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THE EFFECTS OF INTRA-HOUSEHOLD FEMALE BARGAINING POWER ON ASSET OWNERSHIP: AN EMPIRICAL ANALYSIS USING THE ENDIREH 2016

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To all women who have been victims of violence.
You are not alone. You are listened. You matter.

Abstract

The pursuit of a gender-equal society raises several concerns about the mechanisms by which women gain more power and how these shifts alter household bargaining dynamics. Most of the empirical literature in this realm explores how an exogenous shift on income or asset ownership impacts female bargaining power. This research contributes to the existing literature by exploring the inverse causality relationship between bargaining power and asset ownership. Since the relationship is likely endogenous, this work used two-stage least squares strategy to solve the endogeneity problem. To apply the desired empirical strategy, data from the ENDIREH 2016 was used to compute Multiple Correspondence Analysis (MCA) and Principal Component Analysis (PCA) indices to analyse bargaining power and domestic violence. The results indicate 1) a weak but positive relationship between female bargaining power and home ownership: an increase of one unit of the index for bargaining power increases the likelihood of owning her house of 12.1%, and 2) an increase in one unit of the bargaining power index increases the likelihood of a woman working outside the household in 11.4%. Both results can justify the development programmes that tackle the disparities of bargaining power within households as a means of reducing structural barriers that prevent females to own assets or enter the labour market. This research also finds a very strong relationship between domestic violence and female bargaining power. Therefore, if a policymaker was interested in reducing disparities of bargaining power within the households, they should address domestic violence as a means for *empowering* women.

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1. **Introduction**

Women are routinely discriminated against in many nations due to socio-cultural norms and institutions. Female agency is manifested in a variety of ways, including marriage and re-production patterns, household income earning and management, inheritance practices and leg-islation, and expectations for contributions to home production. Female empowerment and pro-moting gender equality have been key incentives for many development initiatives, and it is typical for programs to be directed specifically towards women. Countries across the globe have made significant progress in improving the lives of underprivileged women, and the Millennium Development Goal of gender equality in primary school education has been met (Garcia, 2014). Despite these significant advancements, gender equality remains a grave concern; even in wealthy and more egalitarian countries, women are paid less and have less prospects for promo-tion than men. The pursuit of a gender-equal society raises several concerns about the mecha-nisms by which women gain more power, how these shifts alter household bargaining dynamics, and their impact on household welfare in typical different-sex relationships.

Household cooperative bargaining models indicate that changes in bargaining power will result in a shift in weighting toward female preferences, impacting how household income is distributed. More negotiating power should indicate a shift towards other family members' wellbeing, to the extent that women are generally unselfish and weight other household mem-bers' welfare higher than men. From an empirical point of view, a central obstacle in this litera-ture has been identifying sources of "power" that vary exogenously. The empirical literature supporting these claims aim to provide evidence that empowering female bargaining power can have positive effects on income and development. However, there are very few empirical liter-atures supporting that the inverse relationship between income and bargaining power exists. This leads to the question, how does intra-family bargaining power affect asset ownership for women in Mexico? The relationship of the variables in the research question is likely endoge-nous, therefore, in this article I will aim to find an effect of female bargaining power on asset ownership by exploiting plausibly exogenous variation of female domestic violence in Mexican households.

Pereira, Peterman, and Yount, (2017) show that economic empowerment is often thought to protect against intimate partner abuse by signalling sufficient economic autonomy to leave abusive situations or to prevent abuse. They highlight that asset ownership is one measure

of economic empowerment and can convey substantial agency as to leave a wealth backup. Therefore, the mechanism through which asset ownership is correlated with domestic violence is female autonomy and empowerment, which can be interpreted as measures of female bargaining power. This provides reasons to believe that using domestic violence as an instrument for solving the endogeneity problem between bargaining power and asset ownership holds the exogeneity restriction.

Not only is domestic violence a plausibly good instrument for solving the endogeneity problem, it is also a looming issue in Mexico. The National Institute of Geography and Statistics (INEGI) has among its regular surveys the National Survey of Urban Public Security (ENSU). Its periodicity is quarterly and provides information about the citizen's perception regarding the conditions of insecurity in urban areas. Information analysed by the Mexican NGO *México Social* shows that out of the 18.21 million households included in the ENSU, between January and September 2021, 1.36 million households it is declared that there have been victims of violence in the family context, with an approximate sum of 2.76 million people violated (Arellano, 2021). To measure the magnitude of these figures, it is important to say that the number of cases declared in the ENSU, regarding victims of domestic violence, implies an average -between January and September 2021-, of at least 5,037 cases per day, is say, 209.8 cases per hour. However, when comparing the complaints filed directly with the country's public ministries, the figure is 713 daily investigation files, or 29.7 cases per hour. This to say that domestic violence is a genuine issue in Mexico that it hinders woman's access to a life free of violence.

In order to answer the research question, this study analyses data from the National Survey of Household Relationships and Dynamics 2016 (ENDIREH, for its initials in Spanish). ENDIREH includes sociodemographic data of households with females at least fifteen years old, their occupation, income, asset ownership and data on family dynamics that can help us identify bargaining power. This survey also gathers information different measures of domestic violence, including sexual, verbal, phycological, and other forms of violence, within the family, with the current partner and during the woman's childhood, which will allow the construction of an index for domestic violence and use it as an instrument in the regression analysis. I use these data to construct an index of bargaining power using Multiple Correspondence Analysis (MCA). Since bargaining power can be very subjective, the MCA allows to construct an objective index that will be used in the econometric exercise performed in this research.

This paper is organized as follows: chapter 2 provides a brief review of the theoretical literature on household bargaining and income sharing; chapter 3 presents the data and shows some descriptive statistics; chapter 4) provides an overview of the methodology and the empirical model; chapter 5 presents and discusses results; and chapter 6 offers closing remarks.

2. <u>Literature review</u>

A. Intra-household bargaining power

The theoretical literature on economic models of household behaviour dates to, at least, Becker (1993) extension of the neoclassical model of (individual) consumer demand to families. Other traditional models of family behaviour assume that family members act as if they are maximizing a single unity function. For instance, Samuelson (1956) assumes consensus among the family members, and Becker (1981) assumes dominant preferences of a single family member; both resulting in "common preference" approach to household decision making. In these models, all members of the household are assumed as a same unit that pools income and allocates resources according as a common rule. Since the theory of consumer demand is predicated on the notion that preferences are an individual trait, this is not an appealing restriction, see for instance, Rubalcava and Thomas (2000). Thus, recent research has focused on explicitly modelling intra-household allocation within a bargaining framework. These other models allow heterogeneity in preferences among household members but differ in assumptions about the allocation mechanism (Thomas, 1990).

For instance, Lundberg, Pollak, and Wales (1997) find strong evidence that transfers to women increase expenditures on women's and children's clothing, showing that the pooling hypothesis does not hold in the UK. Additional evidence supporting this result may be found in Duflo, (2003); Duflo and Udry, (2004); Luke and Munshi, (2011); Qian, (2008); Quisumbing and Maluccio, (2003). As exposed previously, in these bargaining power models, unlike the Beckerian model, there is an incentive for household members not to pool income, but to rather allocate resources over which they have discretion towards goods they especially care about.

Nash bargaining models are a good place to start in the intra-household bargaining literature because they were among the first cooperative, non-unitary models to be established; however, some non-cooperative models have recently been brought to the literature. Manser and Brown, (1980) propose that spouses have distinct tastes and come to an agreement on the optimal amount of consumption and leisure in a cooperative game model. If the marriage pay-out is bigger than the individual pay-out in the single state, households form. With the premise that preferences are completely known, households in this model can approach a Pareto optimal equilibrium (Garcia, 2014).

In the collective model of Manser and Brown (1980) , the Nash equilibrium is generalized with the single state serving as a "threat point," defined as the utility acquired by an outside choice (in the case of divorce). The threat of divorce by the other members determines the optimal amount of consumption, which serves as a mechanism to maintain the participants in the cooperative game. As shown in Garcia (2014) "the household maximizes the Nash product function, where utility is a function of consumption of husband (h) and wife (w) and the threat of the outside option with value T. In this case, the threat is a vector of factors Z that are determined by individual characteristics and the marriage market in the case of divorce."

$$\max_{\{c^h, c^w\}} [U^h(c^h) - T^h(Z)][U^w(c^w) - T^w(Z)]$$

$$s.t. \quad p^h c^h + p^w c^w = y^h + y^w := y$$

The income pooling finding obtained in the unitary model does not hold if Z is influenced by y^h or y^w, and demand is indeed controlled by the allocation of money to each member, according to this model. Browning and Chiappori (1998) extend this model by weighing the utility of the second household member based on their bargaining power inside the family. Thus, pricing, individual preferences, independent incomes, and the distribution of power as a function of μ are all factors that influence the cooperative equilibrium and household utility (u^H).

The threat of divorce incentivizes family decision-makers to cooperate, but the distribution of wealth within the home can have an influence on outcomes if income distribution alters the relative welfare weighting of men and women. Would this be the case if income fluctuations affect the proportional share of incomes after a divorce? As a result, we expect the relative endowments of assets at the time of marriage to be particularly relevant to household decision-making in the setting of the divorce threat model, when the original owners of the assets can keep them in the case of divorce. Shifts in income that occur throughout a marriage but are not recognized definitively by the spouses after divorce should have no influence on the negotiating power of the household. (Garcia, 2014)

Lundberg & Pollak (1994) suggested a noncooperative model of home bargaining in which family members do not pool their individual incomes. Instead, family members make their own consumption decisions based on maximizing utility within their own financial limits, while taking the decisions of other family members as given. They provide a basic two-person family model in which people choose private x and public q consumption, which both spouses share. The husband chooses x^h and q^h to maximize $u^H(x^h, q)$ subject to $q = q^h + q^w$ and $X_h +$

$pq^h = I_h$ where p is the price of the public good, I_h is the husband's income and q^w is the public-good contribution of the wife. The husband's best reaction to the wife's contribution to public goods, and vice versa, will define each's optimal contribution in this scenario. (Lundberg & Pollak, 1994)

One major result of this model is that spouses will respond immediately to the opposite household member's public good contributions in relation to their partner's exogenous income. Given that their partner does not contribute to public goods, each member's reservation utility would be their utility. Self-evident strategies may evolve in the infinite form of this game, these strategies are reinforced by social conventions and expected familial duties. As a result, the distribution of household income has a major impact on both the provision of public goods and the household's total utility. Within marriage equilibria, the different spheres paradigm allows for instances where it is preferable for members to specialize in commodities provision rather than both contributing. The cooperative result, which happens when members can agree on contribution, and the noncooperative equilibrium's threat point, in which family contributions are compelled by societal expectations. Thus, the threat point may occur within the marriage and be impacted by wealth distribution, but in the cooperative divorce model, the value of the outside choice is the threat point. (Garcia, 2014).

Continuing with non-cooperative models and given this evidence of intra-household bargaining, a natural question that follows is how household members' bargaining power shapes the allocation of resources to each household member. Heath and Tan (2020) claim that in India, household behaviour is compatible with a noncooperative household model, and that empowering women can boost women's labour supply by raising their rewards from working in this environment. If the enhanced financial contribution to the home public good overcomes any utility cost to the males, men will want their women to be empowered, unlike Doepke and Tertilt (2009) and Fernández, Fogli, and Olivetti (2004) where men want their daughters to be empowered (and would prefer that their wives remain unempowered if it were possible) (Heath & Tan, 2020).

The latter result is interesting from a social justice point of view because it suggests that female empowerment will only be an equilibrium result if their empowerment has a contribution to the aggregate and not to satisfy their individual demand for autonomy, free will, or other basic human rights. Moreover, existing literature focuses on female bargaining power and its effect

on human capital investment within the household, such as spending in children's health or education, (Duflo, 2003; Duflo & Udry, 2004; Miuraa et al., 2020; Rubalcava et al., 2009; Rubalcava & Thomas, 2000; Thomas, 1990) but there is little research on what happens to female's private consumption when they acquire more bargaining power. There can be, at least, two explanations for this: the first, that females have a stronger preference for child-related expenditures than– this can be easily incorporated in a Beckerian model of fertility; or the second, that in patriarchal societies, social norms prevent women from investing in themselves in the presence of children.

Baland and Ziparo (2018)describe the major components of the collective bargaining model and how they might be used to study intra-household behaviour in developing nations. Remember that Browning and Chiappori (1998) collective model implies that households perform efficiently, in the sense that there is no misallocation or waste of household resources, given each spouse's outside options. These exogenous outside possibilities impact each spouse's negotiating power and the ensuing resource allocation between spouses. The prevalent norms and institutions concerning inheritance, divorce, and occupation, according to these academics, are critical determinants of the outside possibilities. They claim that in poor communities, they frequently result in unbalanced outcomes and conflict. This is especially true for the extensive literature on developing economies that reveals that a change in one spouse's relative income changes the pattern of household spending or other household decisions for a given household income (Duflo, 2003; Hoddinott and Haddad, 1995; Thomas, 1994). In the collective model, this change is read as a change in the spouse's outside choice, which has a direct impact on his or her bar-gaining capacity, and hence his or her Pareto weight (Anderson et al., 2018). For the purposes of this research, this conclusion of Baland and Ziparo is relevant because there is data in the ENDIREH which allows us to model these exogenous outside options and incorporate it in the empiric analysis.

Summarising briefly, intra-household bargaining power can be modelled through cooperative and noncooperative bargaining models. Most of the models in the literature include goods that household members consume privately and publicly and derive utility of this consumption, and some models contemplate heterogenous preferences over these goods. Most of the empirical literature fails to analyse what happens with the woman's private consumption when there is a change in her relative bargaining power. Therefore, this research can contribute

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to this literature by analysing how bargaining power affects female's private spending and their ownership of financial assets.

In the context of this study, and considering a noncooperative model, asset ownership may impact female' power to negotiate in two ways: it can increase the value of a woman's outside option in the event of divorce, or it can increase her relative income, making a cooperative result inside a marriage more feasible. The variables considered in Cassidy (2018) will be used as a reference for constructing the bargaining power index since they are very similar to some of the variables included in the ENDIREH 2016. These variables relate to who has the power of decision over how the woman dresses, when and if she leaves home, whether she is allowed to work or not, who manages household's expenses, etc., however, this study also considers other relevant variables that are available in the dataset.

B. Gender violence

According to the United Nations High Commissioner of Refugees (UNHCR), "gender-Based violence refers to harmful acts directed at an individual based on their gender. It is rooted in gender inequality, the abuse of power and harmful norms. Gender-based violence (GBV) is a serious violation of human rights and a life-threatening health and protection issue. It is estimated that one in three women will experience sexual or physical violence in their lifetime." (United Nations High Commissioner for Refugees, 2022)

Gender-based violence can encompass sexual, physical, emotional, and economic harm committed on women in public or private settings. Threats of violence, coercion, and manipulation are also included. Intimate relationship abuse, sexual assault, child marriage, female genital mutilation, and other types of violence are examples. In this study a dataset that measures, at least approximately, these different manifestations of gender violence are used. However, this sub-section offers a review of the literature that studies gender violence and intra-household bargaining power and gender violence and asset ownership.

In societies with stronger patriarchal institutions, often located in the developing world, it is not uncommon that women depend on men for financial, social, political, and familial support. According to Chatterjee & Poddar (2019), one of the consequences of this dependence is marital and domestic violence, which women face as a result of a potential lack of relative bargaining power in household decision-making and poor outside options as a result of suboptimal

human capital endowments. Jose & Younas (2022) evaluate how access to a bank account affects female bargaining power, in the sense that it diminishes the dependence on men to have access to this financial instrument. The authors show that having a bank account increases a woman's well-being in a variety of ways, using household-level data from India. Their findings imply that reducing financial impediments to women's freedom and participation in home decision-making promotes their autonomy. This may suggest that gender-based dynamics inside the households can affect female asset ownership through female agency or bargaining power.

Contributing to this literature, this study aims to quantify the effect of gender-based dynamics inside the household in asset ownership and the decision of females to work outside their homes.

3. **Data description**

This chapter describes the data considered for this research, justify why the dataset is the most suitable addressing the research question that is "how does intra-family bargaining power affect asset ownership and the decision of working outside the household for women in Mexico?" and show some descriptive statistics for the relevant variables for the study.

In 2003, the National Institute of Females (INMUJERES) requested the support of the National Institute of Statistics and Geography (INEGI) to jointly conduct the first National Survey on the Dynamics of Household Relationships (ENDIREH-2003). The main objective of this survey is to measure the dynamics of intimate partner relationships at home, as well as the experiences of females at school, work and in the community with different types of violence (Instituto Nacional de Estadística y Geografía, 2017).

Due to the results of ENDIREH 2003, in 2006, at the request of the Special Commission to Know and Follow Up on Investigations Related to Femicides in the Mexican Republic at the Mexican Congress, INEGI carried out the second ENDIREH, which was submitted for discussion and, in its design, the Commission itself, the Special Prosecutor's Office for Attention to Crimes Related to Acts of Violence against Females (FEVIM), INMUJERES and UNIFEM contributed. ENDIREH 2006, like the third one held in 2011, expanded its theme and universe, since all females aged fifteen and over were considered, regardless of their marital status. This made it possible to have a more complete characterization of the violent behaviours towards women since it included the investigation of other forms of violence against females, beyond the family and the partner, such as violence in the school, work, and social environment, and incorporated a section on violence against females aged 60 and over (Instituto Nacional de Estadística y Geografía, 2017).

In December 2015, the INEGI Governing Board approved the recognition of ENDIREH as Information of National Interest, which has enormous relevance for gender studies in the country. In its latest version, the ENDIREH was collected in 2016, and in its preparation the goal was to achieve a better survey and consolidate the progress made with its predecessors. For this reason, during 2015 a broad review of the advantages and limitations achieved with the previous surveys was conducted, with a view to redesigning the ENDIREH 2016, both within and outside INEGI. To this end, the Working Group on Violence against Females of the Specialized Technical Committee for Information with a Gender Perspective was formed, including

INMUJERES, CONAVIM, Ministry of Health (SSA), Ministry of Public Education (SEP), the National Institute for Social Development (INDESOL), CONAPO, and INEGI as coordinator of the group. Also, the Group of Experts on Violence against Females, made up of academics from the UNAM Regional Centre for Multidisciplinary Research (CRIM-UNAM), from the Colegio de México; from the Autonomous University of Mexico City; of UN-Females; the Office of the United Nations High Commissioner for Human Rights (OHCHR); of the National Centre for Gender Equity and Reproductive Health-SSA (CNSRyEG-SSA) and representatives of Civil Society worked along with INEGI to contribute elements to improve the ENDIREH 2016 (Instituto Nacional de Estadística y Geografía, 2017).

The cooperation between this extensive group of collaborators resulted in a survey design, which integrates a broader vision for the research of violence against females, in a homogeneous way. Although it maintains the topics of previous surveys, new and essential elements are included. ENDIREH 2016 incorporated improvements that allowed the research and declaration of specific situations of physical and sexual violence with greater precision, by describing physical aggressions and the means used for it (e.g., pinching, hair pulling, pushing, slapping, hitting, kicking, or attacks with a sharp weapon or fire) in school, work, community, and family settings. In sexual violence, new acts were included that allowed a better declaration on events such as attempted rape, exhibitionism or stalking, and sexual harassment through electronic or virtual means.

The ENDIREH constitutes a milestone in the generation of official statistical information, in several senses, firstly because it addresses gender violence as a relevant issue in the framework of quantitative inquiry. The survey allows researchers to obtain information that measures the magnitude of violence against females in all areas and covering all social relationships, as well as the dynamics of couple relationships. Secondly, because it marks a change in the paradigm in the conceptual and methodological development of the quantitative investigation of the phenomenon and in the operational and logistical procedures to carry it out, at the beginning of the recognition that the subject requires a treatment and handling different from the rest of the statistical projects carried out by INEGI.

The survey's objectives are to provide information on the experiences of violence that females aged 15 and over have faced a) by type of violence: emotional-psychological, physical, sexual, economic or patrimonial, b) in couple relationships and in the school, work, community,

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family; c) to estimate the extent and severity of violence against females; d) in order to support the design and monitoring of public policies aimed at addressing and eradicating violence against females for reasons of gender (Instituto Nacional de Estadística y Geografía, 2017).

The reference period of ENDIREH covers the female's lifespan, student life, work life, childhood and youth, the last 5 years at the questioning time and the last 12 months at the questioning time. The unit of observation is the household, but the survey allows the identification of all females aged fifteen or more within the household. This gives the survey a sample size of 142,363 households with a response rate of 85.7% and coverage at national, national urban, national rural and state levels (Instituto Nacional de Estadística y Geografía, 2017).

The ENDIREH 2016 incorporates violent acts against females and homologates diverse types of violence (emotional, physical, economic, patrimonial, or sexual) by place of occurrence (e.g., school, work, community, family, or couple). This, and all the mentioned above, make me believe that the ENDIREH 2016 is the best survey available to quantify intra-family bargaining power for females in Mexico.

A. Descriptive statistics

This section presents descriptive statistics of the relevant variables that will be discussed in the analysis performed in subsequent sections. Let us remember that the unit of observation in this dataset is a woman per household of 15 years of age or more, therefore the statistics presented in this section should be interpreted at an individual level.

Table 1 shows descriptive statistics for all the variables in the dataset that are relevant to the analysis. Let me point out that all dummy variables have min and max values of 0 and 1, respectively, that income variables are continuous and that for all variables the dataset has more than 111,000 observations, enough to conduct an analysis with statistical power, although further tests must be made.

Table 1: Descriptive statistics of sociodemographic variables

Variables	Obs	Mean	Std.Dev.	Min	Max
Age	111079	41.495	16.926	15	97
Years of education	111245	8.98	4.67	0	23
Literacy	36300	0.783	0.412	0	1
Attend school	111250	0.102	0.303	0	1
Rural	111256	0.258	0.438	0	1
Indigenous	111250	0.07	0.254	0	1
Own money	111256	0.569	0.495	0	1
Income	41738	3366.952	7557.895	0	120000
Prospera	111256	0.157	0.363	0	1
Income prospera	17200	870.254	2786.926	1	99998
Works	111256	0.397	0.489	0	1
Cohabit	111091	0.635	0.481	0	1
Forced marriage	92445	0.024	0.155	0	1
Husband works	111256	0.662	0.473	0	1
Husband's income	56171	4118.393	13053.05	0	989999
Husband contributes to house expenses	111256	0.622	0.485	0	1
Husband contribution to house expenses	63729	4396.593	8035.893	1	500000
Secrecy	2351	0.804	0.397	0	1

Self-made. Demographic statistics of the sample. The table shows in the first column the total observations available for each variable, in the second column the average value of said variable, in the third column the standard deviation, in the fourth variable the minimum value is shown and in the fifth column the maximum value of each variable is shown.

Table 1 shows that the average age for females in the sample is forty-one and a half years of age, the average of years of education is nine which is roughly completed secondary school, only 10% of the women in the sample attend school at the time of the survey and almost 80% of the sample can read and write a message. Also, 26% live in a rural area and 7% are Indigenous females. Almost 57% have money they can spend freely and the average income for the women in the sample is 3,367MXN per month. Sixteen percent of them receive a conditional-cash-transfer social programme called *Prospera* and the average income for this programme is 870MXN per month. Also, 39.7% of the females reported to work currently[1], 26% of females in the sample work as employees, labourers, or manual workers, 22.2% work as freelancers and 1% work with no payment (see Table 2). This can be explained by the fact that most care and domestic work is not culturally perceived as a "job" and therefore people do not report it as such.

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[1] Data from the National Employment Survey (ENOE, for its initials in Spanish) show that in February of 2021 the female labour force participation was 21 million with an economic participation rate of 40.9% in women of working age. Data between the surveys seems consistent, even considering the time span between the two. (Instituto Nacional de Estadística y Geografía, 2021)

Table 2: Tabulation of type of employment

Type of employment	Freq.	Percent	Cum.
Employee	29948	64.05	64.05
Manual worker	1433	3.06	67.11
Labourer	884	1.89	69.00
Freelancer	12515	26.76	95.77
Employer	886	1.89	97.66
Worker without pay	1094	2.34	100.00

Self-made. Tabulation of type of employment which describes the type of employment for each woman in the sample. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

In Table 1 we can also note that the husbands' average income is 4,118MXN per month, 62% of husbands contribute to household expenses and the average contribution is 4,396MXN per month. It is odd that the husbands' contribution to household expenses is higher than their income[2], but it might be explained by the fact that the women might not know how much exactly their husbands earn and therefore there is a problem of misreporting. Another reason behind the report problem in the husband's income is that, for security reasons, women tend to misreport their income. It could also be that the husband's contribution to household expenses is paid via credit and is not necessarily backed up with his income. For this reason, the analysis only considers husbands' contribution to household expenses in the regressions instead of their income. Lastly, Table 1 shows that 80% of a sample of interviewed women answered the survey with secrecy, meaning that no one was listening her answers and, therefore, less report bias should be expected from the violence questions.

Table 3 shows the marital status of females in the sample. For the analysis, only married women will be considered because unmarried women tend to be the head of their households and bargaining power is not defined for them since it is a relative parameter. Married women constitute more than 65% of the sample.

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[2] For 36,516 of the observations in the data, husband's reported income is lower than the husband's contribution to household expenses.

Table 3: Tabulation of marital status

	Freq.	Percent	Cum.
Married woman with present spouse	70750	63.59	63.59
Married woman with spouse temporarily absent	2105	1.89	65.48
Separated or divorced woman	11241	10.10	75.59
Widow	8349	7.50	83.09
Single woman with partner	6700	6.02	89.11
Single woman with ex-partner	7078	6.36	95.48
Single woman who has never had a partner	5033	4.52	100.00

Self-made. Tabulation of marital status which describes the marital status for each woman in the sample. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

Table 4 shows that 85% of the marriages in the sample were consensual marriages. However, almost 3% marriages in the sample were forced, due to pregnancy, bride kidnaping, or due to a transaction. This is relevant because being forced to wed is an initial condition that plums female bargaining power to zero. As a matter of fact, Chuta (2019) documents that in Ethiopia, the form of the marriage significantly contributes to the bargaining power of the women. As seen in their findings, "young women who had arranged marriages, in contrast to those who choose their own marriage partner, had less decision-making within marriage, especially in negotiating with husbands to engage in income-generating activities, go back to school, when to have children, as well as use of contraception. (…) When families were exempted from paying marriage endowments because of their poor economic status, this had a negative repercussion on the bargaining power of the woman. (…) Some of the women were unable or less confident in communicating and negotiating with their husbands, either because they had married a person they did not know before or expected to honour male dominance. Hence traditional norms play a significant role in shaping women's marital agency." Chuta (2019)

Other situations, like getting pregnant and *decided* to marry and wanting to get out of home, which resulted in a marriage are not as hostile in terms of bargaining power but are neither ideal. For this reason, this variable will be included as a control in the regression analysis.

Why did you marry or have a union your current partner?	Freq.	Percent	Cum.
You got pregnant and were forced to marry	981	1.06	1.06
You got pregnant and decided to marry	7233	7.82	8.89
You were taken away and forced to marry against your will	812	0.88	9.76
In exchange of money, gifts or properties, your parents arranged the marriage	470	0.51	10.27
You wanted to get out of home	3630	3.93	14.20
We both decided	78447	84.86	99.06
Other	872	0.94	100.00

Self-made. Tabulation of reasons to marry which the reasons why each woman married. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

ENDIREH 2016 also includes a set of asset ownership (land, cars, savings, house, office, shops, real estate, and others) variables and recognises who in the family has ownership of this assets. This research will only analyse ownership of land, savings, and a house. Table 5 shows that 25.56% of women in the sample own their homes, while 33.27% of the husbands have this asset ownership. Also, there are 11% of marriages that own their home jointly, this is common in Mexico where marriages with common property are allowed. Still, there is a higher ownership of houses for men in the sample than for women.

Table 5: Tabulation of house ownership

	Freq.	Percent	Cum.
Woman owned	18609	25.56	25.56
Husband owns	24220	33.27	58.82
Both own	7995	10.98	69.81
Her mother owns	5104	7.01	76.82
Her father owns	7471	10.26	87.08
Woman-side family member owns	4682	6.43	93.51
Husband-side family owns	3897	5.35	98.86
Others own	830	1.14	100.00

Self-made. Tabulation of house ownership which describes who owns the selected asset. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

Table 6 shows that 17.25% of women in the sample own land, while 45.35% of the husbands have this asset ownership. This is not uncommon, neither in Mexico nor in other parts of the world and shows a great disparity in land ownership between the sexes, especially when

taking into consideration that globally -and more acutely in the developing world- more women work in agriculture than men[3].

Table 6: Tabulation of land ownership

	Freq.	Percent	Cum.
Woman owned	2406	17.25	17.25
Husband owns	6326	45.35	62.60
Both own	688	4.93	67.54
Her mother owns	620	4.45	71.98
Her father owns	2013	14.43	86.41
Woman-side family member owns	895	6.42	92.83
Husband-side family owns	866	6.21	99.04
Others own	134	0.96	100.00

Self-made. Tabulation of land ownership which describes who owns the selected asset. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

Similarly, Table 7 shows that 36.34% of the women in the sample own a savings account, while 20.64% of the husbands own this type of asset, and 20.74% of the marriages own a joint account. The fact that women have, in average, more ownership of savings accounts might be explained by the fact that numerous social programmes of direct transfers are targeted to women, and therefore, require them of having a bank savings account.

Table 7: Tabulation of savings ownership

	Freq.	Percent	Cum.
Woman owned	3272	36.34	36.34
Husband owns	1859	20.64	56.98
Both own	1868	20.74	77.72
Her mother owns	641	7.12	84.84
Her father owns	793	8.81	93.65
Woman-side family member owns	424	4.71	98.36
Husband-side family owns	86	0.96	99.31
Others own	62	0.69	100.00

Self-made. Tabulation of savings ownership which describes who owns the selected asset. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

For the variables of asset ownership, I created dummy variables that take the value of 1 if the woman owns the asset (by herself or jointly with her spouse) and zero in other case. Table

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[3] According to The World Bank, women make up almost half of the world's farmers, and over the last few decades, they have broadened their involvement in agriculture. (World Bank, 2017)

8 shows the tabulation of these constructed variables. As seen in panels B and C, land and savings ownership respectively show very few observations with asset ownership. For this reason and to maximize the number of observations of the dependent variable, the regression analysis will be conducted only house ownership.

Table 8: Tabulation of owns house

Panel A: Tabulation of owns house

	Freq.	Percent	Cum.
0	46204	63.46	63.46
1	26604	36.54	100

Panel B: Tabulation of owns land

	Freq.	Percent	Cum.
0	10854	77.82	77.82
1	3094	22.18	100

Panel C: Tabulation of owns savings

	Freq.	Percent	Cum.
0	3865	42.92	42.92
1	5140	57.08	100

Self-made. The table describes female's asset ownership of the selected asset. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

The ENDIREH 2016 also includes questions regarding gender-based violence and domestic violence. These questions are appointed to knowing if the woman has been a victim of verbal, physical, sexual, psychological, or other types of violence in different contexts: the public space, the family context, when she was an infant or in her current relationship. Table 9 shows that 23.33% of the women in the sample have been subject to any of these forms of violence in the street or public space, 9.42% in the family context, 6.14% when they were infants, and almost 40% in their current relationships. These figures are, at least, worrying and show the severity of the problem of domestic violence in Mexico.

Table 9: Tabulation of violence

Panel A: Tabulation of violence in the street

	Freq.	Percent	Cum.
0	85263	76.67	76.67
1	25952	23.33	100

Panel B: Tabulation of violence in the family

	Freq.	Percent	Cum.
0	100780	90.58	90.58
1	10476	9.42	100

Panel C: Tabulation of violence as an infant

	Freq.	Percent	Cum.
0	97897	93.86	93.86
1	6407	6.14	100

Panel D: Tabulation of violence with her partner

	Freq.	Percent	Cum.
0	66889	60.12	60.12
1	44367	39.88	100

Self-made. Tabulation of violence which describe if the woman has been victim of any type of violence (verbal, physical, sexual, psychological, or others) in the street or public space, the family context, when she was an infant, or in her current relationship. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

However, some clarifications must be made. First, let us not forget that these are self-reported variables and could be misreported, plus, violence and domestic violence tend to be sub-reported, so we have reasons to believe that these incidences must be higher. Second, the data could be outdated since it is almost 6 years old and considering that gender-based violence has not decreased in Mexico in those years, we have reasons to believe these numbers could be higher in updated data.

This chapter has described the data and presented descriptive statistics of some relevant variables for the analysis. The next chapter will describe the methodology through which these data is analysed.

4. <u>Empirical Strategy</u>

This chapter discusses the specification of the econometric model and the creation of the indices used in the analysis. The first section will motivate the specification of the empirical model, discuss the assumptions behind the chosen model and provide an equation to be estimated. The following section and subsections will motivate the methodology used to compute the indices, describe the variables that make up the indices and show some descriptive statistics of the indices as an output.

A. Econometric model

The objective of this research is to analyse what factors, such as intra-family bargaining power, influence asset ownership of Mexican married women. The hypothesis of this research states that there is a positive relationship between female intra-household bargaining power and asset ownership. As discussed in previous sections, there is a vast literature that documents that, to the extent that women own more assets (land, bank accounts, household cash flow), their intra-family bargaining power increases. In turn, there are reasons to think that if women have more bargaining power within the household, they have the freedom to acquire private goods (for example, that the deeds of the house or land are signed under her name) and other assets such as bank accounts. Considering this recursive relationship between both variables, if an adequate estimate of the causal relationship between financial bargaining power and asset ownership is desired, an econometric model that takes said endogeneity into account must be used. Therefore, this research states that the domestic violence experienced by women only affects their possession of assets through its relationship with their bargaining power. Using the hypothesis and the identification assumption described above, the method of two-stage least squares (2SLS) is suitable to control for the endogeneity between female intra-family bargaining power and their ownership of assets, using domestic violence as a plausibly exogenous instrumental variable.

Equation (1) describes the relationship between asset ownership and bargaining power:

$$Y_i = \beta_0 + \sum_{j=1}^{J=k} \beta_j X_{ji} + \theta BP_i + \varepsilon_i \qquad (1)$$

Where Y_i is a dummy variable that takes the value of 1 when the woman owns the asset and 0 when she does not, X_{ji} is a set of j observable characteristics of for each i woman, BP_i is a measurement of bargaining power and ε_i is the error term. In equation (1) BP_i is an endogenous variable, therefore estimating equation (1) using ordinary least squares (OLS), the estimators obtained would be biased.

$$BP_i^* = \alpha_0 + \sum_{j=1}^{J=k} \beta_j X_{ji} + \gamma DV_i + u_i \qquad (2)$$

Equation (2) describes the first stage of the two-stage least squares, thus BP_i^* is the result of performing an ordinary least squares regression on all the exogenous variables in equation (1) and the instrumental variable DV_i that is a measure of the domestic violence of woman i, which will work as a good instrument as long as the restrictions of exogeneity and relevance hold. The relevance restriction will be assessed in the next chapter using an F-Test, but the exogeneity of the instrument cannot be tested. However, there are reasons to believe that domestic violence is an exogenous instrument since, as shown in Pereira, Peterman, and Yount (2017), asset ownership is one measure of economic empowerment and can convey substantial agency as to leave a wealth store. Therefore, the mechanism through which asset ownership is correlated with domestic violence is female autonomy and empowerment, which can be interpreted as measures of female bargaining power. In addition, Gahramanov, Gaibulloev, and Younas (2021) study the direct relationship between property ownership (land and house) and domestic violence and find no evidence to suggest that property ownership by a woman reduces domestic violence against her. Hence, domestic violence is only related to asset ownership via bargaining power, and we have reasons to believe that the exogeneity restriction holds.

$$Y_i = \beta_0 + \sum_{j=1}^{J=k} \beta_j X_{ji} + \theta\, BP_i^* + \varepsilon_i \qquad (3)$$

Equation (3) describes the second stage of the two-stage least squares method, in this, the endogeneity of bargaining power and asset ownership has been controlled by means of the regression in the first stage. Equation (3) will be the base equation for the results of the analysis.

I must clarify that for equations (1) and (3), the dependent variable is home ownership. In other words, Y_i is a dummy variable that takes the value of 1 when the woman has home ownership and 0 when she does not. Other variables such as land ownership and bank account

ownership could not be considered in this analysis due to a lack of observations. Although it might be odd, this is common in underbanked countries like Mexico and where land property rights are often not well defined.

In addition, I must also clarify that the measures of bargaining power and domestic violence shown in equations (1), (2) and (3) are indices that summarize information of questionnaires in ENDIREH related to bargaining power and domestic violence. The following section and sub-sections will delve into this.

B. Computation of indices

In order to estimate the causal relationship of interest described in equation (3) first of all, it is necessary to define the variables themselves. One of the complications involved in working with the data from the ENDIREH 2016 is that it is a survey with qualitative data, which restricts the capacity for measurement and inference based on the data directly. These qualitative data is captured almost exclusively by categorical variables that indicate for instance, frequency or magnitude of violent actions towards women. Therefore, transforming the data into indices is a relatively straightforward way to analyse and interpret the data more efficiently, at least for the purposes of this research. Given the nature of the data, this research uses the Multiple Correspondence Analysis (MCA) method, which is a method for data analysis used to describe, explore, summarize, and visualize information contained within a data table of N individuals described by Q categorical variables.

MCA may be thought of as a categorical counterpart of principle components analysis (PCA) for categorical data (rather than quantitative variables), or as an extension of correspondence analysis (CA) for more than two categorical variables. The main goals of MCA are to: (1) provide a typology of individuals, that is, to study the similarities between individuals from a multidimensional perspective; (2) assess the relationships between the variables and study the associations between the categories; and (3) link the individual and variable studies together in order to characterize individuals using variables. (Husson and Josse, 2014).

The following are some of the advantages of using MCA: (1) it demonstrates the relationships between categories; (2) it is objective and makes no assumptions; there are no underlying distributional assumptions, and thus it accommodates all category variables; (3) one of the

obvious strengths of correspondence analysis is that it easily and simply handles multiple variables, which no other statistical method can do. (Husson & Josse, 2014)

However, there are some limitations to this method. First, the data must first be consistent. Correspondence analysis is only useful when the data has at least two rows and two columns, no missing data, no negative data, and all the data has the same scale. For the analysis performed in this article, this is no problem since in ENDIREH 2016 the scales used for measuring magnitude and frequency are identical and observations with missing data can be removed, without concern of being left with a sample size that is too small. Second, correspondence analysis may lack of statistical significance to assess if the variables that comprehend the index are significantly correlated, if compared to other methods. In contrast to chi-squares, which clearly demonstrate statistical significance, correspondence analysis just reveals a link. There is no discussion of or method for determining if these relationships are significant or if their strength is attributable to anything other than chance. For this analysis, this is not a problem since I am more interested in finding statistical significance of the coefficients associated with the MCA index in a regression.

Barth (2016) uses MCA to study the changing nature of gender roles attitudes since it is a methodology that simplifies the analysis of questionnaire data, measure and make comparisons. The author's work is not closely related to this research but uses MCA to simplify and make more objective the measurement of questionnaire data, which is what I aim to do with the ENDIREH 2016. Given the benefits of the method and that the limitations seem not to be too severe for this analysis, I conclude that MCA is a good method to estimate the indices of bargaining power and domestic violence that will be used to estimate equations (2) and (3).

a. _Bargaining Power Indices_

The ENDIREH 2016 represents an unbelievably valuable source of information in terms of the diversity of aspects that it records. In this way, the information available in the survey allows for a sufficiently broad segmentation of five aspects that constitute female intra-household bargaining power: 1) autonomy, which refers to how freely can she make decisions 2) context, which refers to how exposed is she to harassment and other violence against women in the context in which she lives and if there are institutions that support her when she experiences these and other forms of violence, 3) housework, which refers to how housework is divided

within the household (does she carry the burden of all the housework or she and her husband do an equal amount of chores?), 4) support network, which refers to her having friends, family or other people which she can rely on and ask for help if needed, and 5), beliefs, which refers to the woman's beliefs towards gender roles. Taking this into consideration, for this study, five indices of bargaining power were created, one type for each aspect that integrates the intra-family bargaining power of females.

Autonomy

The questions that were included to generate the autonomy index seek to capture how freely the woman can decide to work or study, leave the house, what to do with her own money, choose her clothing and appearance, give permission and allowances to her children, have sex with her spouse, use contraceptives, have children, and so on. Section I of the appendix includes all the questions considered in this index and section II of the appendix shows the tabulation of these variables.

Context

For the context index, two types of variables were considered. First, a set of variables that capture if the woman has been subject of violence in the public space (such as the street, park, market, plaza, shopping centre, bus, subway, taxi, church or temple, a canteen, bar, nightclub, party, neighbourhood assembly, a home private or other public places), and second, a set of variables that capture the reasons why she didn't report the incident(s) as a measure of institutional context. Tables in section II of the appendix shows all the questions included in this index and a tabulation of the questions.

Housework

The questions that were included to generate the housework index seek to capture how the spouses distribute house chores and care responsibilities. For instance, who takes care of the children and the elderly, who cleans the house, who buys groceries, who repairs home appliances, and so on. Section III of the appendix shows the questions included in this index and the tabulation of these variables.

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Network

For the network index, three types of variables were considered. First, a set of variables that capture what a woman does when she needs money. Second, a set of variables that capture if she has activities outside of the household. And third, a set of variables that capture who she goes to when she has a problem. Section IV of the appendix shows all the questions included in the index and a tabulation of this set of variables.

Beliefs

The questions that were included to generate the beliefs index seek to capture the woman's beliefs towards gender roles, for instance if men should earn more than women, if women should be responsible for care work and house chores. Section V of the appendix shows the questions considered in this index and the tabulation of these variables. I must clarify that the index for beliefs will not be considered in the index of bargaining power, it will rather be used as a control in the regression.

Bargaining power

After computing the indices listed above, I construct an index of indices using principal component analysis (PCA) to obtain a measure of female intra-household bargaining power. For this case I use PCA instead of MCA since MCA is only defined for categorical variables, whereas PCA is only defined for continuous variables. Since the indices I computed with MCA exist in a continuous space, PCA is the best approach to compute the bargaining power index.

Table 10: Descriptive Statistics of the indices of bargaining power

Variable	Obs	Mean	Std.Dev.	Min	Max
index_automy	36924	0	0.753	-0.463	3.748
index_context	34897	0	0.334	-0.361	2.936
index_housework	3362	0	0.813	-0.421	3.991
index_network	111000	0	0.435	-0.454	1.779
index_beliefs	111000	0	0.544	-0.616	1.877

Self-made. The table shows in the first column the total observations available for each variable, in the second column the average value of said variable, in the third column the standard deviation, in the fourth variable the minimum value is shown and in the fifth column the maximum value of each variable is shown.

Table 10 shows that all the indices are centred around zero, which indicates an accurate construction of the indices. Also, we can see that some indices have more observations than

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others. This is due to several reasons: 1) in order to construct the MCA indices, missing values had to be dismissed, 2) not all women in the sample answered all the questions, therefore, creating missing values. Therefore, and looking forward to keeping as many observations as possible, the combination of indices that maximises the number observations in the bargaining power index will be used. As shown in Table 10, the index of housework has very few observations in comparison to the rest of the indices, hence, it will be dismissed. After computing the bargaining power index with the indices for autonomy, context, and network, I realised that index context also created a lot of missing values due to an intersection problem, hence, it was also dismissed from the index, but I might use it as a control for the regression analysis. Finally, the indices used to compute the bargaining power index are:

- Index of autonomy
- Index of network

b. *Domestic Violence Indices*

The ENDIREH 2016 also presents very detailed data on the types of violence women are or can be subjected to. It also distinguishes that violence can occur in the family, in the community in general, at work, at school and that perpetrated or tolerated by the State, clarifying that this violence can be physical, sexual, or psychological. In this way, the information available in the survey allows for a sufficiently broad segmentation of at least three aspects that constitute domestic violence: 1) family domestic violence, which refers to sexual, physical, verbal or other types of violence that occur or have occurred in the extended family (parents, stepparents, grandparents, sons, siblings, uncles, cousins, father-in-law, brother-in-law, nephews, son-in-law and others); 2) partner domestic violence, which refers to sexual, physical, verbal, economical or other types of violence that occur or have occurred with the current partner, therefore, observations for these variables are only for those women who are currently married; and 3) infant domestic violence, which refers to sexual, physical, verbal or other types of violence that occurred when the woman was a child, from family members towards the woman or between the parents. Taking this into consideration, for this study, three indices of domestic violence were created, one type for each aspect that integrates domestic violence females are subjected to.

Family domestic violence

The questions that were included to generate the family domestic violence index seek to capture if the woman was ever subject of physical, sexual, verbal psychological or economical violence from a family member. Section VI of the appendix shows the questions included in the index and the tabulation of these variables.

Partner domestic violence

The questions that were included to generate the partner domestic violence index eek to capture if the woman was ever subject of physical, sexual, verbal psychological or economical violence from her current partner, at any point of the relationship. Section VII of the appendix shows the questions included in this index and the tabulation of these variables.

Infant domestic violence

The questions that were included to generate the infant domestic violence can be separated into two groups: the first refers to the context in which the woman grew up in, and the second to the direct violence that the woman was subjected to. The first set of questions considered for the index seek to capture if the parents, of either the woman or her spouse, were violent (physical or verbally) with each other. The second set of questions seek to capture if the woman was eek to capture if the woman was ever subject of physical, sexual, verbal, or psychological violence when she was a child. Section VIII of the appendix shows the questions used in this index and the tabulation of these variables. As mentioned before, to successfully construct an MCA index, all the categorical variables must have the same categories, however, the two sets of questions have various categories. For this reason, to compute the infant domestic violence index, I first computed two MCA indices for each set of questions and then performed a PCA index of infant domestic violence.

Domestic violence

After computing the indices listed above, the same methodology I used when computing the bargaining power index to obtain a measure of domestic violence was implemented. Table 11 shows that all the indices are centred around zero, which indicates an accurate construction of the indices. Also, we can see that some indices have more observations than others, but without

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the problem of too few observations that the indices for bargaining power had. Therefore, none of the indices are dismissed and the indices used to compute the bargaining power index are:

- Index of family domestic violence

- Index of partner domestic violence

- Index of infant domestic violence

Table 11: Descriptive Statistics of the indices of domestic violence

Variable	Obs	Mean	Std.Dev.	Min	Max
index_infant	99598	0	.522	-.4	4.153
index_partner	38466	0	.564	-.388	3.825
index_family	111000	0	.516	-.091	18.73

Self-made. The table shows in the first column the total observations available for each variable, in the second column the average value of said variable, in the third column the standard deviation, in the fourth variable the minimum value is shown and in the fifth column the maximum value of each variable is shown.

Table 12 shows how the indices are correlated to the variable of interest house ownership. We can see in the first column that, as expected, autonomy, a more equal distribution of housework, more open beliefs towards gender roles, and bargaining power are positively correlated to house ownership. Oddly, infant domestic violence and domestic violence are also positively correlated to house ownership and context is negatively correlated to house ownership.

Table 12: Matrix of correlations between indices and home ownership

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) owns house	1.000										
(2) autonomy	0.071	1.000									
(3) context	-0.085	-0.042	1.000								
(4) housework	0.067	0.261	0.050	1.000							
(5) network	-0.020	0.080	0.009	0.037	1.000						
(6) beliefs	0.062	0.272	0.061	0.128	0.108	1.000					
(7) infant d.v.	0.202	0.239	0.237	0.003	0.040	0.148	1.000				
(8) partner d.v.	-0.004	0.547	-0.095	0.092	0.020	0.188	0.267	1.000			
(9) family d.v.	-0.016	-0.081	0.152	-0.050	-0.028	-0.062	0.143	0.051	1.000		
(10) bargaing	0.041	0.795	-0.026	0.217	0.669	0.269	0.202	0.421	-0.078	1.000	
(11) domestic violence	0.119	0.395	0.153	0.031	0.026	0.166	0.809	0.683	0.452	0.310	1.000

Self-made. The table shows in the first column, the correlation between house ownership and the indices, in the second column it shows the correlation between the first index with the rest of the indices and so on.

Table 13 shows how the indices are correlated to the variable of interest land ownership. We can see in the first column that, as expected, autonomy, a more equal distribution of housework, and bargaining power are positively correlated to house ownership. Oddly, almost all measures of domestic violence positively correlated to land ownership and context and network are negatively correlated to land ownership.

Table 13: Matrix of correlations between indices and land ownership

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) owns land	1.000										
(2) autonomy	0.323	1.000									
(3) context	-0.091	-0.055	1.000								
(4) housework	0.184	0.439	-0.066	1.000							
(5) network	-0.174	0.238	0.036	0.039	1.000						
(6) beliefs	-0.004	0.415	0.106	-0.153	0.388	1.000					
(7) infant d.v.	0.042	-0.147	0.686	-0.259	-0.259	0.141	1.000				
(8) partner d.v.	-0.021	-0.195	-0.026	-0.267	0.042	-0.070	0.008	1.000			
(9) family d.v.	0.099	-0.157	-0.079	-0.006	-0.029	0.213	0.091	-0.018	1.000		
(10) bargaing	0.125	0.831	-0.018	0.327	0.739	0.510	-0.251	-0.111	-0.125	1.000	
(11) domestic violence	0.069	-0.221	0.572	-0.277	-0.231	0.190	0.917	0.175	0.441	-0.286	1.000

Self-made. The table shows in the first column, the correlation between land ownership and the indices, in the second column it shows the correlation between the first index with the rest of the indices and so on.

Table 14 shows how the indices are correlated to the variable of ownership of a savings account. Oddly, we can see that almost all indices, except for infant domestic violence and domestic violence, are negatively correlated to this asset ownership.

Table 14: Matrix of correlations between indices and savings account ownership

Varia-bles	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) owns savings	1.000										
(2) auton-omy	-0.049	1.000									
(3) con-text	-0.202	-0.241	1.000								
(4) house-work	-0.184	0.052	0.022	1.000							
(5) net-work	-0.217	0.286	-0.034	0.582	1.000						
(6) beliefs	-0.263	0.252	0.107	0.224	0.311	1.000					
(7) infant d.v.	0.445	0.459	-0.310	0.137	0.088	0.014	1.000				
(8) partner d.v.	-0.075	0.609	-0.052	-0.207	0.102	-0.041	0.021	1.000			
(9) family d.v.	-0.088	-0.082	-0.065	-0.098	0.591	0.295	-0.211	-0.160	1.000		
(10) bar-gaing	-0.156	0.841	-0.183	0.364	0.759	0.347	0.361	0.471	0.278	1.000	
(11) do-mestic vi-olence	0.286	0.743	-0.280	-0.039	0.193	0.013	0.765	0.653	-0.168	0.614	1.000

Self-made. The table shows in the first column, the correlation between savings ownership and the indices, in the second column it shows the correlation between the first index with the rest of the indices and so on.

Table 15 shows how the indices are correlated to the variable of working outside the household. Oddly, we can see that almost all indices, except for partner domestic violence, are negatively correlated to this variable.

Table 15: Matrix of correlations between indices and female working outside the household

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) works	1.000										
(2) autonomy	-0.026	1.000									
(3) context	-0.016	0.064	1.000								
(4) housework	-0.130	0.190	0.010	1.000							
(5) network	-0.115	0.248	0.029	0.023	1.000						
(6) beliefs	-0.158	0.247	0.073	0.126	0.222	1.000					
(7) infant d.v.	-0.037	0.178	0.216	-0.029	0.100	0.102	1.000				
(8) partner d.v.	0.055	0.544	0.068	0.015	0.181	0.102	0.292	1.000			
(9) family d.v.	-0.068	0.033	0.200	-0.070	0.108	0.036	0.177	0.215	1.000		
(10) bargaing	-0.084	0.830	0.061	0.144	0.746	0.298	0.180	0.478	0.085	1.000	
(11) domestic violence	-0.018	0.382	0.226	-0.035	0.186	0.119	0.751	0.742	0.585	0.370	1.000

Self-made. The table shows in the first column, the correlation between female working outside the household and the indices, in the second column it shows the correlation between the first index with the rest of the indices and so on.

Even though the correlations between the indices and the variables of interest may be odd, probably due to the endogeneity problem, we can see correlation between them which implies that family dynamics have an impact on asset ownership of females.

Chapter 4 has presented the specification of the econometric model and the methodology for analysis and transformation of data for this study. Chapter 5 presents research findings and discusses them and chapter 6 presents conclusions, discussions, and recommendations for future research.

5. Results

With the empirical strategy defined previously and with the necessary indices constructed in the previous section, the main results obtained in this analysis are presented below. This section also explains how these results answer the research question "how does intra-family bargaining power affect asset ownership and the decision of working outside the household for women in Mexico?" and present some validity tests for the results. The rest of this chapter is organised as follows: first some naïve estimations will be presented to show how the endogeneity bias affects the results in an ordinary least squares (OLS) estimation, then the two-stage least squares (2SLS) that solves for the endogeneity problem will be presented, and lastly, some validity tests for the instruments will be discussed.

a. Naïve OLS estimations

Table 16 shows the estimates corresponding to equation (1). This table shows the results of the relationship of interest between female house ownership and bargaining power. Each column presents the result of an ordinary least squares regression of different measures of bargaining power (MCA and PCA indices) and the variable of interest, house ownership, which is a dummy variable that takes value of 1 if the woman owns the house (by herself or jointly with her spouse) and zero in other case. We can see that all measurements of bargaining power are significant and positively correlated with house ownership. We can also see in column (3) that the specification with the index of housework (which measures the division of housework in the household) a lot less observations than the rest of the specifications, this has to do with the fact that not all women answered all the same questions. For this reason, when computing the bargaining power PCA index, only the index of autonomy and the index of network were taken into consideration.

Table 16: Naïve OLS estimation

VARIABLES	(1) Naive OLS owns house	(2) Naive OLS owns house	(3) Naive OLS owns house	(4) Naive OLS owns house	(5) Naive OLS owns house	(6) Naive OLS owns house
index_autonomy	0.0103** (0.00435)					
index_context		0.0614*** (0.00998)				
index_house			0.0505*** (0.0115)			
index_network				0.107*** (0.00418)		
index_beliefs					0.0339*** (0.00319)	
index_bargain-ing						0.0238*** (0.00311)
Constant	0.411*** (0.00327)	0.352*** (0.00324)	0.339*** (0.00973)	0.366*** (0.00178)	0.364*** (0.00179)	0.411*** (0.00327)
Observations	22,687	21,625	2,357	72,621	72,806	22,627
R-squared	0.000	0.002	0.008	0.009	0.002	0.003

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Self-made. The table shows four different specifications where the dependent variable house ownership and what differs is the measure of bargaining power.

Table 17 shows the same specification as before but including controls; the index of beliefs and the index of context are now considered as controls, because sociodemographic factors, such as age and years of education, and the indices can be correlated to house ownership. As expected, the coefficient for age is positive and decreasing, years of education has a positive effect in house ownership, cohabiting with the spouse has a negative effect on house ownership, and receiving *prospera* has a positive effect on house ownership. Surprisingly, having her own money has a negative effect on house ownership, however, it could be that the woman uses that money for private spending rather than in the public good for the household that is acquiring a home. The index for beliefs towards gender roles has heterogenous effects, which might be due to the endogeneity problem and the husband's contribution to household expenses and in the index for context do not seem to influence house ownership.

Table 17: Naïve OLS estimation with controls

VARIABLES	(1) Naive OLS owns house	(2) Naive OLS owns house	(3) Naive OLS owns house	(4) Naive OLS owns house
index_autonomy	-0.0298**			
	(0.0124)			
index_house		0.0238		
		(0.0471)		
index_network			0.0136	
			(0.0104)	
index_bargaining				-0.000870
				(0.00768)
Age	0.0316***	0.0292**	0.0300***	0.0321***
	(0.00337)	(0.0122)	(0.00200)	(0.00338)
Age2	-0.000253***	-0.000264**	-0.000242***	-0.000259***
	(3.97e-05)	(0.000133)	(2.28e-05)	(3.97e-05)
Years of education	0.0124***	0.00771	0.0131***	0.0125***
	(0.00187)	(0.00742)	(0.00120)	(0.00187)
Indigenous	0.0653*	0.223*	0.0485**	0.0594
	(0.0362)	(0.128)	(0.0213)	(0.0362)
Cohabit	-0.0696***	0.0952	-0.0563***	-0.0592**
	(0.0251)	(0.0973)	(0.0168)	(0.0249)
Husband's contribution	0.124	0.838	0.129**	0.129
	(0.0829)	(0.706)	(0.0562)	(0.0830)
Own money	-0.0333**	-0.124**	-0.0403***	-0.0352**
	(0.0138)	(0.0552)	(0.00899)	(0.0138)
Prospera	0.0454**	-0.0288	0.0314**	0.0442**
	(0.0224)	(0.0774)	(0.0142)	(0.0225)
index_beliefs	-0.00609	0.147**	-0.0269**	-0.0112
	(0.0173)	(0.0665)	(0.0105)	(0.0172)
index_context	0.0350*	0.00529	0.0154	0.0296
	(0.0211)	(0.0779)	(0.0134)	(0.0211)
Constant	-0.508***	-0.483*	-0.492***	-0.525***
	(0.0737)	(0.280)	(0.0449)	(0.0735)
Observations	11,715	4,937	296	6,116
R-squared	0.078	0.084	0.100	0.071

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Self-made. The table shows four different specifications where the dependent variable house ownership and what differs is the measure of bargaining power. For all specifications, Husband's contribution was divided by 100000 to prevent scientific notation.

We can see that most measures of bargaining power lost their statistical significance, which makes sense because other sociodemographic variables also explain variation in house owner-ship. However, I would expect that this insignificance is solved when solving for the endogene-ity problem.

b. Instrumental variables estimations

Table 18 shows the results of the first stage of the two-stage least squares estimation. That is, the endogenous variable regressed on the exogenous variables, represented in equation (2). The first column shows the results of the coefficients of the endogenous variable of bar-gaining power on the instrument index for family domestic violence and the controls for age, years of education, ethnicity, cohabit situation, husband's contribution to household expenses, money autonomy, receiving *prospera*, and the indices for beliefs towards gender roles and con-text. The following columns have the same dependent variable and controls, but different in-struments: the second column uses partner domestic violence as instrument, the third column uses infant domestic violence as instrument, and the fourth column uses the general index for domestic violence as instrument.

Some sociodemographic variables such as age, husband's contribution to household ex-penses, and receiving *prospera* have no effect on bargaining power. This result is contrary to what is found in Rubalcava and Thomas (2000), where an external shift in income, caused by *prospera*, increases female intra-household bargaining power. However, these two results have 16 years of difference, and the effect of the program may have been diluted over time. Counter-intuitively, years of education has a negative effect on the index of bargaining power and being Indigenous has a positive effect on bargaining power. However, as expected, cohabiting with the spouse has a negative effect on bargaining power, less sexist beliefs towards gender roles have a positive effect on bargaining power, and a less violent context has a positive effect to-wards bargaining power. Additionally, all the measures of domestic violence are highly corre-lated with bargaining power, meaning that less domestic violence can have an important effect on the relative position of a woman within the household. It is worth highlighting that in column (2) the coefficient for partner domestic violence indicates that an additional unit on the index of partner domestic violence increases the index of bargaining power in 0.77 units, being the larges effect in all the measurements of domestic violence.

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Table 18: First stage results: domestic violence is highly correlated with bargaining power

VARIABLES	(1) IV 1st Stage z = index_family index_bargaining	(2) IV 1st Stage z = index_partner index_bargaining	(3) IV 1st Stage z = index_infant index_bargaining	(4) IV 1st Stage z = index_domestic_vi- olence index_bargaining
index_family	0.103*** (0.0183)			
index_partner		0.768*** (0.0437)		
index_infant			0.232*** (0.0215)	
index_domestic_vi-olence				0.204*** (0.0162)
Age	0.0141** (0.00625)	0.00325 (0.00888)	0.00998 (0.00628)	0.00541 (0.00919)
Age2	-5.29e-05 (7.35e-05)	7.33e-05 (0.000104)	-9.88e-06 (7.38e-05)	6.89e-05 (0.000108)
Years of education	-0.0148*** (0.00346)	-0.00615 (0.00504)	-0.0109*** (0.00350)	-0.00679 (0.00526)
Indigenous	0.254*** (0.0669)	0.403*** (0.0903)	0.242*** (0.0671)	0.324*** (0.0942)
Cohabit	-0.388*** (0.0458)	-0.206*** (0.0614)	-0.349*** (0.0455)	-0.384*** (0.0611)
Husband's contribu-tion	0.0400 (0.154)	0.0578 (0.270)	0.00618 (0.153)	-0.0253 (0.275)
Own money	0.0430* (0.0255)	0.0639* (0.0364)	0.0318 (0.0257)	0.0670* (0.0379)
Prospera	0.0189 (0.0416)	-0.0337 (0.0575)	-0.0128 (0.0417)	-0.0543 (0.0598)
index_beliefs	0.246*** (0.0317)	0.326*** (0.0441)	0.239*** (0.0320)	0.305*** (0.0463)
index_context	0.228*** (0.0394)	0.0348 (0.0519)	0.109*** (0.0409)	-0.0496 (0.0558)
Constant	0.00362 (0.136)	0.188 (0.193)	-0.0188 (0.136)	0.191 (0.199)
Observations	4930	2570	4663	2429
F-Test	31.74	308.8	116.7	159.1

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Self-made. The table shows four different first stages where the dependent variable is the index for bargaining power and what differs is the instrument. For all specifications, Husband's contribution was divided by 100000 to prevent scientific notation.

Furthermore, the F-Test statistics shown in the last row indicate that all instruments are relevant for bargaining power. I should point out that one of the precautions that must be taken when interpreting the previous results is that there is the possibility of losing information in the index formation process, that is, the combination of variables can lead us to not knowing what the real effect of a variable is over another. It is worth mentioning that the main objective of this analysis is not to find the direct effect of one single variable on another, but rather to create general behaviour indicators for both domestic violence and the different measures of bargaining power.

Table 19 shows the main results of this analysis, corresponding to the estimation of equation (3) using instrumental variables. The coefficients presented correspond to the specification of the second stage of 2SLS. As mentioned before, the OLS results were biased estimators by the existing endogeneity problem. In contrast, the estimators presented in Table 20 are unbiased estimators after solving the endogeneity problem between female intra-household bargaining power and home ownership. As can be seen, the estimators that are statistically significant have the expected signs and have greater magnitude than the OLS estimators presented in Table 18. Column (1) shows the coefficient of equation (3) with the dummy variable of house ownership as dependent variable, instrumented with family domestic violence and with a set of controls that include age, years of education, ethnicity, cohabit situation, husband's contribution to household expenses, money autonomy, receiving *prospera*, and the indices for beliefs towards gender roles and context. Columns (2), (3), and (4) have the same dependent variable and controls but differ in the instrument: the second column uses partner domestic violence as instrument, the third column uses infant domestic violence as instrument, and the fourth column uses the general index for domestic violence as instrument.

Some sociodemographic variables have the expected sign, such as age, which is positive and decreasing, years of education have a positive impact on house ownership, and receiving *prospera* has appositive, yet barely significant, effect on house ownership. For columns (1) and (2), cohabiting with the spouse has a negative effect on house ownership, which is also the expected effect. For columns (2) and (4), husband's contribution to household expenses has a positive, although barely significant, effect on house ownership, this can be explained by the fact that more contribution may alleviate some liquidity restrictions and allow for spending in house ownership. For columns (1) and (3), the coefficient associated with the woman having

her own money is negative, this might be explained by the fact that she uses that money for private spending, rather than spending in the public good of house ownership, however, with this data it is impossible to prove this hypothesis, but it could be tackled in further research.

Table 19: Second stage stimations for house ownership

VARIABLES	(1) IV 2nd Stage z = index_family owns house	(2) IV 2nd Stage z = index_partner owns house	(3) IV 2nd Stage z = index_infant owns house	(4) IV 2nd Stage z = index_domestic_vi-olence owns house
index_bargaining	-0.0448	-0.0197	0.121**	0.0220
	(0.0961)	(0.0295)	(0.0525)	(0.0408)
Age	0.0327***	0.0347***	0.0299***	0.0341***
	(0.00361)	(0.00460)	(0.00363)	(0.00475)
Age2	-0.000261***	-0.000298***	-0.000246***	-0.000295***
	(4.00e-05)	(5.39e-05)	(4.19e-05)	(5.55e-05)
Years of education	0.0118***	0.0106***	0.0138***	0.0110***
	(0.00237)	(0.00264)	(0.00213)	(0.00276)
Indigenous	0.0709	0.0764	0.0436	0.0837*
	(0.0441)	(0.0481)	(0.0403)	(0.0505)
Cohabit	-0.0763*	-0.0711**	-0.0120	-0.0453
	(0.0449)	(0.0341)	(0.0323)	(0.0369)
Husband's contri-bution	0.131	0.253*	0.140	0.249*
	(0.0832)	(0.140)	(0.0869)	(0.142)
Own money	-0.0333**	-0.0109	-0.0396***	-0.0162
	(0.0145)	(0.0191)	(0.0147)	(0.0198)
Prospera	0.0452**	0.0596**	0.0400*	0.0592*
	(0.0226)	(0.0298)	(0.0236)	(0.0308)
index_beliefs	-6.61e-05	-0.0103	-0.0504**	-0.0297
	(0.0298)	(0.0249)	(0.0222)	(0.0274)
index_context	0.0411	0.0241	-0.00481	0.00526
	(0.0330)	(0.0271)	(0.0255)	(0.0282)
Constant	-0.523***	-0.559***	-0.514***	-0.569***
	(0.0737)	(0.100)	(0.0770)	(0.103)
Observations	4930	2570	4663	2429
R-squared	0.077	0.073	0.036	0.071

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Self-made. The table shows four different second stages where the dependent variable is the house ownership and what differs is the instrument. For all specifications, Husband's contribution was divided by 100000 to prevent scientific notation.

Let us also note that ethnicity and the index for context seem to have no effect on house ownership. Counterintuitively, the coefficient for the index of beliefs towards gender roles in column (3) is negative, meaning that an additional unit for this index decreases the probability of owning a house in 5%. Lastly and very surprising is that the coefficient associated with bargaining power is only significant in column (3), using the instrument of infant domestic violence. We can see that an additional unit in the index of bargaining power increases the chances of a woman owning a home in 12.1%, on average and everything else constant.

Why is bargaining power not significant for all the specifications house ownership? Let us not forget that Mexico is a country where sexism is very prevalent and there are plenty of strong patriarchal institutions (Espinoza et al., 2012; Frías, 2008; Hondagneu-Sotelo, 1992), therefore, most women have little bargaining power relative to men in making decisions that do not concern housework or reproductive activities (Braunstein & Folbre, 2001). In such hostile environment for women, some decisions may come first in priority than owning the house they live in. Therefore, in the next section motivates an alternative approach, using as dependent variable of interest that women decide to work outside the household.

c. An alternative approach

As mentioned in Chapter 2, Browning and Chiappori (1998) propose a theoretical framework based on the family's traditional Collective Bargaining Model. The model implies that a family's utility function is a weighted sum of each member's utilities, with everyone having their own bargaining power in the household decision-making process. As a result, according to their concept, home decisions are made based on bargaining among household members, and these decisions affect the family's power balance. Therefore, the endogeneity relationship between bargaining power and the decision to work exists, similar as with asset ownership. Noman, Mujahid, and Fatima, (2021) study the relationship between intra-household bargaining power and female labour force supply in Pakistan and find: 1) a strong and substantial endogenous relationship between these variables, and 2) that a female with weaker negotiating power is less likely to participate in household revenue production.

Given that the endogeneity relationship exists between bargaining power and the decision females working outside their homes, the methodology to estimate equations (2) and (3)

will be replicated but changing the dependent variable of interest to a dummy variable that takes the value of 1 if the woman works outside her home and zero in other case.

Table 20 shows the results of the first stage of the two-stage least squares estimation. That is, the endogenous variable regressed on the exogenous variables, represented in equation (2). The first column shows the results of the coefficients of the endogenous variable of bargaining power on the instrument index for family domestic violence and the controls for age, years of education, ethnicity, cohabit situation, husband's contribution to household expenses, money autonomy, receiving *prospera*, and the indices for beliefs towards gender roles and context. The following columns have the same dependent variable and controls, but different instruments: the second column uses partner domestic violence as instrument, the third column uses infant domestic violence as instrument, and the fourth column uses the general index for domestic violence as instrument.

The coefficients are very similar to those obtained in Table 18, except that age has a positive effect on bargaining power. Some sociodemographic variables such as husband's contribution to household expenses and receiving *prospera* have no effect on bargaining power. Again, this result is contrary to what is found in Rubalcava and Thomas (2000), but I have already argued why this difference exists. Again, and still counterintuitively, years of education has a negative effect on the index of bargaining power and being Indigenous has a positive effect on bargaining power. However, as expected, cohabiting with the spouse has a negative effect on bargaining power, less sexist beliefs towards gender roles have a positive effect on bargaining power, and a less violent context has a positive effect towards bargaining power. Same as in Table 19, all the measures of domestic violence are highly correlated with bargaining power, meaning that less domestic violence can have an important effect on the relative position of a woman within the household. It is worth highlighting that in this specification, the indices for partner domestic violence and infant domestic violence have a huge effect on bargaining power, even greater than the effect in shown in column (2) of Table 19. Furthermore, the F-Test statistics shown in the last row indicate that all instruments are relevant for bargaining power.

Table 20: First stage

VARIABLES	(1) IV 1st Stage z = index_family index_bargain-ing	(2) IV 1st Stage z = index_part-ner index_bargain-ing	(3) IV 1st Stage z = index_infant index_bargain-ing	(4) IV 1st Stage z = index_domestic_vi-olence index_bargaining
index_family	0.124*** (0.0134)			
index_partner		0.858*** (0.0323)		
index_infant			0.858*** (0.0323)	
index_domestic_vio-lence				0.242*** (0.0121)
Age	0.0211*** (0.00499)	0.0148** (0.00707)	0.0145*** (0.00503)	0.0159** (0.00739)
Age2	-0.000136** (6.08e-05)	-6.57e-05 (8.64e-05)	-6.33e-05 (6.13e-05)	-4.84e-05 (9.04e-05)
Years of education	-0.0192*** (0.00274)	-0.0143*** (0.00392)	-0.0144*** (0.00279)	-0.0140*** (0.00414)
Indigenous	0.189*** (0.0548)	0.208*** (0.0731)	0.182*** (0.0551)	0.185** (0.0768)
Cohabit	-0.418*** (0.0341)	-0.202*** (0.0449)	-0.383*** (0.0342)	-0.388*** (0.0454)
Husband's contribution	0.0792 (0.0982)	0.144 (0.207)	0.0666 (0.0980)	0.0619 (0.218)
Own money	0.0702*** (0.0196)	0.0771*** (0.0277)	0.0616*** (0.0198)	0.0852*** (0.0290)
Prospera	0.0202 (0.0326)	-0.0270 (0.0442)	-0.0227 (0.0328)	-0.0476 (0.0463)
index_beliefs	0.253*** (0.0244)	0.316*** (0.0339)	0.249*** (0.0248)	0.281*** (0.0359)
index_context	0.254*** (0.0295)	0.101*** (0.0380)	0.135*** (0.0308)	-0.0395 (0.0419)
Constant	-0.0509 (0.104)	0.0752 (0.145)	0.0752 (0.145)	0.0673 (0.152)
Observations	8502	4551		4268
F-Test	85.30	705.1	257.7	396.6

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Self-made. The table shows four different first stages where the dependent variable is the index for bargaining power and what differs is the instrument. For all specifications, Husband's contribution was divided by 100000 to prevent scientific notation.

Table 21 shows the unbiased estimators after solving the endogeneity problem between female intra-household bargaining power and the work decision. Column (1) shows the coefficient of equation (3) with the dummy variable of work as dependent variable, instrumented with family domestic violence and with a set of controls that include age, years of education, ethnicity, cohabit situation, husband's contribution to household expenses, money autonomy, receiving *prospera*, and the indices for beliefs towards gender roles and context. Columns (2), (3), and (4) have the same dependent variable and controls but differ in the instrument: the second column uses partner domestic violence as instrument, the third column uses infant domestic violence as instrument, and the fourth column uses the general index for domestic violence as instrument.

Some sociodemographic variables have the expected sign, such as age, which is positive and decreasing and years of education have a positive impact on working outside the home. For all columns, cohabiting with the spouse has a negative effect on the probability of the woman working outside her home, which is also the expected effect given the patriarchal institutions that exist within Mexican families. For all columns, the husband's contribution to household expenses has a negative effect on the probability of the woman working outside her home. This can be explained by the fact that husband's contribution to household expenses is higher than the woman's reserve price for entering the labour market. For all columns, the coefficient associated with the woman having her own money is negative, this might be explained by the ambiguity of the question directly in the survey, since it does not identify the source of the money and it can come from direct transfers of family or social programmes. But the intuition is similar to the coefficient of husband's income, it might be that the money that she has and can spend freely is larger than her reserve price for entering the labour market.

We can see that for all columns, the coefficient for bargaining power is positive and significant. Therefore, proving that female intra-household bargaining power affects the probability of her to work outside the household from 5.7% (see column (2)) to 11.4% (see column (1)) in Mexico, similar to the findings of Noman, Mujahid, and Fatima, (2021) for Pakistan.

VARIABLES	(1) IV 2nd Stage z = index_family works	(2) IV 2nd Stage z = index_partner works	(3) IV 2nd Stage z = index_infant works	(4) IV 2nd Stage z = index_domestic_vio- lence works
index_bargaining	0.114*	0.0574***	0.0846**	0.0760***
	(0.0590)	(0.0196)	(0.0345)	(0.0259)
Age	0.0409***	0.0398***	0.0428***	0.0405***
	(0.00295)	(0.00370)	(0.00285)	(0.00384)
Age2	-0.000498***	-0.000484***	-0.000515***	-0.000491***
	(3.39e-05)	(4.50e-05)	(3.41e-05)	(4.67e-05)
Years of education	0.0222***	0.0218***	0.0219***	0.0225***
	(0.00190)	(0.00208)	(0.00168)	(0.00221)
Indigenous	0.0345	0.0342	0.0328	0.0240
	(0.0319)	(0.0383)	(0.0312)	(0.0400)
Cohabit	-0.120***	-0.172***	-0.128***	-0.159***
	(0.0309)	(0.0246)	(0.0235)	(0.0266)
Husband's contribu- tion	-0.199***	-0.363***	-0.203***	-0.402***
	(0.0537)	(0.108)	(0.0542)	(0.112)
Own money	-0.189***	-0.193***	-0.185***	-0.199***
	(0.0115)	(0.0145)	(0.0112)	(0.0152)
Prospera	-0.0799***	-0.0611***	-0.0688***	-0.0487**
	(0.0178)	(0.0230)	(0.0181)	(0.0239)
index_beliefs	-0.0925***	-0.0611***	-0.0825***	-0.0672***
	(0.0206)	(0.0188)	(0.0164)	(0.0202)
index_context	0.00692	0.0175	0.0105	0.00568
	(0.0241)	(0.0201)	(0.0190)	(0.0213)
Constant	-0.327***	-0.244***	-0.358***	-0.272***
	(0.0564)	(0.0757)	(0.0575)	(0.0783)
Observations	8502	4551	7996	4268
R-squared	0.093	0.117	0.111	0.109

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Self-made. The table shows four different second stages where the dependent variable is the house ownership and what differs is the instrument. For all specifications, Husband's contribution was divided by one hundred thousand to prevent scientific notation.

Let us also note that ethnicity and the index for context seem to have no effect on the probability of a woman to work outside her household. Counterintuitively, the coefficient for the index of beliefs towards gender roles in all columns is negative and significant, meaning that

an additional unit for this index decreases the probability of working outside her household between 6.1% (see column (2)) and 9.3% (see column (1)).

Chapter 5 has presented research findings addressing the research questions of this study. Throughout this chapter I have argued that intra-family bargaining power influences the probability of a married woman working outside her household from 5.7% to 11.4% and that it also influences her probability of owning a house in 12.1%, however the later relationship is not as strong as the first one. An increase on the probability to work outside the household is a truly relevant result, given that most women in Mexico are occupied in domestic or care work related jobs; Table 22 shows that almost 75% of the women in the sample are occupied in these areas. These jobs are, more often than not, informal jobs that do not grant them any social security, guarantees, labour rights, nor living wages. Therefore, this could imply major gains in the well-being of these women, however, further research should assess this hypothesis.

Table 22: Tabulation of occupational status

Occupational status	Freq.	Percent	Cum.
Fabricated or sold any product?	1647	2.42	2.42
Helped in a business?	535	0.79	3.20
Farmed or worked in agriculture?	461	0.68	3.88
Offered a service for a payment?	256	0.38	4.26
Ran her own business?	402	0.59	4.85
Had a job but didn't work?	296	0.43	5.28
Looked for a job?	591	0.87	6.15
Is a student?	6857	10.07	16.22
Is retired?	2589	3.80	20.02
Did domestic or care work?	50978	74.87	94.90
Has a physical or mental limitation that prevents her from working?	916	1.35	96.24
didn't work?	2559	3.76	100.00

Self-made. Tabulation of occupational status which describes the occupational status for each woman in the sample. The table shows in the first column the frequency of each possible answer, column three its relative frequency and the third column the cumulative frequency.

I have also shown that all forms of domestic violence considered in this study are highly correlated with female bargaining power, although the magnitude of this effect is not as clear since it would be relative to the indices constructed for the analysis. Chapter 6 presents further conclusions, some policy implications of these results, and recommendations for future research.

6. __Conclusion__

This chapter provides conclusions based on research findings from data of the National Survey on the Dynamics of Household Relationships (ENDIREH) 2016, as well as discussion and recommendations for future research. This chapter will review the purpose of the study, research questions, literature review, and findings of the study. It will then present conclusions, discussion of the conclusions, and recommendations for practice and for further research.

It has long been studied that power dynamics within the household affect the allocation of resources such as time and income. Theoretical models of intra-household bargaining power predict that shifts in bargaining power lead to shifts in female preferences weighting. (Browning & Chiappori, 1998) Empirical models have tested this by exploiting exogenous shift on income or asset ownership of women and showing that it increases the allocation of goods over which women have stronger preferences (Rubalcava and Thomas, 2000; Duflo, 2003; Duflo and Udry, 2004; Luke and Munshi, 2011; Qian, 2008; Quisumbing and Maluccio, 2003). However, this goods tend to be directed to human capital investment within the household, such as children's clothing (Lundberg & Pollak, 1994) or education (Rubalcava, Teruel, and Thomas, 2009), or household public goods or investment (Miuraa, Kijimab, and Sakuraic, 2020). But there is little research on what happens to female's private consumption or asset ownership when they acquire more bargaining power. This research contributes to filling this gap in the literature by estimating the effect of female bargaining power in house ownership.

This work used the ENDIREH 2016 to demonstrate that there is a relationship between the intra-family bargaining power and female owning of assets, using two-stage least squares strategy to solve the endogeneity problem between the dependent variable, house ownership, and the independent variable, bargaining power. Domestic violence indices were used as instrumental variables in the first stage under the hypothesis that domestic violence only affects house ownership through female bargaining power. Some threats to the identification strategy may arise if, by including socio-demographic variables, the coefficients of interest (bargaining power in the asset holding regression) are not significant. In other words, that the bargaining power has no effect on asset ownership, once controlling for other variables.

To apply the desired empirical strategy, I computed Multiple Correspondence Analysis and Principal Component Analysis indices were created for 1) autonomy of female decision-making, 2) context of gender violence, 3) division of housework, 4) support network, 5) beliefs towards

gender roles, 6) bargaining power, 7) family domestic violence, 8) partner domestic violence, and 9) general domestic violence. It is worth mentioning that the variables used to compute the indices are self-reported variables, therefore the conclusions drawn from this research should be taken cautiously since we cannot discard a report bias. Also, the results could be outdated given that the information of the dataset is 6 years old. Notwithstanding, the ENDIREH 2016 is one of the best datasets available for studying female bargaining power in Mexico.

As for the results of the 2SLS, the second stage of the estimation strategy for asset ownership shows a weak, but positive relationship between female bargaining power and home ownership: an increase of one unit of the index for bargaining power increases the likelihood of owning her house of 12.1%. However, this positive relationship is only significant in one of the four specifications, hence its weakness. This is a visible threat to the identification strategy since the exclusion restriction does not hold, meaning that the effect of bargaining power over house ownership is already captured by the controls. It was then argued that in highly sexist societies, such as Mexico (Braunstein & Folbre, 2001; Espinoza et al., 2012; Frías, 2008; Hondagneu-Sotelo, 1992), where females have little to none bargaining power due to strong patriarchal institutions, other decisions come first in priority than house ownership, such as entering the labour force. When replicating the methodology with the decision to work outside the household, the effect between female bargaining power and the dependent variable was undoubtedly positive and significant. The effect of an increase in one unit of the bargaining power index in the likelihood of a woman working outside the household ranged between 5.7% to 11.4%. Both results can justify the development programmes that tackle the disparities of bargaining power within households as a means of reducing structural barriers that prevent females to own assets or enter the labour market.

The first stage of both estimation strategies (see Tables 19 and 21) confirm the strong relationship between domestic violence and female bargaining power. Therefore, if a policymaker was interested in reducing disparities of bargaining power within the households, they should address domestic violence as a means for *empowering* women. These results should not be taken lightly, diminishing domestic violence and diminishing the disparities in bargaining power between males and females can help tackle the horrendous wave of gender violence that Mexico is experiencing; where more than 10 females are victims of femicides each day (INFOABE,

2022; El Economista, 2022; Los Angeles Times en Español, 2022), noting that femicides are the most extreme manifestation of gender violence.

Further research could 1) address the hypothesis that more female bargaining power implies greater spending in female private consumption, besides greater investment in human capital or provision of public goods to the household; 2) update the results shown in this research whit a new edition of the ENDIREH; 3) study how the effects shown in this research change when considering non-heterosexual marriages.

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I.   Variables for the autonomy index

The questions that were included to generate the autonomy index were the following:

- Who decides, at home or in your relationship, if you can work or study?
- Who decides, at home or in your relationship, if you can leave your house?
- Who decides, at home or in your relationship, what to do with the money you earn or have?
- Who decides, at home or in your relationship, if you can buy things for yourself?
- Who decides, at home or in your relationship, when you want or are interested in participating in the social or political life of your community?
- Who decides, at home or in your relationship, how money is spent or saved?
- Who decides, at home or in your relationship, what to do with the money he earns?
- Who decides, at home or in your relationship, about the type of clothing and personal grooming for you?
- Who decides, at home or in your relationship, about the permissions to the daughters and sons?
- Who decides, at home or in your relationship, to change or move from house or city?
- Who decides, at home or in your relationship, when to have sex?
- Who decides, at home or in your partner relationship, if contraceptives are used?
- Who decides, at home or in your relationship, who should use contraceptive methods?
- Who decides, at home or in your relationship, to have children or not?
- Who decides, at home or in your partner relationship, when and how many children to have?

Each of these questions have the following possible answers:
1. Only you (the interviewee)
2. Only your husband or partner (boyfriend or ex-boyfriend)
3. Between the two of you, but he a little more
4. Between the two of you, but you a little more
5. Equally between the two

6. Other people

7. Not applicable

8. Not specified

For all questions, the last two options were removed for analytical purposes.

Tabulation of work_decision

Who decides if you can work or study?	Freq.	Percent	Cum.
Woman only	47574	56.13	56.13
Husband only	8101	9.56	65.69
Both, but he has more power	2072	2.44	68.13
Both, but she has more power	1550	1.83	69.96
Both equally	25353	29.91	99.88
Other people	105	0.12	100.00

Tabulation of leavehome_decision

Who decides if you can leave home?	Freq.	Percent	Cum.
Woman only	61102	66.61	66.61
Husband only	7554	8.24	74.85
Both, but he has more power	1921	2.09	76.94
Both, but she has more power	1371	1.49	78.44
Both equally	19651	21.42	99.86
Other people	128	0.14	100.00

Tabulation of wspending_decision

Who decides how money you earn is spent?	Freq.	Percent	Cum.
Woman only	49869	56.91	56.91
Husband only	5371	6.13	63.04
Both, but he has more power	1907	2.18	65.22
Both, but she has more power	1603	1.83	67.05
Both equally	28800	32.87	99.92
Other people	74	0.08	100.00

Tabulation of buy_decision

Who decides if you can buy your own stuff?	Freq.	Percent	Cum.
Woman only	67590	73.70	73.70
Husband only	5002	5.45	79.15
Both, but he has more power	1554	1.69	80.85
Both, but she has more power	1167	1.27	82.12
Both equally	16277	17.75	99.87
Other people	119	0.13	100.00

Tabulation of participation_decision

Who decides if you can participate actively in your community, politically or so	Freq.	Percent	Cum.
Woman only	51381	65.35	65.35
Husband only	5174	6.58	71.93
Both, but he has more power	1320	1.68	73.61
Both, but she has more power	1059	1.35	74.96
Both equally	19615	24.95	99.91
Other people	74	0.09	100.00

Tabulation of spending_decision

Who decides how household money is spent?	Freq.	Percent	Cum.
Woman only	36351	39.46	39.46
Husband only	7419	8.05	47.51
Both, but he has more power	2519	2.73	50.25
Both, but she has more power	1968	2.14	52.38
Both equally	43673	47.41	99.79
Other people	195	0.21	100.00

Tabulation of dressing_decision

Who decides how you should dress?	Freq.	Percent	Cum.
Woman only	78762	85.53	85.53
Husband only	3397	3.69	89.22
Both, but he has more power	964	1.05	90.27
Both, but she has more power	745	0.81	91.08
Both equally	8100	8.80	99.87
Other people	118	0.13	100.00

Tabulation of perm_decision

Who decides when to give permissions and privileges to the kids?	Freq.	Percent	Cum.
Woman only	15502	20.05	20.05
Husband only	6423	8.31	28.36
Both, but he has more power	2627	3.40	31.75
Both, but she has more power	2295	2.97	34.72
Both equally	50379	65.16	99.88
Other people	95	0.12	100.00

Tabulation of moving_decision

Who decides if the family should move to another house or city?	Freq.	Percent	Cum.
Woman only	8832	13.21	13.21
Husband only	7404	11.08	24.29
Both, but he has more power	1517	2.27	26.56
Both, but she has more power	641	0.96	27.52
Both equally	48308	72.28	99.80
Other people	135	0.20	100.00

Tabulation of sex_decision

Who decides when to have sex?	Freq.	Percent	Cum.
Woman only	6387	7.25	7.25
Husband only	6792	7.71	14.97
Both, but he has more power	2928	3.33	18.29
Both, but she has more power	831	0.94	19.24
Both equally	71062	80.70	99.94
Other people	54	0.06	100.00

Tabulation of contraceptives_decision

Who decides when if contraceptives are used?	Freq.	Percent	Cum.
Woman only	12504	20.06	20.06
Husband only	3109	4.99	25.04
Both, but he has more power	841	1.35	26.39
Both, but she has more power	874	1.40	27.80
Both equally	44898	72.02	99.82
Other people	115	0.18	100.00

Tabulation of contrcepuse_decision

Who decides who should use contraceptives?	Freq.	Percent	Cum.
Woman only	14195	23.02	23.02
Husband only	4038	6.55	29.57
Both, but he has more power	875	1.42	30.99
Both, but she has more power	1000	1.62	32.61
Both equally	41427	67.19	99.81
Other people	120	0.19	100.00

Tabulation of kids_decision

Who decides if you should have children?	Freq.	Percent	Cum.
Woman only	8557	11.28	11.28
Husband only	3465	4.57	15.85
Both, but he has more power	1268	1.67	17.52
Both, but she has more power	972	1.28	18.80
Both equally	61454	81.02	99.82
Other people	134	0.18	100.00

Tabulation of kids2_decision

Who decides when and how have children?	Freq.	Percent	Cum.
Woman only	8351	10.92	10.92
Husband only	3529	4.61	15.53
Both, but he has more power	1294	1.69	17.22
Both, but she has more power	1046	1.37	18.59
Both equally	62106	81.20	99.79
Other people	159	0.21	100.00

II. Variables for the context index

For the context index, two types of variables were considered. First, a set of variables that capture if the woman has been subject of violence in the public space (such as the street, park, market, plaza, shopping centre, bus, subway, taxi, church or temple, a canteen, bar, nightclub, party, neighbourhood assembly, a home private or other public places), and second, a set of variables that capture the reasons why she didn't report the incident(s) as a measure of institutional context.

a. *Variables for violence in public spaces*

The first set of questions that were included to generate the context index were the following:

- Have you ever been told rude or sexual compliments?
- Have you ever been followed of stalked?
- Have you ever been offended just for being a woman?
- Have you ever been pinched, had your hair pulled, pushed, pulled, slapped, or thrown at something?
- Have you ever had your skirt, dress, or clothing pulled up to see your private parts or underwear?
- Have you ever been attacked or assaulted with a knife, razor, or firearm?
- Have you ever been groped, touched, kissed, or approached, recharged, or climbed on top of you without your consent?
- Have you ever been made afraid of being sexually assaulted or abused?
- Has anyone ever shown you their private parts or groped them in front of you?
- Have you ever been sent you messages or posted comments with sexual innuendos, insults, or offenses?
- Have you ever been kicked or punched?
- Have you ever been tried to force you to have sex against your will?
- Have you ever been forced to have sex against your will?
- Have you ever been ignored or not considered, because you are a woman?
- Have you ever been forced to watch pornographic or sexual acts or scenes?

Each of these questions have the following possible answers:

1. Yes

2. No

3. Not specified.

For all questions, the last option was removed for analytical purposes.

Tabulation of p8_1_1

Have you ever been told rude or sexual compliments?	Freq.	Percent	Cum.
No	85114	76.50	76.50
Yes	26142	23.50	100.00

Tabulation of p8_1_2

Have you ever been followed of stalked?	Freq.	Percent	Cum.
No	101025	90.80	90.80
Yes	10231	9.20	100.00

Tabulation of p8_1_3

Have you ever been offended just for being a woman?	Freq.	Percent	Cum.
No	106023	95.30	95.30
Yes	5233	4.70	100.00

Tabulation of p8_1_4

Have you ever been pinched, had your hair pulled, pushed, pulled, slapped, or th	Freq.	Percent	Cum.
No	106480	95.71	95.71
Yes	4776	4.29	100.00

Tabulation of p8_1_5

Have you ever had your skirt, dress, or clothing pulled up to see your private p	Freq.	Percent	Cum.
No	108139	97.20	97.20
Yes	3117	2.80	100.00

Tabulation of p8_1_6

Have you ever been attacked or assaulted with a knife, razor, or firearm?	Freq.	Percent	Cum.
No	107201	96.36	96.36
Yes	4055	3.64	100.00

Tabulation of p8_1_7

Have you ever been groped, touched, kissed or approached, re-charged or climbed o	Freq.	Percent	Cum.
No	100181	90.05	90.05
Yes	11075	9.95	100.00

Tabulation of p8_1_8

Have you ever been made afraid of being sexually assaulted or abused?	Freq.	Percent	Cum.
No	102279	91.93	91.93
Yes	8977	8.07	100.00

Tabulation of p8_1_9

Has anyone ever shown you their private parts or groped them in front of you?	Freq.	Percent	Cum.
No	102449	92.08	92.08
Yes	8807	7.92	100.00

Tabulation of p8_1_10

Have you ever been sent you messages or posted comments with sexual innuendos, i	Freq.	Percent	Cum.
No	106906	96.09	96.09
Yes	4350	3.91	100.00

Tabulation of p8_1_11

Have you ever been kicked or punched?	Freq.	Percent	Cum.
No	109981	98.85	98.85
Yes	1275	1.15	100.00

Tabulation of p8_1_12

Have you ever been tried to force you to have sex against your will?	Freq.	Percent	Cum.
No	109853	98.74	98.74
Yes	1403	1.26	100.00

Tabulation of p8_1_13

Have you ever been forced to have sex against your will?	Freq.	Percent	Cum.
No	110609	99.42	99.42
Yes	647	0.58	100.00

Tabulation of p8_1_14

Have you ever been ignored or not taken into account, because you are a woman?	Freq.	Percent	Cum.
No	107878	96.96	96.96
Yes	3378	3.04	100.00

Tabulation of p8_1_15

Have you ever been forced to watch pornographic or sexual acts or scenes?	Freq.	Percent	Cum.
No	111025	99.79	99.79
Yes	231	0.21	100.00

Tabulation of p8_6

Before today, did you tell anyone about what happened to you?	Freq.	Percent	Cum.
1	24975	66.37	66.37
2	12656	33.63	100.00

b. *Variables for institutional violence context*

The second set of questions that were included to generate the context index were the following:

- Did not go to an authority or institution out of shame
- Did not go to an authority or institution because she thought they would not believe her or that they would tell her it was her fault
- Did not go to an authority or institution for fear of consequences or threats
- Did not go to an authority or institution because she did not want her family to find out
- Did not go to an authority or institution because they convinced her not to
- Did not go to an authority or institution because it was something unimportant that did not affect her
- Did not go to an authority or institution because those were/are the customs
- Did not go to an authority or institution did not know how and where to report
- Did not go to an authority or institution because it is a waste of time or because you did not have time

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- Did not go to an authority or institution because she does not trust government authorities
- Did not go to an authority or institution for other reasons

Each of these questions have the following possible answers:

1. Not stated as an affirmative answer
2. Yes
3. Not specified

For all questions, the last option was removed for analytical purposes.

Tabulation of p8_19_1

Did not go to an authority or institution out of shame	Freq.	Percent	Cum.
No	31953	91.56	91.56
Yes	2944	8.44	100.00

Tabulation of p8_19_2

Did not go to an authority or institution because she thought they would not bel	Freq.	Percent	Cum.
No	33268	95.33	95.33
Yes	1629	4.67	100.00

Tabulation of p8_19_3

Did not go to an authority or institution for fear of consequences or threats	Freq.	Percent	Cum.
No	32230	92.36	92.36
Yes	2667	7.64	100.00

Tabulation of p8_19_4

Did not go to an authority or institution because she did not want her family to	Freq.	Percent	Cum.
No	34260	98.17	98.17
Yes	637	1.83	100.00

Tabulation of p8_19_5

Did not go to an authority or institution because they convinced her not to	Freq.	Percent	Cum.
No	34639	99.26	99.26
Yes	258	0.74	100.00

Tabulation of p8_19_6

Did not go to an authority or institution because it was something unimportant t	Freq.	Percent	Cum.
No	16784	48.10	48.10
Yes	18113	51.90	100.00

Tabulation of p8_19_7

Did not go to an authority or institution because those were/are the customs	Freq.	Percent	Cum.
No	34200	98.00	98.00
Yes	697	2.00	100.00

Tabulation of p8_19_8

Did not go to an authority or institution did not know how and where to report	Freq.	Percent	Cum.
No	29947	85.82	85.82
Yes	4950	14.18	100.00

Tabulation of p8_19_9

Did not go to an authority or institution because it is a waste of time or becau	Freq.	Percent	Cum.
No	30750	88.12	88.12
Yes	4147	11.88	100.00

Tabulation of p8_19_10

Did not go to an authority or institution because she does not trust government	Freq.	Percent	Cum.
No	31627	90.63	90.63
Yes	3270	9.37	100.00

Tabulation of p8_19_11

Did not go to an authority or institution for other reasons	Freq.	Percent	Cum.
No	33559	96.17	96.17
Yes	1338	3.83	100.00

III. Variables for the housework index

The questions that were included to generate the housework index were the following:

- Who is mainly in charge of taking care of children?
- Who is mainly in charge of taking care of the elderly?
- Who is mainly in charge of domestic work?
- Who is mainly in charge of shopping for groceries and paperwork?
- Who is mainly in charge of taking care of people with disabilities?
- Who is mainly in charge of repairing the house, furniture, vehicles, or home appliances?
- Who is mainly in charge of taking care of sick people?

Each of these questions have the following possible answers:

1. Interviewee
2. Spouse
3. Both
4. Daughters
5. Sons
6. Mother
7. Father
8. Both parents
9. Sisters
10. Brothers
11. Domestic worker
12. Other from household
13. Other from outside household
14. Nobody
15. NA
16. Not specified

For all questions, the last two options were removed for analytical purposes.

Tabulation of m17_children

Who is mainly in charge of taking care of children?	Freq.	Percent	Cum.
Interviewee	46396	69.71	69.71
Spouse	895	1.34	71.05
Both	9153	13.75	84.80
Daughters	1412	2.12	86.93
Sons	339	0.51	87.44
Mother	4210	6.33	93.76
Father	177	0.27	94.03
Both parents	981	1.47	95.50
Sisters	491	0.74	96.24
Brothers	87	0.13	96.37
Domestic worker	44	0.07	96.43
Other from household	1360	2.04	98.48
Other from outside household	427	0.64	99.12
Nobody	586	0.88	100.00

Tabulation of m17_elder

Who is mainly in charge of taking care of the elderly	Freq.	Percent	Cum.
Interviewee	9914	51.31	51.31
Spouse	348	1.80	53.11
Both	1542	7.98	61.09
Daughters	2086	10.80	71.89
Sons	1204	6.23	78.12
Mother	618	3.20	81.32
Father	56	0.29	81.61
Both parents	118	0.61	82.22
Sisters	199	1.03	83.25
Brothers	84	0.43	83.69
Domestic worker	24	0.12	83.81
Other from household	590	3.05	86.86
Other from outside household	314	1.63	88.49
Nobody	2224	11.51	100.00

Tabulation of m17_domesticw

Who is mainly in charge of domestic work?	Freq.	Percent	Cum.
Interviewee	91015	82.20	82.20
Spouse	752	0.68	82.88
Both	9082	8.20	91.08
Daughters	1616	1.46	92.54
Sons	325	0.29	92.83
Mother	3627	3.28	96.11
Father	73	0.07	96.17
Both parents	192	0.17	96.35
Sisters	332	0.30	96.65
Brothers	51	0.05	96.69
Domestic worker	1221	1.10	97.79
Other from household	840	0.76	98.55
Other from outside household	1506	1.36	99.91
Nobody	96	0.09	100.00

Tabulation of m17_shopping

Who is mainly in charge of shopping for groceries and paperwork?	Freq.	Percent	Cum.
Interviewee	61505	55.56	55.56
Spouse	11027	9.96	65.53
Both	20834	18.82	84.35
Daughters	2330	2.10	86.45
Sons	1602	1.45	87.90
Mother	6961	6.29	94.19
Father	1687	1.52	95.71
Both parents	1735	1.57	97.28
Sisters	414	0.37	97.65
Brothers	276	0.25	97.90
Domestic worker	61	0.06	97.96
Other from household	1644	1.49	99.44
Other from outside household	562	0.51	99.95
Nobody	54	0.05	100.00

Tabulation of m17_disability

Who is mainly in charge of taking care of people with disabilities	Freq.	Percent	Cum.
Interviewee	5684	53.08	53.08
Spouse	484	4.52	57.60
Both	758	7.08	64.67
Daughters	535	5.00	69.67
Sons	331	3.09	72.76
Mother	477	4.45	77.22
Father	77	0.72	77.93
Both parents	101	0.94	78.88
Sisters	83	0.78	79.65
Brothers	42	0.39	80.04
Domestic worker	30	0.28	80.32
Other from household	264	2.47	82.79
Other from outside household	179	1.67	84.46
Nobody	1664	15.54	100.00

Tabulation of m17_repair

Who is mainly in charge of repairing the house, furniture, vehicles or home appl	Freq.	Percent	Cum.
Interviewee	12848	11.72	11.72
Spouse	47551	43.38	55.11
Both	4433	4.04	59.15
Daughters	993	0.91	60.06
Sons	5209	4.75	64.81
Mother	1550	1.41	66.22
Father	8242	7.52	73.74
Both parents	563	0.51	74.26
Sisters	188	0.17	74.43
Brothers	1810	1.65	76.08
Domestic worker	2106	1.92	78.00
Other from household	3102	2.83	80.83
Other from outside household	18692	17.05	97.88
Nobody	2319	2.12	100.00

Tabulation of m17_sick

Who is mainly in charge of taking care of sick people?	Freq.	Percent	Cum.
Interviewee	31206	60.59	60.59
Spouse	1317	2.56	63.14
Both	8252	16.02	79.16
Daughters	1677	3.26	82.42
Sons	821	1.59	84.01
Mother	3533	6.86	90.87
Father	190	0.37	91.24
Both parents	635	1.23	92.47
Sisters	255	0.50	92.97
Brothers	95	0.18	93.15
Domestic worker	56	0.11	93.26
Other from household	707	1.37	94.64
Other from outside household	710	1.38	96.01
Nobody	2053	3.99	100.00

IV.   Tabulation of variables for the network index

For the network index, three types of variables were considered. First, a set of variables that capture what a woman does when she needs money. Second, a set of variables that capture if she has activities outside of the household. And third, a set of variables that capture who she goes to when she has a problem.

a. *Tabulation of variables for what she does when she's in need of money*

The first set of questions that were included to generate the context index were the following:

- When you're in need of money, you go to your (girl)friends?
- When you're in need of money, you go to your (girl) neighbours?
- When you're in need of money, you go to your family?
- When you're in need of money, you pawn your belongings?
- When you're in need of money, you don't ask for money?
- When you're in need of money, you go to other?

Each of these questions have the following possible answers:

1. No
2. Yes
3. Not specified

For all questions, the last option was removed for analytical purposes.

Tabulation of m16_money_friend

When you're in need of money, you go to your (girl)friends	Freq.	Percent	Cum.
0	104404	94.13	94.13
Yes	6515	5.87	100.00

Tabulation of m16_money_neig

When you're in need of money, you go to your (girl) neighbours	Freq.	Percent	Cum.
No	107484	96.61	96.61
Yes	3435	3.09	99.70
NA	337	0.30	100.00

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Tabulation of m16_money_fam

When you're in need of money, you go to your family	Freq.	Percent	Cum.
0	38553	34.76	34.76
Yes	72366	65.24	100.00

Tabulation of m16_money_pawn

When you're in need of money, you pawn your belongings	Freq.	Percent	Cum.
0	104386	94.11	94.11
Yes	6533	5.89	100.00

Tabulation of m16_money_no

When you're in need of money, you don't ask for money	Freq.	Percent	Cum.
0	85215	76.83	76.83
Yes	25704	23.17	100.00

Tabulation of m16_money_other

When you're in need of money, you go to other	Freq.	Percent	Cum.
0	108410	97.74	97.74
Yes	2509	2.26	100.00

b. *Variables that describe if she has any activities outside the household*

The second set of questions that were included to generate the context index were the following:

- Do you usually go out with (girl)friends for fun?
- Do you usually talk to you (girl)neighbours?
- Do you usually visit your family?
- Do you usually attend religious meetings?
- Do you usually attend neighbourhood meetings or from organisations?
- Do you usually practice team sports?

Each of these questions have the following possible answers:

1. No
2. Yes
3. Not specified

For all questions, the last option was removed for analytical purposes.

Tabulation of m16_fun_friends

Do you usually go out with (girl)friends for fun?	Freq.	Percent	Cum.
Yes	30555	27.46	27.46
No	80698	72.54	100.00

Tabulation of m16_fun_neigh

Do you usually talk to you (girl)neighbours?	Freq.	Percent	Cum.
Yes	58008	52.14	52.14
No	53245	47.86	100.00

Tabulation of m16_fun_fam

Do you usually visit your family?	Freq.	Percent	Cum.
Yes	94343	84.80	84.80
No	16910	15.20	100.00

Tabulation of m16_fun_relig

Do you usually attend religious meetings?	Freq.	Percent	Cum.
Yes	59308	53.31	53.31
No	51945	46.69	100.00

Tabulation of m16_fun_org

Do you usually attend neighbourhood meetings or from organisations	Freq.	Percent	Cum.
Yes	22721	20.42	20.42
No	88532	79.58	100.00

Tabulation of m16_fun_sport

Do you usually practice team sports?	Freq.	Percent	Cum.
Yes	16344	14.69	14.69
No	94909	85.31	100.00

c. *Variables that describe who she reaches out for help*

The third set of questions that were included to generate the context index were the following:

- Who do you ask for help with your children when you have an emergency?
- Who do you ask for help when you need to carry on a task?
- Who do you ask for help when you get sick?
- Who do you ask for help when you worry about something?
- Who do you ask for help when you have marital problems or difficulties?
- Who do you ask for help when you have money problems?

Each of these questions have the following possible answers:

1. A neighbour
2. A friend
3. A peer
4. A family member
5. Other
6. Nobody
7. NA

For all questions, the last two options were removed for analytical purposes.

Tabulation of m16_children

Who do you ask for help with your children when you have an emergency?	Freq.	Percent	Cum.
A neighbour	4870	4.38	4.38
A friend	3169	2.85	7.23
A peer	1699	1.53	8.75
A family member	87675	78.80	87.56
Other	1587	1.43	88.98
Nobody	12256	11.02	100.00

Tabulation of m16_task

Who do you ask for help when you need to carry on a task?	Freq.	Percent	Cum.
A neighbour	5610	5.04	5.04
A friend	6221	5.59	10.63
A peer	3904	3.51	14.14
A family member	85336	76.70	90.85
Other	2490	2.24	93.08
Nobody	7695	6.92	100.00

Tabulation of m16_sick

Who do you ask for help when you get sick?	Freq.	Percent	Cum.
A neighbour	2334	2.10	2.10
A friend	2367	2.13	4.23
A peer	4855	4.36	8.59
A family member	95409	85.76	94.35
Other	1652	1.48	95.83
Nobody	4639	4.17	100.00

Tabulation of m16_worries

Who do you ask for help when you worry about something?	Freq.	Percent	Cum.
A neighbour	2557	2.30	2.30
A friend	16717	15.03	17.32
A peer	3338	3.00	20.32
A family member	76210	68.50	88.82
Other	1732	1.56	90.38
Nobody	10702	9.62	100.00

Tabulation of m16_mar_problems

Who do you ask for help when you have marital problems or difficulties?	Freq.	Percent	Cum.
A neighbour	1851	1.66	1.66
A friend	16269	14.62	16.29
A peer	847	0.76	17.05
A family member	69327	62.31	79.36
Other	3648	3.28	82.64
Nobody	19314	17.36	100.00

Tabulation of m16_mon_problems

Who do you ask for help when you have money problems?	Freq.	Percent	Cum.
A neighbour	2311	2.08	2.08
A friend	5089	4.57	6.65
A peer	2380	2.14	8.79
A family member	89572	80.51	89.30
Other	1735	1.56	90.86
Nobody	10169	9.14	100.00

V. Variables for the beliefs index

The questions that were included to generate the housework index were the following:

- Women should be responsible for care work of children, sick people, and the elderly?

- Men should earn more than women?

- Women should be as equally responsible as men to provide money to household.

- Men should be as equally responsible as women for care work of children, sick people, and the elderly?

- Women should have the right to go out at night on their own to have fun

- Men should have better jobs than women

- Women who work don't pay as much attention to their children.

- Women should dress modestly in order not to be harassed by men.

- Married women should have sex with their husbands when he wants to?

Each of these questions have the following possible answers:

1. Agree
2. Disagree
3. Not specified

For all questions, the last option was removed for analytical purposes.

Tabulation of m15_carework

Women should be responsible for care work of children, sick people and the elder	Freq.	Percent	Cum.
Agree	43268	38.89	38.89
Disagree	67985	61.11	100.00

Tabulation of m15_mensalary

Men should earn more than women?	Freq.	Percent	Cum.
Agree	17813	16.01	16.01
Disagree	93440	83.99	100.00

Tabulation of m15_womenincome

Women should be as equally re-sponsible as men to provide money to household?	Freq.	Percent	Cum.
Agree	76870	69.09	69.09
Disagree	34383	30.91	100.00

Tabulation of m15_men_carework

Men should be as equally re-sponsible as women for care work of children, sick pe	Freq.	Percent	Cum.
Agree	96122	86.40	86.40
Disagree	15131	13.60	100.00

Tabulation of m15_funwomen

Women should have the right to go out at night on their own to have fun	Freq.	Percent	Cum.
Agree	54759	49.22	49.22
Disagree	56494	50.78	100.00

Tabulation of m15_menjob

Men should have better jobs than women	Freq.	Percent	Cum.
Agree	12870	11.57	11.57
Disagree	98383	88.43	100.00

Tabulation of m15_womenwork

Women who work don't pay as much attention to their children?	Freq.	Percent	Cum.
Agree	54518	49.00	49.00
Disagree	56735	51.00	100.00

Tabulation of m15_womenincome

Women should be as equally re-sponsible as men to provide money to household?	Freq.	Percent	Cum.
Agree	76870	69.09	69.09
Disagree	34383	30.91	100.00

Tabulation of m15_marriagesex

Married women should have sex with their husbands when he wants to?	Freq.	Percent	Cum.
Agree	9991	8.98	8.98
Disagree	101262	91.02	100.00

Tabulation of m15_womendress

Women should dress modestly in order not to be harassed by men?	Freq.	Percent	Cum.
Agree	37504	33.71	33.71
Disagree	73749	66.29	100.00

VI.   Variables for the family domestic violence index

The questions that were included to generate the family domestic violence index were the following:

- Has one or more people in your family ignored or disregarded you because you are a woman?
- Has one or more people in your family groped, touched, kissed, or approached, leaned against, or climbed on top of you without your consent?
- Has one or more people in your family forced you to have sex against your will?
- Has one or more people in your family tried to force you to have sex against your will?
- Has one or more people in your family kicked or punched you?
- Has one or more people in your family broken or hidden any personal object?
- Has one or more people in your family offended or humiliated you because you are a woman?
- Has one or more people in your family prevented or prohibited you from studying or working?
- Has one or more people in your family forced you to put any property of yours in the name of another person or have they taken or stolen papers from any property?
- Has one or more people in your family attacked or assaulted you with a knife, razor, or firearm?
- Has any person(s) in your family pinched, pulled your hair, pushed, pulled, slapped, or thrown any object?
- Has one or more people in your family threatened to hurt you or someone you care about?
- Did one or more people in your family show you their private parts or fondle them in front of you?
- Has one or more people in your family kicked you out of your home or threatened to kick you out?
- Has one or more people in your family taken your money or used it without your consent?"
- Has one or more people in your family taken assets or property from you?

- During the last year, has one or more people in your family (do not include your partner) locked you in or prevented you from leaving your home?
- During the past year, has any person in your family forced you to watch sexual or pornographic acts or scenes?

Each of these questions have the following possible answers:
1. Many times
2. A few times
3. Once
4. Never happened
5. Not specified

For all questions, the last option was removed for analytical purposes.

Tabulation of p10_1_1

Has one or more people in your family ignored or disregarded you because you are	Freq.	Percent	Cum.
Many times	1700	1.53	1.53
A few times	1454	1.31	2.83
Once	718	0.65	3.48
Never happened	107384	96.52	100.00

Tabulation of p10_1_2

Has one or more people in your family groped, touched, kissed, or approached, le	Freq.	Percent	Cum.
Many times	198	0.18	0.18
A few times	334	0.30	0.48
Once	425	0.38	0.86
Never happened	110299	99.14	100.00

Tabulation of p10_1_3

Has one or more people in your family forced you to have sex against your will?	Freq.	Percent	Cum.
Many times	83	0.07	0.07
A few times	107	0.10	0.17
Once	161	0.14	0.32
Never happened	110905	99.68	100.00

Tabulation of p10_1_4

Has one or more people in your family tried to force you to have sex against you	Freq.	Percent	Cum.
Many times	92	0.08	0.08
A few times	136	0.12	0.20
Once	241	0.22	0.42
Never happened	110787	99.58	100.00

Tabulation of p10_1_5

Has one or more people in your family kicked or punched you?	Freq.	Percent	Cum.
Many times	314	0.28	0.28
A few times	473	0.43	0.71
Once	509	0.46	1.16
Never happened	109960	98.84	100.00

Tabulation of p10_1_6

Has one or more people in your family broken or hidden any personal object?	Freq.	Percent	Cum.
Many times	634	0.57	0.57
A few times	1035	0.93	1.50
Once	793	0.71	2.21
Never happened	108794	97.79	100.00

Tabulation of p10_1_7

Has one or more people in your family offended or humiliated you because you are	Freq.	Percent	Cum.
Many times	1033	0.93	0.93
A few times	1018	0.92	1.84
Once	566	0.51	2.35
Never happened	108639	97.65	100.00

Tabulation of p10_1_8

Has one or more people in your family prevented or prohibited you from study-ing	Freq.	Percent	Cum.
Many times	594	0.53	0.53
A few times	552	0.50	1.03
Once	609	0.55	1.58
Never happened	109501	98.42	100.00

Tabulation of p10_1_9

Has one or more people in your family forced you to put any property of yours in	Freq.	Percent	Cum.
Many times	58	0.05	0.05
A few times	78	0.07	0.12
Once	249	0.22	0.35
Never happened	110871	99.65	100.00

Tabulation of p10_1_10

Has one or more people in your family attacked or assaulted you with a knife, ra	Freq.	Percent	Cum.
Many times	36	0.03	0.03
A few times	81	0.07	0.11
Once	182	0.16	0.27
Never happened	110957	99.73	100.00

Tabulation of p10_1_11

Have any person(s) in your family pinched, pulled your hair, pushed, pulled, sla	Freq.	Percent	Cum.
Many times	517	0.46	0.46
A few times	979	0.88	1.34
Once	687	0.62	1.96
Never happened	109073	98.04	100.00

Tabulation of p10_1_12

Has one or more people in your family threatened to hurt you or someone you care	Freq.	Percent	Cum.
Many times	376	0.34	0.34
A few times	425	0.38	0.72
Once	467	0.42	1.14
Never happened	109988	98.86	100.00

Tabulation of p10_1_13

Did one or more people in your family show you their private parts or fondle the	Freq.	Percent	Cum.
Many times	102	0.09	0.09
A few times	154	0.14	0.23
Once	174	0.16	0.39
Never happened	110826	99.61	100.00

Tabulation of p10_1_14

Has one or more people in your family kicked you out of your home or threatened	Freq.	Percent	Cum.
Many times	770	0.69	0.69
A few times	943	0.85	1.54
Once	907	0.82	2.35
Never happened	108636	97.65	100.00

Tabulation of p10_1_15

Has one or more people in your family taken your money or used it without your c	Freq.	Percent	Cum.
Many times	319	0.29	0.29
A few times	528	0.47	0.76
Once	357	0.32	1.08
Never happened	110052	98.92	100.00

Tabulation of p10_1_16

Has one or more people in your family taken assets or property from you?	Freq.	Percent	Cum.
Many times	90	0.08	0.08
A few times	94	0.08	0.17
Once	376	0.34	0.50
Never happened	110696	99.50	100.00

Tabulation of p10_1_17

During the last year, has one or more people in your family (do not include your	Freq.	Percent	Cum.
Many times	247	0.22	0.22
A few times	428	0.38	0.61
Once	260	0.23	0.84
Never happened	110321	99.16	100.00

Tabulation of p10_1_18

During the past year, has any person in your family forced you to watch sexual o	Freq.	Percent	Cum.
Many times	15	0.01	0.01
A few times	46	0.04	0.05
Once	25	0.02	0.08
Never happened	111170	99.92	100.00

VII.   Variables for the partner domestic violence index

The questions that were included to generate the partner domestic violence index were the following:

- Since the relationship began, has he pushed you or pulled you hair?
- Since the relationship began, has he slapped you?
- Since the relationship began, has he tied you?
- Since the relationship began, has he kicked you?
- Since the relationship began, has he thrown an object at you?
- Since the relationship began, has he hit you?
- Since the relationship began, has he choked you
- Since the relationship began, has he threatened you with a knife?
- Since the relationship began, has he shoot you with a gun?
- Since the relationship began, has embarrassed, offended, belittled, or humiliated her (called her ugly or compared her to other women)?
- Since the relationship began, has he ignored you?
- Since the relationship began, has he accused you of cheating
- Since the relationship began, has he made you feel afraid?
- Since the relationship began, has he threatened to leave/abandon you, harm you, take away your children, or kick out of the house?
- Since the relationship began, has he locked you up, prohibited you from going out or being visited?
- Since the relationship began, he has watched you, spied on you, followed you when you leave your house or appears to you unexpectedly?
- Since the relationship began, he calls you or texts you on the phone all the time, to find out where and with whom you are and what you are doing?
- Since the relationship began, he has threatened you with any weapon (knife, razor, gun, or rifle) or to burn you?
- Since the relationship began, he has threatened to kill you, himself, or the children?
- Since the relationship began, he has destroyed, thrown or hidden things from you or your home?

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- Since the relationship began, has he given you the silent treatment?
- Since the relationship began, he checks your email or cell phone and demands that you give him the passwords?
- Since the relationship began, he has made children or relatives turn against you?
- Since the relationship began, your husband or partner has been very angry because the housework is not done, because the food is not as he wants or believes that you did not fulfil your obligations?
- Since the relationship began, he has threatened or blackmailed you to have sex, even though you don't want to?
- Since the relationship began, when you have sex, he has forced you to do things you don't like?
- Since the relationship began, he has used physical force to force you to have sex?
- Since the relationship began, he has forced you to watch sexual or pornographic acts or scenes?
- Since the relationship began, he has forced you to have unprotected sex?
- Since the relationship began, he has forbidden you to work or study?
- Since the relationship began, he has taken your money from you or used it without your consent?
- Since the relationship began, he has taken or taken property (land, houses, apartments, cars, etc.) from you?
- Since the relationship began, he has spent the money needed for the house?
- Since the relationship began, he has not complied with giving the expense or has threatened not to give it?
- Since the relationship began, although he has money, he has been stingy with the expenses of the house?
- Since the relationship began, he has complained you for how you spend the money?

Each of these questions have the following possible answers:
6. Many times
7. A few times
8. Once

9. Never happened

10. Not specified

For all questions, the last option was removed for analytical purposes.

Tabulation of p13_1_1

Since the relationship began... has he pushed you or pulled you hair?	Freq.	Percent	Cum.
A lot of times	4337	4.09	4.09
Sometimes	6556	6.18	10.27
Once	3771	3.55	13.82
Never	91421	86.18	100.00

Tabulation of p13_1_2

Since the relationship began... has he slapped you?	Freq.	Percent	Cum.
A lot of times	3651	3.44	3.44
Sometimes	4665	4.40	7.84
Once	3650	3.44	11.28
Never	94118	88.72	100.00

Tabulation of p13_1_3

Since the relationship began... has he tied you?	Freq.	Percent	Cum.
A lot of times	210	0.20	0.20
Sometimes	224	0.21	0.41
Once	203	0.19	0.60
Never	105446	99.40	100.00

Tabulation of p13_1_4

Since the relationship began... has he kicked you?	Freq.	Percent	Cum.
A lot of times	1841	1.74	1.74
Sometimes	1813	1.71	3.44
Once	1293	1.22	4.66
Never	101138	95.34	100.00

Tabulation of p13_1_5

Since the relationship began... has he thrown an object at you?	Freq.	Percent	Cum.
A lot of times	2057	1.94	1.94
Sometimes	2707	2.55	4.49
Once	1762	1.66	6.15
Never	99559	93.85	100.00

Tabulation of p13_1_6

Since the relationship began... has he hit you?	Freq.	Percent	Cum.
A lot of times	2932	2.76	2.76
Sometimes	3722	3.51	6.27
Once	2059	1.94	8.21
Never	97370	91.79	100.00

Tabulation of p13_1_7

Since the relationship began... has he choked you?	Freq.	Percent	Cum.
A lot of times	647	0.61	0.61
Sometimes	895	0.84	1.45
Once	1612	1.52	2.97
Never	102930	97.03	100.00

Tabulation of p13_1_8

Since the relationship began... has he threatened you with a knife?	Freq.	Percent	Cum.
A lot of times	365	0.34	0.34
Sometimes	440	0.41	0.76
Once	749	0.71	1.46
Never	104531	98.54	100.00

Tabulation of p13_1_9

Since the relationship began... has he shoot you with a gun?	Freq.	Percent	Cum.
A lot of times	78	0.07	0.07
Sometimes	154	0.15	0.22
Once	206	0.19	0.41
Never	105647	99.59	100.00

Tabulation of p13_1_10

Since the relationship began... has em-barrassed, offended, belittled or humiliat	Freq.	Percent	Cum.
A lot of times	5267	4.96	4.96
Sometimes	9669	9.11	14.08
Once	1949	1.84	15.92
Never	89199	84.08	100.00

Tabulation of p13_1_11

Since the relationship began... has he ig-nored you?	Freq.	Percent	Cum.
A lot of times	6598	6.22	6.22
Sometimes	7509	7.08	13.30
Once	1478	1.39	14.69
Never	90498	85.31	100.00

Tabulation of p13_1_12

Since the relationship began... has he accused you of cheating?	Freq.	Percent	Cum.
A lot of times	5315	5.01	5.01
Sometimes	5500	5.18	10.19
Once	2539	2.39	12.59
Never	92731	87.41	100.00

Tabulation of p13_1_13

Since the relationship began... has he made you feel afraid?	Freq.	Percent	Cum.
A lot of times	5604	5.28	5.28
Sometimes	4433	4.18	9.46
Once	1796	1.69	11.15
Never	94252	88.85	100.00

Tabulation of p13_1_14

Since the relationship began... has he threatened to leave/abandon you, harm you	Freq.	Percent	Cum.
A lot of times	4551	4.29	4.29
Sometimes	5837	5.50	9.79
Once	2268	2.14	11.93
Never	93427	88.07	100.00

Tabulation of p13_1_15

Since the relationship began... has he locked you up, prohibited you from going	Freq.	Percent	Cum.
A lot of times	2229	2.10	2.10
Sometimes	2002	1.89	3.99
Once	678	0.64	4.63
Never	101175	95.37	100.00

Tabulation of p13_1_16

Since the relationship began... he has watched you, spied on you, followed you w	Freq.	Percent	Cum.
A lot of times	2081	1.96	1.96
Sometimes	2634	2.48	4.44
Once	960	0.90	5.35
Never	100410	94.65	100.00

Tabulation of p13_1_17

Since the relationship began... he calls you or texts you on the phone all the t	Freq.	Percent	Cum.
A lot of times	3894	3.67	3.67
Sometimes	3760	3.54	7.21
Once	499	0.47	7.69
Never	97932	92.31	100.00

Tabulation of p13_1_18

Since the relationship began... he has threatened you with any weapon (knife, ra	Freq.	Percent	Cum.
A lot of times	469	0.44	0.44
Sometimes	470	0.44	0.89
Once	733	0.69	1.58
Never	104412	98.42	100.00

Tabulation of p13_1_19

Since the relationship began... he has threatened to kill you, himself or the ch	Freq.	Percent	Cum.
A lot of times	1123	1.06	1.06
Sometimes	1351	1.27	2.33
Once	1174	1.11	3.44
Never	102435	96.56	100.00

Tabulation of p13_1_20

Since the relationship began... he has destroyed, thrown or hidden things from y	Freq.	Percent	Cum.
A lot of times	1919	1.81	1.81
Sometimes	2569	2.42	4.23
Once	1520	1.43	5.66
Never	100077	94.34	100.00

Tabulation of p13_1_21

Since the relationship began... has he given you the silent treatment?	Freq.	Percent	Cum.
A lot of times	8034	7.57	7.57
Sometimes	14034	13.23	20.80
Once	2772	2.61	23.42
Never	81245	76.58	100.00

Tabulation of p13_1_22

Since the relationship began... he checks your email or cell phone and demands t	Freq.	Percent	Cum.
A lot of times	2836	2.67	2.67
Sometimes	3177	2.99	5.67
Once	939	0.89	6.55
Never	99131	93.45	100.00

Tabulation of p13_1_23ab

Since the relationship began... he has made children or relatives turn against y	Freq.	Percent	Cum.
A lot of times	1787	1.93	1.93
Sometimes	2062	2.23	4.16
Once	635	0.69	4.85
Never	87960	95.15	100.00

Tabulation of p13_1_24ab

Since the relationship began... your husband or partner has been very angry beca	Freq.	Percent	Cum.
A lot of times	3711	4.01	4.01
Sometimes	5945	6.43	10.45
Once	1045	1.13	11.58
Never	81744	88.42	100.00

Tabulation of p13_1_25

Since the relationship began... he has threatened or blackmailed you to have sex	Freq.	Percent	Cum.
A lot of times	2174	2.05	2.05
Sometimes	2028	1.91	3.96
Once	491	0.46	4.42
Never	101392	95.58	100.00

Tabulation of p13_1_26

Since the relationship began... when you have sex he has forced you to do things	Freq.	Percent	Cum.
A lot of times	1135	1.07	1.07
Sometimes	1285	1.21	2.28
Once	370	0.35	2.63
Never	103294	97.37	100.00

Tabulation of p13_1_27

Since the relationship began... he has used physical force to force you to have	Freq.	Percent	Cum.
A lot of times	1445	1.36	1.36
Sometimes	1593	1.50	2.86
Once	655	0.62	3.48
Never	102390	96.52	100.00

Tabulation of p13_1_28

Since the relationship began... he has forced you to watch sexual or pornographi	Freq.	Percent	Cum.
A lot of times	274	0.26	0.26
Sometimes	358	0.34	0.60
Once	146	0.14	0.73
Never	105307	99.27	100.00

Tabulation of p13_1_29

Since the relationship began... he has forced you to have unprotected sex?	Freq.	Percent	Cum.
A lot of times	1414	1.33	1.33
Sometimes	850	0.80	2.13
Once	227	0.21	2.35
Never	103594	97.65	100.00

Tabulation of p13_1_30

Since the relationship began... he has forbidden you to work or study?	Freq.	Percent	Cum.
A lot of times	3645	3.44	3.44
Sometimes	2872	2.71	6.14
Once	1401	1.32	7.46
Never	98165	92.54	100.00

Tabulation of p13_1_31

Since the relationship began... he has taken your money from you or used it with	Freq.	Percent	Cum.
A lot of times	1111	1.05	1.05
Sometimes	1247	1.18	2.22
Once	529	0.50	2.72
Never	103197	97.28	100.00

Tabulation of p13_1_32

Since the relationship began... he has taken or taken property (land, houses, ap	Freq.	Percent	Cum.
A lot of times	309	0.29	0.29
Sometimes	340	0.32	0.61
Once	528	0.50	1.11
Never	104908	98.89	100.00

Tabulation of p13_1_33ab

Since the relationship began... he has spent the money needed for the house?	Freq.	Percent	Cum.
A lot of times	4437	4.80	4.80
Sometimes	4253	4.60	9.40
Once	984	1.06	10.46
Never	82771	89.54	100.00

Tabulation of p13_1_34ab

Since the relationship began... he has not complied with giving the expense or h	Freq.	Percent	Cum.
A lot of times	3983	4.31	4.31
Sometimes	4366	4.72	9.03
Once	678	0.73	9.76
Never	83417	90.24	100.00

Tabulation of p13_1_35ab

Since the relationship began... Although he has money, he has been stingy with t	Freq.	Percent	Cum.
A lot of times	4896	5.30	5.30
Sometimes	3640	3.94	9.23
Once	550	0.59	9.83
Never	83357	90.17	100.00

Tabulation of p13_1_36ab

Since the relationship began... he has complained you for how you spend the mone	Freq.	Percent	Cum.
A lot of times	4239	4.59	4.59
Sometimes	5123	5.54	10.13
Once	935	1.01	11.14
Never	82148	88.86	100.00

Tabulation of p13_4

Have you told anyone about the problems you have had with your partner?	Freq.	Percent	Cum.
1	20453	47.64	47.64
2	22481	52.36	100.00

Tabulation of p13_6

Do you know where you can get help?	Freq.	Percent	Cum.
No	28568	66.54	66.54
Yes	14366	33.46	100.00

VIII. Variables for the infant domestic violence index

The questions that were included to generate the infant domestic violence can be separated into two groups: the first refers to the context in which the woman grew up in, and the second to the direct violence that the woman was subjected to.

a. *Variables that indicate if the woman grew up in a violent context*

The first set of questions considered for the index were the following:

- Do you remember if among the adults with whom you lived when you were a kid, there was hitting?
- Do you remember if the people you lived with when you were a kid insulted or offended each other?
- Did the people you lived with when you were a kid beat you?
- Do you remember if the people you lived with when you were a kid insulted you or offended you?
- When your partner was a child (even before the age of 15), were they beaten or insulted at home?
- Do you know if when your partner was a child (even before he was 15 years old), his mother was beaten by her husband?
- When your partner gets angry or desperate with their daughters and sons, does he hit them?
- When you get angry or desperate with your daughters and sons, do you hit them?

Each of these questions have the following possible answers:

1. Sometimes
2. Often
3. No
4. No children
5. Doesn't know
6. Not specified

For all questions, the last option was removed for analytical purposes

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Tabulation of p11_4

Do you remember if among the adults with whom you lived when you were a kid, the	Freq.	Percent	Cum.
Sometimes	17591	15.81	15.81
Often	10693	9.61	25.42
No	82972	74.58	100.00

Tabulation of p11_5

Do you remember if the people you lived with when you were a kid insulted or off	Freq.	Percent	Cum.
Sometimes	22712	20.41	20.41
Often	11940	10.73	31.15
No	76604	68.85	100.00

Tabulation of p11_6

Did the people you lived with when you were a kid beat you?	Freq.	Percent	Cum.
Sometimes	28909	25.98	25.98
Often	7736	6.95	32.94
No	74611	67.06	100.00

Tabulation of p11_7

Do you remember if the people you lived with when you were a kid insulted you or	Freq.	Percent	Cum.
Sometimes	13522	12.15	12.15
Often	6866	6.17	18.33
No	90868	81.67	100.00

Tabulation of p11_8

When your partner was a child (even before the age of 15), were they beaten or i	Freq.	Percent	Cum.
Sometimes	17540	16.51	16.51
Often	9927	9.35	25.86
No	45766	43.08	68.94
doesn't know	32990	31.06	100.00

Tabulation of p11_9

Do you know if when your partner was a child (even before he was 15 years old),	Freq.	Percent	Cum.
Sometimes	19151	18.03	18.03
Often	49597	46.69	64.72
doesn't know	37475	35.28	100.00

Tabulation of p11_10

When your partner gets angry or desperate with their daughters and sons, does he	Freq.	Percent	Cum.
Sometimes	14604	13.75	13.75
Often	1717	1.62	15.36
No	71995	67.78	83.14
No children	17907	16.86	100.00

Tabulation of p11_11

When you get angry or desperate with your daughters and sons, do you hit them?	Freq.	Percent	Cum.
Sometimes	31335	28.16	28.16
Often	1103	0.99	29.16
No	57630	51.80	80.96
No children	21188	19.04	100.00

   b. *Variables that indicate if the woman was subject to domestic violence as an in-fant*

The second set of questions considered for the index were the following:

- When you were a child, did you have your private parts touched or forced to touch some-one else's private parts without your consent?

- When you were a child, were you forced you to show your private parts and/or to look at someone else's private parts?

- When you were a child, were you forced you to watch pornographic or sexual acts or scenes?

- When you were a child, did someone try to force her to have sex?

- When you were a child, were you forced to have sex under threat or by using force?

- When you were a child, were you forced to perform sexual acts in exchange for money or gifts?

Each of these questions have the following possible answers:

1. Yes
2. No
3. Not specified

For all questions, the last option was removed for analytical purposes. As mentioned before, to successfully construct an MCA index, all the categorical variables must have the same

categories. For this reason, to compute the infant domestic violence index, I first computed two MCA indices for each set of questions and then performed a PCA index of infant domestic violence.

Tabulation of p11_12_1

When you were a child did you have your private parts touched or forced to touch	Freq.	Percent	Cum.
No	97643	93.08	93.08
Yes	7255	6.92	100.00

Tabulation of p11_12_2

When you were a child were you forced you to show your private parts and/or to l	Freq.	Percent	Cum.
No	101568	96.82	96.82
Yes	3332	3.18	100.00

Tabulation of p11_12_3

When you were a child were you forced you to watch pornographic or sexual acts o	Freq.	Percent	Cum.
No	103852	99.12	99.12
Yes	919	0.88	100.00

Tabulation of p11_12_4

When you were a child did someone try to force her to have sex?	Freq.	Percent	Cum.
No	100832	95.75	95.75
Yes	4478	4.25	100.00

Tabulation of p11_12_5

When you were a child were you forced to have sex under threat or by using force	Freq.	Percent	Cum.
No	102377	97.23	97.23
Yes	2922	2.77	100.00

Tabulation of p11_12_6

When you were a child were you forced to perform sexual acts in exchange for mon	Freq.	Percent	Cum.
No	104232	99.08	99.08
Yes	969	0.92	100.00