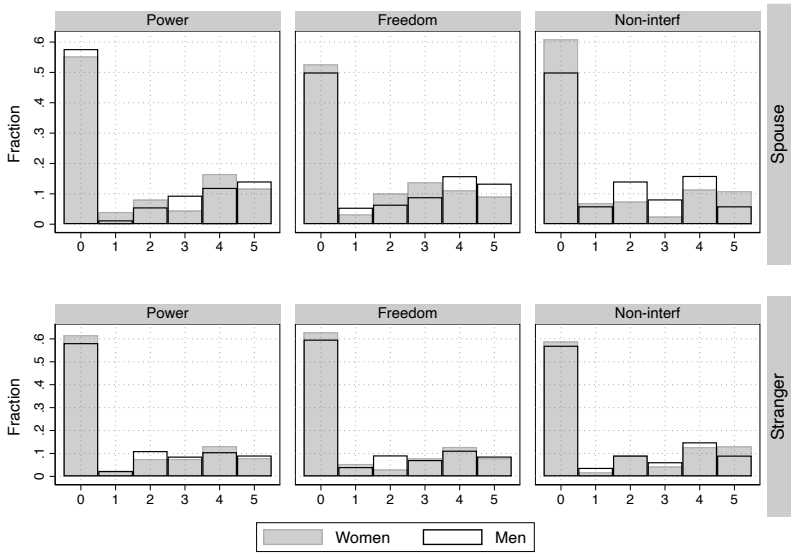
Next, we explore the motivations to keep the decision rights descriptively and using our

Figure 1 – Willingness to Buy and Willingness to Pay to Keep Decision Right by Partner



Notes: *This graph shows the decisions made by women and men with respect to the randomly assigned partners: stranger or spouse. The y-axis of PanelA reports the proportion of individuals willing to buy the decision right, and in PanelB the amount individuals are willing to pay.*

Figure 2 – Distribution of Willingness to Pay by Partner and Treatment

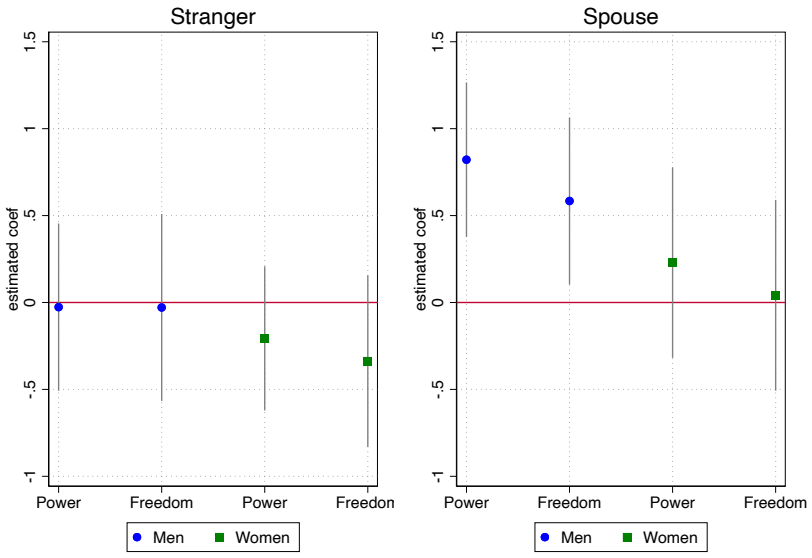


Notes: *This graph shows the distribution of women's and men's willingness to pay to become the decision maker of the couple in the different treatment and separate by partner.The y-axis reports the proportion of individuals paying an specific amount to keep the decision right.*

econometric model. First, Figure 2 shows the distribution of women's and men's willingness to pay to become the decision maker of the couple in the different treatments and separate by partner. Distribution of the willingness to pay is only statistically different between genders when facing spouses in the non-interference treatment (Mann-Whitney Two-sample test statistic p-value= 0.0993). Next, we econometrically estimate the gender differential effect

of the motivations to keep the decision rights. Figure 3 presents the estimated coefficients resulted from the double-hurdle model. We do not find gender differences regarding the motivations when the partner is a stranger. However, men are willing to pay significantly more for additional power (p-value=0.003) and freedom (p-value=0.078) when facing their spouses. Similar behavior is not found for women paired with their spouses in either of the treatments.

Figure 3 – Motivations to keep decision rights WTP (Stranger vs Spouse)



Notes: *The figure describes the estimated coefficient from the second hurdle regression for the full sample. Interval bars show the 95 percent confidence intervals.*

Power or Freedom

Men are observed to have a strong preference for power and freedom compared to non-interference when facing their spouses.To disentangle the effect size, we first compare the coefficients for freedom and power obtained in the previous section using a test of inequalities. Second, we consider the additional component in the experiment related to the scenarios where the partner's donation is different or equal to its own donation.

The test of inequalities of the coefficients between the power and the freedom treatments indicates that we cannot reject the null hypothesis that the two coefficients are the same (Wald test p-value=0.5146). Therefore, we conclude that the significant effect comes from men being willing to pay additionally for freedom over their spouses.

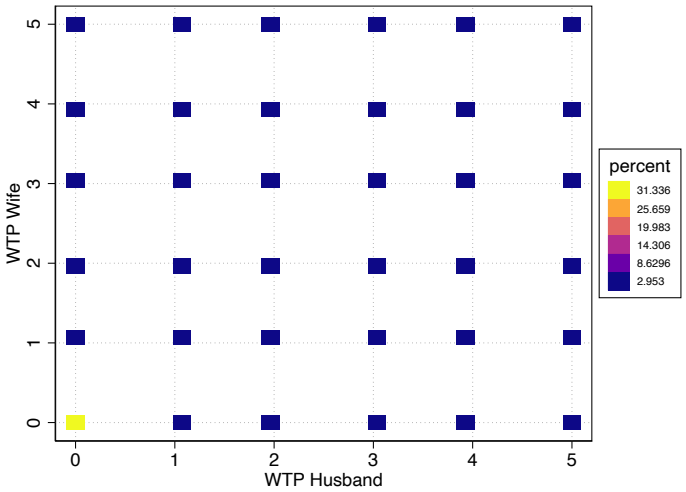
Second, participants were asked to state their willingness to keep the decision rights in two scenarios: when the partner donates differently and when the partner donates the same. If donations are the same, outcomes are not affected by who makes the final decision; therefore, a statistically significant effect would come from men willing to pay to exert power over their spouses. On the contrary, when donations are different, the individual outcome of the non-decision maker is directly affected. We expect the effect to come from men's preference for freedom. To explore this, we conducted our econometric analysis separately for the scenarios

when the hypothetical donations of the partner were the same and when they were different relative to the individuals' joint donations stated in stage 1 of the experiment. The results of the estimations are equivalent; men pay significantly more for additional freedom from their spouses. Results are presented in Figure A4 and A3 in the Appendix .

Within Household Analysis

Our main findings reveal that men express a significant preference for freedom from their spouses, even when considering differences in the donation decision within the couple. Men are willing to pay an additional amount to make their own decisions regarding the donation when facing their spouses. Thus, in this section, we explore the dynamics within the household that could explain husbands' preference for freedom. We expect heterogeneity on the motivations to keep decision right according to the bargaining power of individuals within the household. We limit our sample to the 436 participants that were both randomly paired with their spouses and were both present at the time of the survey. We examine conflict within the household and women empowerment to study how bargaining power drive our results.

Figure 4 – Comparison of WTP within spouses

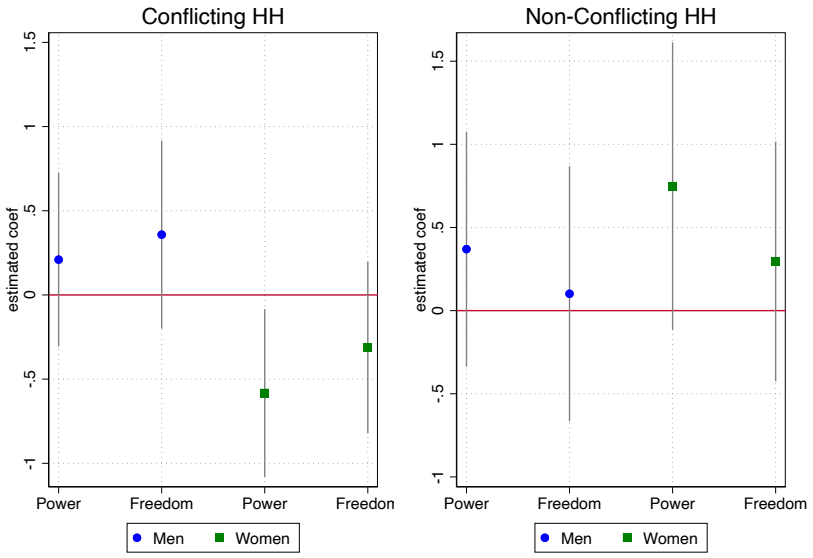


Notes: This figure shows the different combinations of the willingness to pay to keep the decision rights and the percentage of households for each combination. The y-axis refer to the WTP of the wife, and the x-axis to the WTP of the husband.

We start by analyzing our more objective measure of bargaining power. Conflict in the household is defined as the situation when both husband and wife compete to keep the decision rights. Figure 4 shows different combinations of the willingness to pay to keep the decision rights and the percentage of households for each combination. The y-axis refers to the WTP of the wife, and the x-axis to the WTP of the husband. For example, in 3 per cent of households, both wife and husband are willing to pay 5 to keep their decision rights. Consequently, in 25.2 per cent of the households both members of the couple have a WTP higher or equal than 3, belonging to a conflicting households. Our findings are presented in Figure 5 and suggest that women in conflicting households express a preference for non-interference from their husbands.

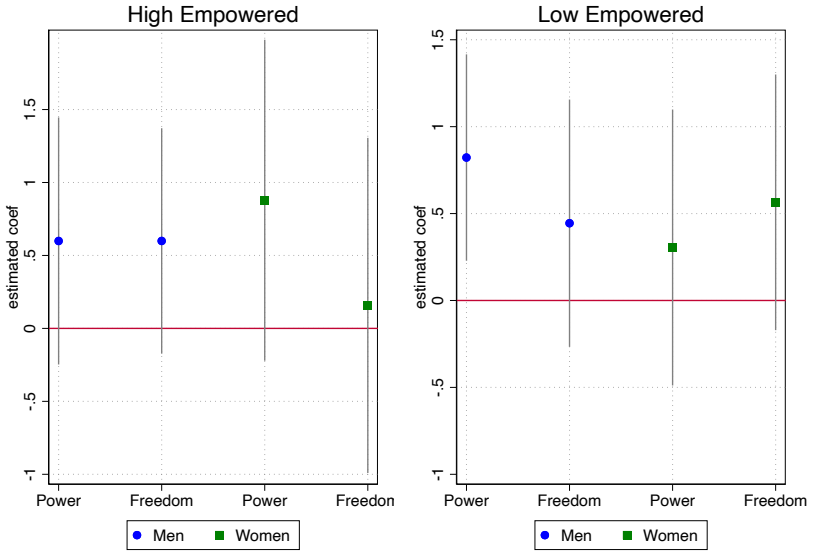
Second, we analyze the role of our subjective measure of bargaining power, women's

Figure 5 – Estimated Coefficients by Conflict within the Household



Notes: The figure describes the estimated coefficient from the second hurdle regression for the sample of participants randomly paired with their spouse. The estimation includes an interaction with conflicting households. Interval bars show the 90 percent confidence intervals.

Figure 6 – Estimated Coefficients by Empowerment of Wives



Notes: The figure describes the estimated coefficient from the second hurdle regression for the sample of participants randomly paired with their spouse. The estimation includes an interaction with empowered wives. Interval bars show the 90 percent confidence intervals.

empowerment, in the motivations to keep the decision rights within the household. The average empowerment index of women in our sample is 0.583, ranging from 0 to 1. In 33 per cent of the households, the wife has an empowerment index equal to or greater than the mean. We then rerun the double-hurdle model including the interaction with highly empowered and low-empowered women. Our findings in Figure 6 indicate that the effect of husbands preference for

freedom is driven by husbands with low empowered wives.

Given these results, we further analyze the correlation between our two bargaining power indicators, and the characteristics of wives leaving in conflicting households and with higher empowerment. We first find that these two indicators are negatively correlated, but the correlation is not statistically significant. Additionally, we present the characteristics of wives and husbands in these household in Table A3 in the Appendix. On average, women in conflicting households are younger, and work more hours.

6.2 Robustness Checks

There are a number of concerns with the main analysis. First, that the results are driven by individual importance of the donation, rather that on the pure control over the other's outcome. If participants express significantly high levels of altruism with respect to the donation, they would have no reason to be willing to pay significantly different values among the treatments to keep the decision right, but they will be willing to pay significantly higher to be the decision makers.

We first examine the donation decision made in the first stage of the experiment. Figure A5 in the appendix shows the interquartile range of individual donations of women and men as proportions of both low and high budgets. On average, individuals donate about 35% of their endowment when receiving a low budget. In comparison, only about 29% of their endowment is donated when receiving a high endowment (mean-comparison test p-value=0.000). This difference is also found within women and men. This is in line with donations reported in other experiments.

Related to the joint budget, participants needed to decide whether to donate 0 or 4.000 COP to the Red Cross once they were paired with their spouses or a stranger. We did not find differences in the proportion of participants that decided to donate across partner treatment, spouse or stranger; around 94% of our sample decided to donate to the Red Cross. However, gender differences are statistically significant. Women's and men's decisions on group donation are significantly different. 95% of women, compared to 93% of men, decided to donate to the red cross (Test of proportions p-value=0.000). Regarding the importance of the donation, on average, participants state that it is rather important for them, 4.40 on a scale from 1 to 5. There are no gender differences. To control for the additional effect of altruism and the importance of donation, we include the individual donation for the low endowment and the importance of the donation as further controls in our double hurdle model. Our results remain.

7 Discussion and Conclusion

Although preserving agency has been shown to have intrinsic value, not everyone reports the same level of autonomy. Men continue to be the primary decision-makers at both household and community levels. Hence, the need to understand what motivates women and men to keep their decision rights both outside and within the household. In this study, we consider the intrinsic

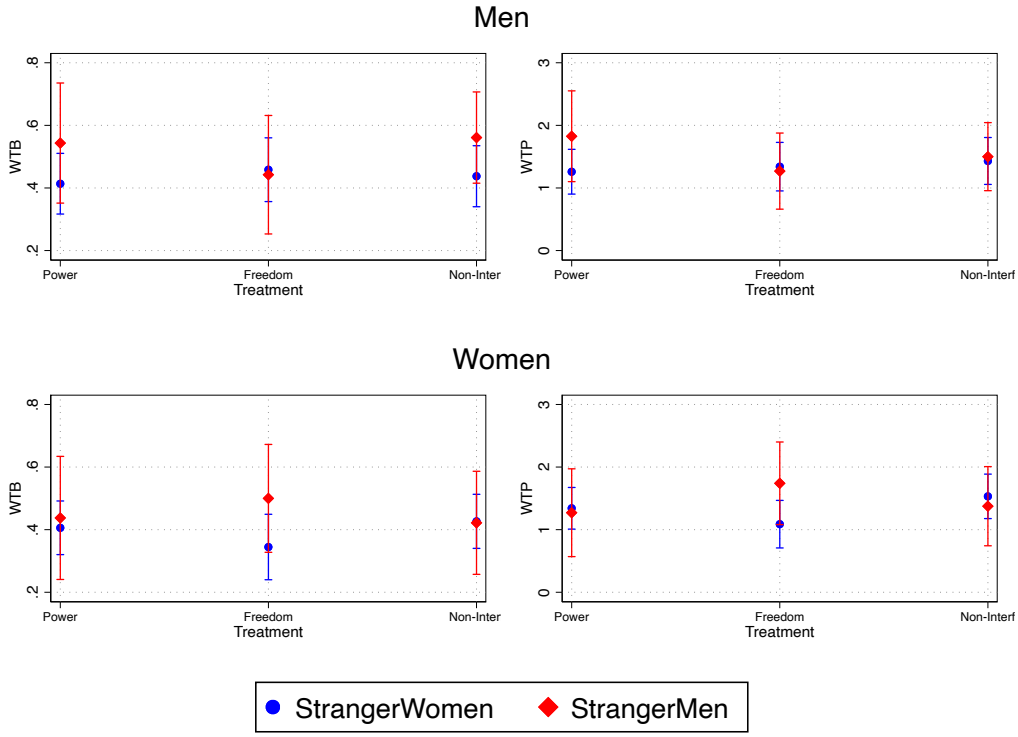
value of retaining individual decision rights and how the motivations to exert agency differs between women and men within the household. To elicit these preferences, we conduct a two-stage lab-in-the-field experiment with charitable giving donations in rural Antioquia, Colombia. 1337 adults were asked to make a donation decision on an individual and a joint endowment in the first stage. In the second stage, the participants choose to delegate or not the decision to an external device or a randomly selected partner, either the spouse or a stranger. We vary the control over the other player's payoff to consider the motivations explaining agency. We particularly focus on the participants' preferences for freedom, power, and non-interference. We first hypothesized that the partner's identity (the spouse or stranger) and any donation size differences would affect individual preferences to keep the decision right. Our findings show that, on average, the amount individuals are willing to pay to keep the decision right is not statistically different between genders. Contrary to our hypothesis, women and men are willing to pay more if they play against their spouse rather than a stranger. This finding suggests of an intra-household imbalance of decision-making power that limits female spouses' ability to make decisions (Abbink et al., 2020).

Furthermore, when analyzing the motivations to keep decision rights, the hypothesis that women will be willing to pay more for non-interference from their partners while men will prefer power over their partners is based on the evidence provided by Neri and Rommeswinkel (2014) and Ferreira et al. (2017). We find that men have a strong preference for freedom compared to non-interference when facing their spouses. We do not observe similar behavior in women in any of the treatments. Interestingly, however, our findings describe substantial heterogeneity when considering household dynamics. Men who live in non-conflicting households and with more empowered women have a stronger preference to exercise power over their spouse's decisions, whereas women in conflicting households are willing to pay more for non-interference from their husbands.Thus, we only partly reject our second hypothesis, and we reject our third hypothesis. The differences in findings across types of households provide invaluable insight into the documented fact that women under-report their household decision-making power.

The current study highlights the differences across genders in the willingness to keep the agency and the motivations for valuing decisions in rural contexts. As Vaz et al. (2016) points out, agency should be considered a relational concept as it can only be exerted in association with other individuals. Understanding the motivations to keep decision rights, thus, is essential not only because it explains how individuals value decisions but because it may explain how other individuals choose to exert agency. Our findings imply that freedom of choice may not be enough to empower women to retain decision rights, policies should also consider how women relate to their environmment.

A Appendix

Figure A1 – Decision Rights Behavior by Partner



Notes: *This figure shows the average decisions of men and women assigned to a stranger women and a stranger men. The y-axis correspond to the two decision: WTB and WTP respectively, for each of the three treatments. It shows that the willingness to keep decision rights is not statistically different when comparing participants assigned to each group.*

Table A1 – Summary and Balance Test by Partner

	(1) Full Sample	(2) Spouse	(3) Stranger	(4) Diff. in means	(5) p-value
Women	0.513	0.493	0.531	-0.039	0.155
Age	44.075	44.754	43.439	1.315	0.078
Married	0.543	0.553	0.533	0.019	0.463
HH Size	3.675	3.652	3.697	-0.044	0.536
Highest Education Level					
None	0.092	0.100	0.084	0.016	0.291
Preschool	0.006	0.006	0.006	0.000	0.923
Elementary-School	0.486	0.488	0.484	0.004	0.874
Middle-School	0.160	0.131	0.187	-0.055	0.006
High-School	0.204	0.222	0.188	0.033	0.131
Higher-Education	0.051	0.051	0.051	0.000	0.971
Economic Characteristics					
Subjective Economic level (1-6)	2.333	2.325	2.341	-0.016	0.760
Decision over land	0.344	0.298	0.386	-0.088	0.000
Household Chores	0.437	0.428	0.446	-0.018	0.502
Formal contract	0.115	0.092	0.137	-0.045	0.011
Working Paid Hours (per week)	42.368	43.420	41.375	2.044	0.129
Comprenhension (1-3)	1.893	1.887	1.898	-0.011	0.698
Observations	1337	647	690		

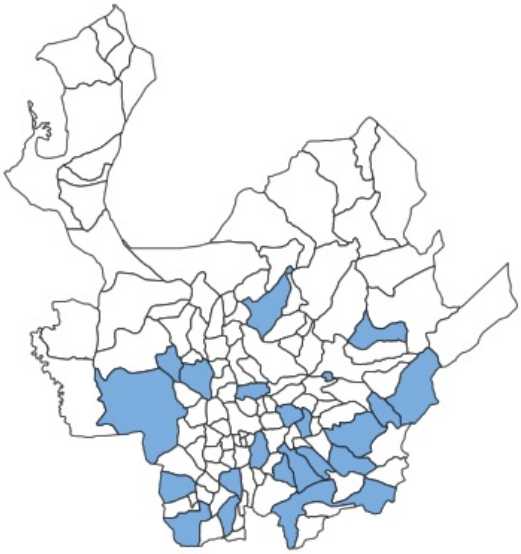
Notes: *This table shows the descriptive statistics and balance test regarding the type of partner individuals are randomly paired with, either their spouse or a stranger. Columns (1), (2) and (3) refers to the group means. P-value: *p< 0.1; **p< 0.05; ***p< 0.01.*

Table A2 – Summary and Balance Test by Treatment

	(1) Power	(2) Freedom	(3) Non-Interf	(4) p-value
Women	0.530	0.495	0.512	0.592
Spouse Treatment	0.513	0.495	0.446	0.107
Age	44.151	44.195	43.901	0.941
Married	0.536	0.548	0.545	0.931
HH size	3.721	3.678	3.628	0.557
Highest Education level				
None	0.068	0.094	0.114	0.048
Preschool	0.013	0.000	0.004	0.044
Elementary-School	0.479	0.509	0.475	0.557
Middle-School	0.151	0.176	0.157	0.600
High-School	0.236	0.168	0.203	0.047
Higher-Education	0.053	0.053	0.047	0.868
Economic Characteristics				
Subjective economic level (1-6)	2.353	2.345	2.305	0.714
Decision over land	0.340	0.373	0.323	0.303
Houseshore	0.460	0.409	0.440	0.321
Formal Contract	0.118	0.130	0.100	0.382
Working Hours paid (per week)	41.839	41.070	43.991	0.187
Comprenhension (1-3)	1.909	1.896	1.875	0.632
Observations	470	394	473	

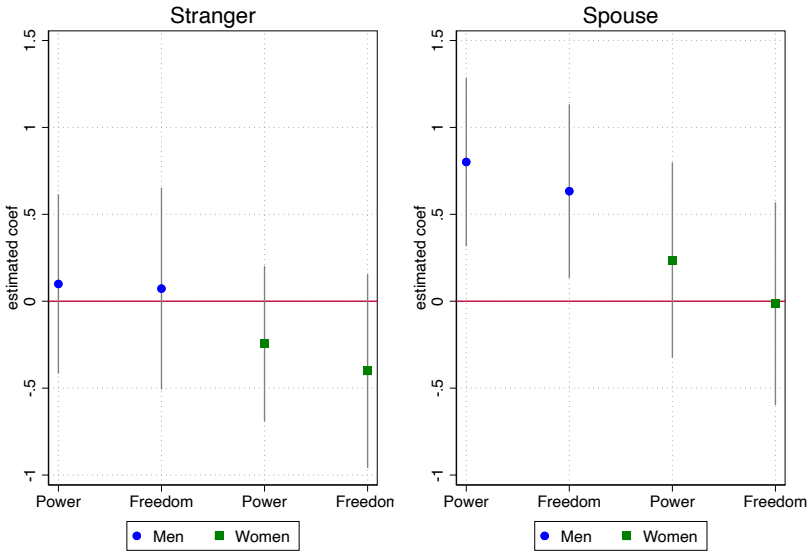
Notes: *This table shows the descriptive statistics and balance test regarding the first treatment individuals face, either power, freedom or non-interference. Columns (1), (2) and (3) refers to the group means. P-value: *p< 0.1; **p< 0.05; ***p< 0.01.*

Figure A2 – Map of Antioquia. Municipalities part of the study



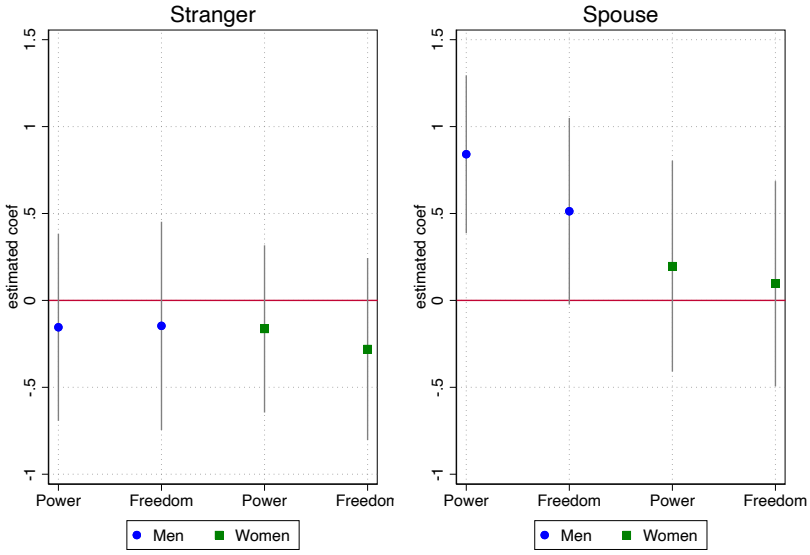
Notes: *The figure shows map of the department of Antioquia, Colombia. The blue areas correspond to the 22 municipalities where the study took place.*

Figure A3 – Estimated coefficients to keep decision rights when donations of partners are equal



Notes:. *The figure describes the estimated coefficient from the second hurdle regression only considering the cases when the donation of the two members of the couple are equal.*

Figure A4 – Estimated coefficients to keep decision rights when donations of partners are different



Notes: *The figure describes the estimated coefficient from the second hurdle regression only considering the cases when the donation of the two members of the couple are different.*

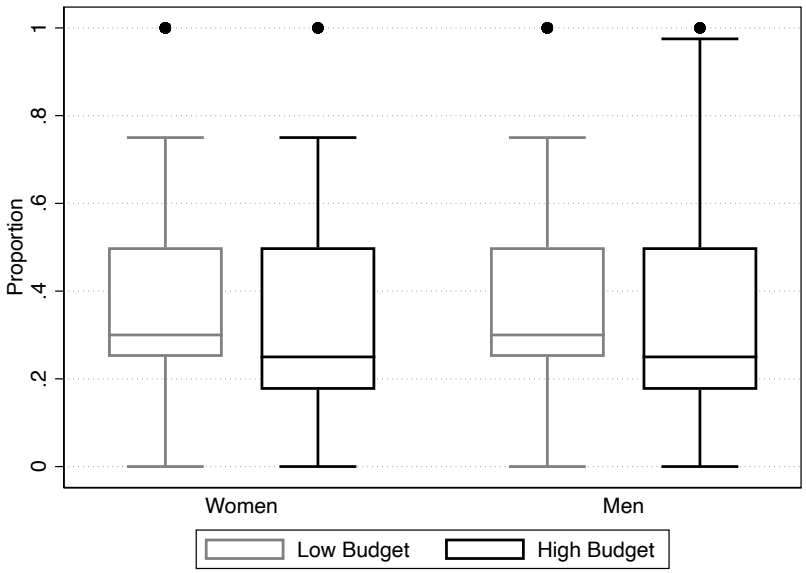
Table A3 – Summary Women Bargaining Power

	Empowerment			Conflicting		
	(1) Low	(2) High	(3) p-value	(4) No	(5) Yes	(6) p-value
Age	41.361	44.311	0.033	43.074	40.255	0.061
High School	0.403	0.432	0.553	0.399	0.455	0.305
Number of Children	1.500	1.243	0.039	1.374	1.527	0.261
Independent Income	0.097	0.730	0.000	0.331	0.255	0.134
Subjective Economic Status	2.236	2.568	0.001	2.313	2.455	0.182
Formal Contract	0.000	0.056	0.000	0.018	0.019	0.976
Working paid hours	46.146	38.315	0.009	41.963	48.185	0.057

Notes: *This table shows the descriptive statistics and orthogonality test between men and women in conflicting and non-conflicting households. Columns (1), (2) and (4), (5) refers to the group means. P-value: *p< 0.1; **p< 0.05; ***p< 0.01.*

Robustness Checks

Figure A5 – Individual Donation



Notes: The figure shows, the women's and men's donations as a proportion of total endowment. Two endowments were possible: low budget and high budget.

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