The Suppression of Female Labor Supply in India: Evidence on the Roles of Bargaining and Expectations

Andrea Smurra*

October 27, 2025

PRELIMINARY DRAFT - Latest Version

Abstract

A large gap exists between the aspirations of Indian women and their actual rates of labor market participation. This paper studies how intra-household bargaining dynamics and expectations contribute to this gap and the resulting low female labor force participation (FLFP). I collect individual-level matched data from 2,200 spouses in Uttar Pradesh, measuring expected changes in household outcomes conditional on female labor market outcomes, together with individual preferences over these outcomes. A novel empirical fact emerges: husbands in single-income couples expect large utility costs from FLFP, driven by a loss of control over household resources and overall bargaining power. These expectations, however, are misaligned from those held by their wives and fellow men whose wife works for pay, which in turn match realized outcomes in their communities. I rationalize these findings through a collective household model with endogenous bargaining and no commitment. The model implies an inefficiently low level of FLFP, driven by the primary decision maker's incentive to maintain their bargaining power. I validate these findings through a field experiment, finding 40% lower take-up of a real-world job offer when women have to negotiate participation with husbands holding more pessimistic beliefs.

JEL classification: J01, J16, D13

*London School of Economics and Political Science & Institute for Fiscal Studies. Email: andrea.smurra@ifs.org.uk. I am indebted to Imran Rasul, Oriana Bandiera, Aureo de Paula and Alison Andrew for support throughout this project. I have also benefited from comments from Abi Adams, Jonas Hjort, Seema Jayachandran, Eliana La Ferrara, Rocco Macchiavello, Gabriel Ulyssea, as well as seminar participants at the IFS, UCL, Oxford, HKS CID and ESPE. I am grateful for research support from the Leverhulme Trust (RPG-2021-391) and the ESRC Centre for Microeconomic Analysis of Public Policy at the Institute for Fiscal Studies (ES/T014334/1).

1 Introduction

Low female labor force participation (FLFP) has significant economic and social implications, with the World Bank estimating that closing gender employment gaps could boost global GDP by over 20% (World Bank, 2024). At the macro level, gendered gaps in employment bring into questions the allocative efficiency of the current equilibrium characterized by a large pool women being out of the labor force (Hsieh et al., 2019). At the micro level, low FLFP not only affects households' disposable income, but also the balance of power between spouses and thus household outcomes, with direct implication for important dimensions of household and individual welfare, such as intra-household inequality and investments in children's human capital (Attansio and Lechene, 2014; Calvi, 2020; Lechene et al., 2022; Uckat, 2023).

India, home to 17% of the world's female population, is one of the countries with the largest gender gap in employment. Despite three decades of economic growth, shrinking gender gaps in educational attainment, and declining fertility rates, female labor force participation (FLFP) remains exceptionally low – even compared to countries at similar levels of economic development – with only 1 in 3 women engaging in paid work (Fletcher et al., 2018; Munshi and Singh, 2024).[1] This low level of participation is particularly puzzling when compared to women's aspiration: among a sample of 1,100 young women young married women, I find that 92% want to work, and 89% believe they will join the labor force in the future, but only 26% are currently employed.

Policies and interventions aimed at boosting FLFP have typically targeted women, but employment decisions are often negotiated with or taken directly by their husbands (Bernhardt et al., 2018). Indeed, shifting decision-making power towards women, either by improving their outside option or their control over resources, has been shown to positively affect FLFP (Heath and Tan, 2020; Field et al., 2021).In most contexts, however, men remain the primary decision-maker within their household and thus a key piece in the low FLFP puzzle.

This paper provides theoretical and empirical evidence of an important mechanism behind the aspiration-employment gap of married women: labor market outcomes endogenously determine the balance of power within couples and, crucially, spouses are aware of this dynamic. For women, this represents an additional incentive to join the labor force, as they trade off leisure time for additional income *and* the expectation of

[1]Source: World Development Indicators, Female labor force participation rate, age 15-64 (modeled ILO estimates).

more control over household outcomes. These factors boost her desired labor supply. For men, instead, an expected loss in bargaining power will compound contemporaneous costs, such as social stigma, and reduce his expected gains from FLFP, potentially leading to oppositions towards wife's employment outside the home.

To formalize these incentives and their impact on FLFP, I build a collective household model where the wife's bargaining power evolves endogenously with her labor market outcomes and spouses cannot commit to future allocations (Basu, 2006). The model makes precise the relationship between bargaining power, individual expectations and female labor supply, yielding three predictions. First, when future outcomes are determined by choices made today through their impact on bargaining power, spouses' expectations about future individual payoffs will bear on these decisions. Second, women are less likely to work in households where they hold lower bargaining power. Finally, husbands expecting larger utility costs from FLFP, for example through larger shifts in control of resources within the household, are more likely to oppose their spouse participation. The predictions of the model coalesce into the aspiration-employed gap observed in the data, and contribute to female employed being *suppressed* below its efficient level.

I test these predictions using novel matched data collected from 1,100 married couples in Uttar Pradesh, which include empirical measures of preferences and expectations derived from the theoretical framework. Both spouses anticipate that women will have greater household decision-making power if employed, supporting the key assumption of the model. The data confirms that the decision of whether a woman joins the labor force rests predominantly with her husband, especially for women who do not work for pay. Indeed, in line with the second prediction of the model, the aspiration-employment gap is largest among women who have less agency over employment decisions. These results, in turn, emphasizes the role of men's expectations and preferences in determining married women's FLFP.

The survey elicits expectations over how household resources and wife's time would be allocated conditional on hypothetical employment scenarios for the wife. This novel data provides evidence on the third prediction of the model. Men in single-income households expect FLFP to significantly alter household outcomes, leading to a loss of control over resources in favor of their wife. Answers to a discrete choice experiment designed to measure preferences over these outcomes imply a large expected utility cost for men.

Crucially, the expectations of men in single-income households: (i) exceed the beliefs

held by their wives, who are willing to work in exchange for a lower share of household resources and align with realized outcomes in dual-income households, (ii) do not necessarily depend on characteristics of the wife, as they align with beliefs about outcomes in dual-income household, and (iii) are more pessimistic than the beliefs held by men in dual-income couples, who expect less extreme re-allocations of resources and are aligned with realized outcomes within my sample.

To validate these findings, I ran a field experiment offering employment opportunities for women in the study sample. Most of them rely on family and friends to access information about job opportunities and, to match this feature of the study context, I randomize the spouse receiving the offer. Take-up is 40% lower when women who received a job offer negotiate participation with husbands holding more pessimistic beliefs. This remains true conditional on her reported level of agency, underscoring the role of men's expectations in determining FLFP. When the job offer is communicated to the husband, take-up is significantly lower. The difference is driven by couples in which the wife does not currently work, but would have successfully bargained for her employment had she received the offer. The evidence is thus consistent with men strategically withholding information to maintain the wife out of the labor force when they cannot enforce this outcome through bargaining.

I conclude by structurally estimating the model. The estimated Pareto weight placed by the household on women's preferences is approximately 0.43, matching estimates obtained with different approaches for the same context Calvi (2020). With these estimates, I simulate the impact of aligning men's expectations to those of their spouses, which entail an allocation of resources that is more favorable to men without curtailing women's desired to join the labor force. Preliminary estimates indicated that FLFP would increase by 5.7 percentage points, a 22% increase from a baseline participation rate of 26%.

2 Data and Descriptives

2.1 Data collection

The data for this project was collected between July and October 2024 from $1,100$ married couples living in Lucknow, the State capital of Uttar Pradesh, India. Respondents were randomly sampled from 6 locations: 2 neighborhoods within Lucknow and 4 Nagar Panchayats (peri-urban municipalities) around the city. Prior to the main

data collection, enumerators carried out a household listing exercise in order to create a sampling frame of eligible couples.[2] Couples were eligible for the study if they (i) comprised a married women and men, both willing to participate, (ii) the husband is currently employed, and (iii) the wife is of age between 18 and 30 years old. Drawing randomly from the the sampling frame, eligible couples were contacted via phone and invited to participate in the study. All data collection activities took place in venues rented by the field team within participants' neighborhoods, allowing women and men to be interviewed simultaneously while ensuring their privacy.[3]

2.2 Descriptives and context

Table 1 reports key demographic characteristics of the study population. Women in our sample are on average 25.5 years old and have 7.6 years of formal education. Their husbands are on average 3.5 years older and have 0.7 fewer years of formal education. Consistent with prevailing customs in India, most marriages are patrilocal unions arranged by family members. According to these traditions, the female spouse joins the husband's family, which is often located in a different community and with whom she might have had limited or no interactions prior to her wedding day. 79% of marriages in the sample have been arranged and required the wife to relocate $50km$ away from her natal community. The average woman in our sample married the year she turned 18, the legal minimum marital age for women. However, 30% of the female sample reports marital arrangements being in place before coming of age.

Compared to the average household in Uttar Pradesh, sampled households have 1.4 fewer adults, likely due to sampled households being located in urban and peri-urban areas, but are otherwise similar in terms of number of children, caste and religion.

[2]The household listing exercise covered all wards situated in urban locations and a random subsample of 40% of wards in peri-urban municipalities. In smaller wards, enumerators attempted to interview every household. In medium and large wards, instead, they attempted to interview 66% and 50% of households respectively, selected at random. This exercise identified $3,438$ eligible and consenting couples across $11,217$ households. Further details can be found in appendix B.

[3]The refusal rate was 52%, reflecting the challenges connected with interviewing both spouses simultaneously over a short window of time.

2.3 Female labor force participation

Table 1, panel B, provides an overview of women's labor market aspirations and outcomes. 92% of women express the desire to work.[4] Yet, only 37% have worked for pay since marriage and even fewer, 26%, report positive hours worked for pay on the day prior to the survey.[5] Conditional on being employed, the average woman works part-time (4.6 hours) and in 72% of cases they work from home.[6]

In summary, while the desire to work for pay is ubiquitous among married women, participation remains low. This wide gap between women's aspiration and their labor market outcomes is not unique to this sample and has been documented also at the national level (Fletcher et al., 2018). The theoretical framework in section 3 makes it clear how such a gap can emerge when FLFP is negotiated within the household, clarifying the conditions that support this equilibrium.

2.4 Organization of the household

The core idea of this paper is that individuals' contribution to the household economy shape their bargaining power and, through this channel, future household outcomes. In order to provide a comprehensive picture of spouses' contribution to the household economy, I measure these in terms of time devoted to productive activities, i.e. market work and home production. The key household outcome taken into consideration, instead, is the allocation of resources to each spouse's private consumption and joint expenditure. I document below how these quantities are measured and summarize the data on current allocations of time and resources.

2.4.1 Time use

Time use data was collected via the *hybrid diary method* (Field et al., 2023). This task is performed using 24 tokens and a board depicting nine possible activities: sleep,

[4] Aspirations to work in the future remain high conditional on past employment. The share of women who want to work in the future is 96% among those who worked for pay since getting married, and 89% among those who specialize in home production. Aspirations remain similarly high conditional on respondents' age, household size, age of youngest children, and years of education (appendix figure A.1).

[5] This level of female employment aligns with the national average of 31% according to ILO estimates for the year 2023, source:WDI

[6] The time use module of the survey records the allocation of time to activities, split by whether these took place within the own/own land, or outside. Working from home is defined as engaging in paid work activities exclusively at home.

rest/doing nothing, care for others, domestic tasks, supporting a family business, work for income (including commuting), leisure, self-care and studying (see figure A.2).[7] Respondents were invited to chronologically recount the activities performed on the previous day (or the most recent non-festive day for surveys taking place on Mondays and after festivals) and sequentially place the appropriate number of tokens (hours) onto the corresponding sections on the board.

Figure 1 summarises the activities that wives and husbands engage in, highlighting a strong degree of specialization. Husbands are the primary earners, supplying on average 8.8 hours per day to market activities. Women on average devote only 1.2 hours to paid employment due to the combination of low participation and low hours documented in section 2.3. However, women supply 10.1 hours daily to the household economy in the form of various home production activities - domestic tasks, care for others and support to family businesses - as opposed to the 3.7 hours supplied by men.[8] Even though women's labor market participation is low, their overall contribution of time to the household economy is not dissimilar from men's once all productive activities are taken into consideration: 11.4 hours for women vs 12.4 hours for men. However, wives' time is mostly devoted to activities that are unremunerated and for which a price might be unobserved.[9]

2.4.2 Resource allocation

Household expenditure was recorded along three aggregate categories. The first two include goods that are consumed privately by the wife and husband respectively. The third category, instead, comprises goods that are either jointly consumed or used in the

[7]For simplicity, I aggregate time spent studying with leisure. This is because only a small share of respondents allocated any tokens to this category (7% of women and 8% men), and the average time devoted to studying is less than 10 minutes per day.

[8]I consolidate domestic tasks, care for others and work in family businesses into a single category: *home production*. There are several reasons why I combine work supplied to family businesses with other forms of home production. (i) both sets of activities generates value for the household but the "price" of women's time is either not salient or not observed; (ii) perhaps because of this, there is evidence that employment affects women's bargaining power only if they work outside of family businesses (Anderson and Eswaran, 2009); (iii) given the nature of these businesses, which are often operated from the household's own home, the distinction between chores and supporting a family business could be nuanced and prone to measurement error.

[9]Home production remains women's primary activity even when they work for pay. Employed women work on average 4.7 hours and spend 8.2 hours in domestic and care duties - the so-called *second shift*. However, FLFP does not affect men's time allocation in the cross-section (see Figure A.6).

production of public goods within the household.[10]

Household's expenditure allocation was elicited using 20 tokens representing total income and a board with three sets of images depicting (i) wife's private expenditure, (ii) joint expenditure, and (iii) husband's private expenditure (see figure A.5).[11] That is, I measure directly households' joint expenditure and each spouse's total private consumption.

Figure 2 and Table 3 (panel A) summarizes reported budget shares by gender. Average allocations reported by men differ in one key dimension: they understate joint expenditure (−4.6 p.p.) and attribute most of the gap to their wife's private consumption (+3.3 p.p.). Consequently, the wife's estimated resource share is, on average, 3.5 p.p. higher when reported by men. To address potential concerns about data quality or respondent bias, Appendix D.1 explores these patterns in greater detail. Qualitative evidence collected during piloting offers a plausible explanation: women often save part of their personal spending without their husband's knowledge. From the wife's perspective, such savings fall within the *joint* category, whereas unaware husbands perceive them as private consumption. Appendix D.1 shows that these reporting asymmetries are largest when women's main source of savings is pocket money, rather than observable income sources such as wages, consistent with the qualitative evidence. Moreover, hidden savings are most prevalent among women with the least agency within the household, particularly over financial decisions. While other factors—such as experimenter demand effects or marital satisfaction (de Quidt et al., 2018; Dervisevic and Goldstein, 2023)—may also contribute to discrepancies in couple-level reporting, the observed patterns are most consistent with strategic behaviour of the type discussed in Zhang (2024).

According to women's reports, the average household allocates 59.8% of its income to joint expenditure, 17.6% is privately consumed by the wife and 22.6% by the husband. A useful statistics in the analysis that follows is the wife's share of total private consumption, also known as the wife's conditional resource share,which stands at 43.4%

[10]All expenditure pertaining to children is considered public household expenditure. I abstract from potential inequality in access to/allocation of public goods within the household.

[11]The depictions of private consumption include: clothing, jewelry and cosmetics, snacks and entertainment enjoyed outside of the home, mobile phone charges, personal transport and pocket money. Joint expenditure includes housing and its maintenance costs, appliances/furniture and other household items, food and savings. In addition, joint expenditure includes costs associated with raising children or caring for other dependents as in Blundell et al. (2005). A separate survey module records total household income and individual earnings.

on average.[12] Looking at the sample distribution, 66% of women report lower private consumption relative to their husband, 26% report equal sharing, and only 8% report a share of private consumption greater than 50%.

3 A collective household model with endogenous bargaining power

Why do so many women aspire to work but so few are employed? Extending the collective household model illustrates the conditions that can lead couples into this high aspiration-low FLFP equilibrium. The model requires two ingredients: bargaining power is endogenous to labor supply decisions, and the couple lacks the ability to commit ex-ante to future allocations. The intuition is simple: (i) endogenous bargaining power increases individual returns to employment, boosting women's desired labor supply, while (ii) lack of commitment to future allocations pushes the primary decision-maker to oppose choices that will dynamically erode his position, even when it would be welfare improving for the household as whole. This class of *Inefficient Bargaining* models was first formalized by Basu (2006). The stylized version presented below formalizes the core intuition, together with some of the key tradeoffs each spouse faces when female participation is negotiated within the household.

3.1 Setup

Consider a two period model. In each period $t = 1, 2$ spouse $j \in \{w, h\}$ consumes a private good c_t^j, as well as a public good Q_t. The latter is produced within the household using purchased inputs q_t and wife's time h_t according to the concave production function $Q_t = Q(q_t, h_t)$. Alongside homeproduction, the wife can allocate her unitary endowment of time to leisure l_t or paid employment m_t at wage rate ω. Each period the household receives income Y, which includes household unearned income and husband's labor earnings.[13] Unit of measures are scaled so each purchased good has price equal to one. Finally, each spouse's individual utility can be represented by the functions

[12]This quantity is the share of resource allocated to the wife, conditional on the chosen level of public expenditure (Chiappori and Mazzocco, 2017).These values align closely with the resource shares estimated by Calvi (2020) for Indian women of reproductive age.

[13]I abstract from the husband's time allocation problem as this does not appear to be an important margin in this context: husbands of women who work for pay do no allocate their time differently from men in single-income households.

$u^w(c_t^w, Q_t, l_t)$ and $u^h(c_t^h, Q_t)$, both twice continuously differentiable and quasi-concave. An important omission from this formulation, made for expositional purposes, is that labor market participation could enter utility directly, e.g if work has amenity value for women or imposes costs connected to social stigma on either spouse.

I assume that household's decisions are made with no commitment, i.e. spouses cannot agree *ex-ante* to future allocations. This would be the case if some actions within the household are non-observable or non-verifiable, and hence contracts cannot be enforced. Additionally, some actions spouses might wish to commit to will be time-inconsistent and, in the absence of formal enforcement mechanisms, commitment would not be credible.[14] . These considerations align with features of the study context, where spouses in arranged marriages have few opportunities to interact before marriage. From the perspective of the model, this assumption implies that the household can only choose outcomes for the current period. Thus, I solve the model by backward induction (Basu, 2006).

In the second and last period, the household chooses private consumption c_2^w and c_2^h, inputs q_2 and the wife's time allocation as to maximize:

$$\begin{aligned} \max_{c_2^j, q_2, l_2, m_2, h_2} \quad & \theta_2 u^w(c_2^w, Q_2, l_2) + (1-\theta_2) u^h(c_2^h, Q_2) \\ s.t. \quad & c_2^w + c_2^h + q_2 = Y + \omega m_2 \\ & l_2 + m_2 + h_2 = 1; \quad l_2, m_2, h_2 \in [0,1] \\ & Q_2 = Q(q_2, h_2) \end{aligned} \tag{1}$$

where θ_2, the Pareto weight, represents the value given by the household to wife's preferences and can be interpreted as her bargaining power. The value of this parameter

[14]The opposite case would be one of full commitment, where spouses can commit *ex-ante* to future actions, possibly contingent on future realizations of shocks or particular states of nature (Chiappori and Mazzocco, 2017). Several empirical contributions have rejected this hypothesis. For example, Rasul (2008) finds that fertility choices in Malaysia are inconsistent with full commitment among ethnic groups where divorce is socially accepted; (Ashraf et al., 2014) shows that when women in Zambia are given access to concealable contraception, take-up increase; (Zhang, 2024) shows instead that household members in both Kenya and Indonesia conceal spending from the spouse. Without full commitment, the assumptions required for Pareto efficiency impose strong restrictions on individual preferences (Browning and Chiappori, 1998). Hence, evidence of inefficient household outcomes lends additional support against this hypothesis (Udry, 1996; Walther, 2018). An intermediate case is that of limited-commitment, where household renegotiate outcomes only when one spouse's payoffs falls below the value of their outside options (Chiappori and Mazzocco, 2017; Mazzocco, 2007; Lise and Yamada, 2019).

is determined by each spouses' outside option, corresponding to the utility in case of marriage dissolution or, if divorce is too costly, the payoff obtained from the non-cooperative solution to the household problem (Lundberg and Pollak, 1993; Lechene and Preston, 2011). At the start of period 2, it is taken as given.

This is the static collective model (Chiappori, 1988, 1992; Browning and Chiappori, 1998), where the solution is a Pareto efficient allocation of time and resources that depends, crucially, on the Pareto weight. Focusing on the interior solution for expositional purposes, labor supply is chosen according to the first order condition:

$$\theta_2 \frac{\partial u^w}{\partial l_2} = \lambda \omega \tag{2}$$

where λ is the lagrange multiplier of the budget constraint.

Finally, let $v^j(\theta_2)$ represent the indirect utility that spouse j can obtain in period 2 given Pareto weight θ_2. Since the static equilibrium is Pareto efficient, $v^w(\theta_2)$ is non-decreasing, while the opposite holds for $v^h(\theta_2)$.

In the first period, spouses know that the wife's labor supply m_1 will affect next period's bargaining weight θ_2 and, through this channel, the utility each will receive in the second period. Each spouse, however, holds different beliefs over this relationship, captured by $\theta_2^j = \theta_j(m_1)$ for $j \in \{w, h\}$. This difference could be driven by uncertainty over the partner's true outside option or their preferences (Peters, 1986; Friedberg and Stern, 2014; Afzal et al., 2022; Tagat et al., 2024). Another source of uncertainty could be the perceived willingness of one's partner to take costly actions that affect bargaining power, as in the literature on domestic violence (Bloch and Rao, 2002; Anderberg et al., 2016; Calvi and Keskar, 2023). More broadly, asymmetric information between spouses would contribute to the uncertainty over future allocations (Ashraf, 2009; Castilla and Walker, 2013; Ambler, 2015).

Thus, spouses choose consumption c_1^w, c_1^h, inputs q_1 and the wife's time allocation as to maximize household utility. Their individual payoff in the first period includes both a contemporaneous component and the discounted value of period 2's indirect utility, $v^h(\theta_2)$. Formally:

$$\max_{c_1^j, q_1, l_1, m_1, h_1} \quad \theta_1 \left[u^w(c_1^w, Q_1, l_1) + \beta v^w(\theta_2^w)\right] + (1-\theta_1)\left[u^h(c_1^h, Q_1) + \beta v^h(\theta_2^h)\right]$$

$$\begin{aligned} s.t. \quad & c_1^w + c_1^h + q_1 \leq Y + \omega m_1 \\ & l_1 + m_1 + h_1 = 1; \quad l_1, m_1, h_1 \in [0,1] \\ & Q_1 = Q(q_1, h_1) \\ & \theta_2^j = \theta_j(m_1) \quad \text{for j} \in \{w, h\} \end{aligned} \tag{3}$$

where θ_1 is the Pareto weight at $t = 1$, determined upon marriage and taken as given, and β is the discount factor. An interior solution for the wife's labor supply satisfies the following condition:

$$\theta_1 \frac{\partial u^w}{\partial l_1} = \lambda\omega + \beta\left[\theta_1\left(\theta'_w \frac{\partial v^w}{\partial \theta_2}\right) + (1-\theta_1)\left(\theta'_h \frac{\partial v^h}{\partial \theta_2}\right)\right] \tag{4}$$

3.2 Implications for female labor supply

Result 1. If $\theta_2^w = \theta_2^h = \theta_1$, household choices are Pareto efficient. That is, the model nests the static collective household model as the special case in which bargaining power does not evolve with labor market outcomes, and the household chooses an allocation on the Pareto frontier. In this *special* case, expectations about the future do not matter for current period's choices.

If at least one spouse expects bargaining power to evolve with participation, expectations about future allocations matter. In addition, labor supply choices will generally be inefficient. The extra term on the right-hand side of (4) determines the sign and size of the wedge in labor supply.

Result 2. Everything else equal, female labor supply is more *suppressed* – it lays further below the efficient level – when the husband expects larger utility losses.

Equation (5) identifies the conditions under which female labor supply is *suppressed* with respect to the Pareto efficient level. For this to be the case, the wedge on right-hand side of (4) has to be negative, that is:

$$\theta_1 \left|\theta'_w \frac{\partial v^w}{\partial \theta_2}\right| < (1-\theta_1)\left|\theta'_h \frac{\partial v^h}{\partial \theta_2}\right| \tag{5}$$

with $\theta'_j > 0$ and $\partial v^w/\partial\theta_2 \geq 0 \geq \partial v^h/\partial\theta_2$.

At the margin, an expected decrease in future payoff is determined by a redistribution of the marital surplus towards the wife. In practice, when labor supply changes discontinuously, these expected costs could include large changes in resource shares and a significant drop in the wife's contribution to homeproduction. Opposite considerations hold for the wife.

Result 3. Individual *concerns* about the dynamic impact of female employment on future payoffs are scaled by today's Pareto weight. Hence, if the inequality holds, everything else equal, an husband with more bargaining power is more likely to suppress his wife's labor supply. A corollary of this result is that the gap between women's desired labor supply – driven by her marginal cost, marginal benefit, and expected dynamic gains – and realized participation will be decreasing in women's bargaining power.

4 Key facts: Women's employment, agency and expectations

This section maps the model to data using novel survey and lab-in-the-field evidence. The discussion is organized around three empirical facts. First, spouses anticipate the relationship between female labor force participation (FLFP) and intra-household decision-making power, which supports a key assumption of the model and motivates the focus on expectations. Second, the aspiration–employment gap is largest among the least-empowered women. Third, analyzing individual expectations about how FLFP affects household outcomes, I find evidence consistent with Result 3: men in single-income households expect substantial losses in their own welfare from their wives' labor force participation.

I complement this analysis with evidence form a field experiment, documenting how couples respond to a real job offer. The experiment, designed to address some of the concerns connected with the cross-section analysis of survey data, confirms the core results and provides useful insights on the mechanisms behind the observed low take-up female employment opportunities.

4.1 Both spouses expect women who work for pay to have more bargaining power

The key assumption of the *Inefficient Bargaining* model of section 3 is that spouses expect women's decision-making power to increase with their labor market outcomes. It is this assumption that sets the framework apart form the standard collective household model and drives the results discussed in this paper. Testing this assumption is conceptually different from measuring the cross-sectional correlation between women's agency and their labor market outcomes, which need not be known by respondents and might differ from their expectations.[15] The question being asked is about beliefs: Do respondents *expect* a correlation between employment and women's agency? I address this question through a survey experiment.

Respondents are presented with a vignette describing two fictional married women from their community. Each of these profiles includes the following characteristics: age (20 or 28), education (8, 10 or 12 years), number of children (none or 1), husband's job (*construction worker* or *teacher*), co-habitation with the mother-in-law (*yes* or *no*), distance from natal family (*far away and never see them* or *close by and often visits*) and, most importantly, whether she works for pay (yes or no). Features are randomly drawn with replacement for each respondent, so that the two hypothetical women can be similar in some dimensions but different in others. After presenting a narrative description of the two women and their circumstances, enumerators asked "*Think about a family deciding on a big purchase or important expenditure, for example buying a fridge, a piece of land or making a big wedding gift. Who do you think would have most say in this decision between these two women?*".

This discrete choice experiment has two practical advantages. First, it leverages variation in female employment that is orthogonal by design with respect to common confounders - age, fertility, education, husband's occupation - and distribution factors - distance from natal family and in-laws co-habitation. Second, avoiding reference to decisions taking place in the respondents' own household is likely to reduce desirability bias (Bursztyn et al., 2025).

[15] In line with recent evidence (Majlesi, 2016; Heath and Tan, 2020; Field et al., 2021; McKelway, 2022; Uckat, 2023), cross-sectional correlations show that women in the study sample who work for pay have more agency. Whether this is measured as women's ability to participate in household decision-making or move freely within their communities, sampled women who work full-time are close to half a standard deviation more empowered than women who specialize in homeproduction (see appendix D.2).

Figure 3 presents average marginal effects of each characteristic on the probability that a woman is identified as having higher agency than her fictional counterpart. These are estimated separately by gender via the following conditional logit specification:

$$\mathbb{P}(y_i = 1|x_{i1}, x_{i2}) = \frac{exp(x_{i1}\beta)}{\sum_{h=1}^{2} exp(x_{ih}\beta)}$$

where y_i is a dummy equal to 1 if respondent i selects the first woman, x_{ij} for $j \in \{1, 2\}$ is the vector of dummies representing the characteristics of each fictional woman shown to respondent i, and β is a vector of parameters to be estimated. Standard errors are clustered at Panchayat level.

Both women and men *believe* that female employment and bargaining power over household spending are correlated. The average marginal effects shown in figure 3 are not only positive and significant, but also larger than any other listed characteristic.[16] In turn, this evidence supports the main assumption of the model, i.e. that bargaining power is understood as being endogenous.

4.2 The aspiration-employment gap shrinks with women's agency, but men remain the primary decision-makers

Figures A.3 and A.4 summarize data on women and men's perceived agency over a range of decisions taking place within the household.[17] While women report some decision-making power in some dimensions – a small purchase, what to cook, buying clothing, how to allocate their time – they enjoy substantially less agency over more

[16] A few additional patterns shown in figure 3 are worth commenting on. First, cohabiting with the mother-in-law positively impacts wives' say within the household. Since this result emerged during piloting, I investigated it qualitatively. Respondents agreed that, when it comes to decisions concerning investments, savings or large expenses, the preferences of wives and mothers-in-law tend to be aligned, thus giving the female spouse more leverage over these decisions. Similarly surprising were the results on distance from natal family, a commonly used distribution factor that in this context seems to have the opposite effect on female agency (Attansio and Lechene, 2014). Qualitative evidence suggests that proximity to the natal family results in their direct involvement in household decisions, side-lining wives from the decision-making process altogether.

[17] The decisions/scenarios included in this survey module are: how much money is spent on food, a small purchase (such as a knife or cookware), a big purchase (e.g. TV or refrigerator), own expenditure such as clothing, what to cook, how many children to have, decisions related to savings (how much to save and for what purpose), how time is spent during the day (e.g. how much chores or whether you can rest), whether to accept/reject a job opportunity for the wife. For each of these decisions, the question asks: *"How important is your opinion at home when it comes to ..."*, and answers were coded on a 5-point Likert scale ranging from "*I have no say*" to "*I decide*".

important choices, such as determining the household food budget or large purchases.[18] These patterns match men's answers, who report substantial agency over these more important household decisions.

Crucially, women report limited say over their own employment decisions. Only 25% of female respondents say their opinion would be important or decisive if they were to receive a job offer. These perceived limits to agency over labor market participation are echoed by husbands' perceptions of their own role. When presented with the same scenario, 47% of men declared that they alone would decide whether their wife accepts a job offer, and a further 33% reported that their opinion on the matter would be the most important.[19] Their decisive role over FLFP choices aligns closely to the observed correlation between men's expectations and realized participation, and the lack of a similar correlation among women.

The third prediction of the model is that FLFP is more likely to be suppressed in households where, *ceteris paribus*, men have more decision-making power. This comparison holds constant expected gains/losses for each spouse. A corollary of this result is that the aspirations-employment gap will be smaller for more empowered women.

Figure 4 provides graphical evidence in support of this result. It plots the share of women currently working for pay conditional on their reported level of agency over employment decisions. The most empowered women in the sample are twice as likely to be employed than women with no say over this decision (36% vs 17%). Hence, the gap between women's aspiration and employment falls by 10 percentage points between the two groups of women.

Table 5 tests the prediction formally. The outcome of interest is a dummy equal to 1 if the female respondent wants to work but is not currently employed, regressed on the index of women's perceived agency. The estimated correlation in column (1) is positive and statistically significant. Column (2) shows that this is robust to controlling explicitly for individual expected utility gains/losses from FLFP. Column (3) and (4), repeat the test using an IV strategy to address the potential endogeneity of perceived

[18]It is worth noting that while close to 80% of female respondents indicate that they decide independently how to allocate their time throughout the day, they still face restrictions, especially in terms of mobility within their communities (Andrew et al., 2024).

[19]This imbalance in decision-making power between wives and husbands correlates not only with the participation margin, but also with the type of jobs women see as desirable. When asked about the three most important features of the job they aspire to, 63% of women selected that their husband and family need to find it acceptable, being the second most commonly mentioned feature after "*it pays well*" (71% of women ranked it top) and as important as the job "*being located close to home*".

agency.[20] While magnitudes should be interpreted carefully, the aspiration employment gap remains negatively correlated to women's perceived agency.

4.3 Sole-earning men are pessimistic about the impact of their wives' participation on household outcomes.

A shift in spouses' bargaining power alters the allocation of income and time within the household, thus affecting their individual welfare. Given that women are expected to gain bargaining power if they become employed, I measure respondents' expected changes in household outcomes conditional on hypothetical changes in wives' labor market outcomes. These expectations combine two elements: (i) individual beliefs over the impact of employment on the balance of power within the couple, and (ii) beliefs about the preferences of the other spouse. Focusing on expected outcomes directly allows me to side-step the challenges connected with measuring these two sets of beliefs separately without hampering the objectives of the analysis. The evidence that follows focuses on expected changes in the allocation of resources within the household. Expected changes in the allocation of time when the wife's participation status changes, instead, can be found in appendix D.3. Along this margin, differences in expectations between spouses are muted, as both expect the wife to maintain her domestic and care responsibilities, even when employed.

4.3.1 Expected expenditure allocation and FLFP

Beliefs elicitation. I measure expected resource allocation conditional on FLFP directly after collecting data on current expenditure. Respondents were asked to repeat the resource allocation task, using the same setup (see section 2.4.2), while focusing on five hypothetical scenarios summarized in table 2.

The first scenario describes the husband as the sole earner.[21] To make this last point salient, enumerators placed 20 income tokens under the husband's picture on the pictogram. Respondents were then asked to distribute these tokens between wife's,

[20] Wife's age at marriage is used as an instrument for her bargaining power. The exclusion restriction implies that, conditional on the marriage quality (proxied by husband's log wage, household's wealth and caste), individual characteristics (age and educational attainment), and number of children, a woman's age at marriage affects her employment only through the impact it has on her bargaining power. The F-stat equals 9.10, a value that does not exclude a potential size distortion, but caps it at 15% (Stock and Yogo, 2005)

[21] This scenario was presented only to couples in which the wife is currently employed, as for the remaining couples this hypothetical scenario corresponds to the *status quo*.

husband's and joint expenditure according to what they believe the resource allocation would be in their household under this scenario.

The other scenarios portray the wife as being employed. Scenario 2 describes her as working part-time and earning half as much as the husband. Enumerators were instructed to place 20 tokens under the husbands' picture and 10 tokens under the wife's, making it salient that the wife is now generating extra income and the husband's labor market outcomes are unchanged. Doing so reduces the degree of inference respondents draw from each scenario: in this case, female employment is clearly not driven by negative labor market shocks to the husband, whose earnings are kept constant. In scenarios 3 through 5, the wife is portrayed as working full-time and earning three different levels of income: half, equal, and 1.5 times her husband's income. Accordingly, in each of these scenarios enumerators were instructed to place 10, 20 and 30 tokens under the wife's portrait on the resource allocation pictogram while the husband's income was maintained at 20 tokens.

Figure A.11 in the appendix summarizes allocations elicited from both wives and husbands across the five scenarios. Expenditure on each *good* - wife's private consumption, husband's private consumption and joint expenditure - is expected to increase as more income becomes available in the form of wives' earnings.[22] However, these patterns imply a marked change in the relative distribution of resources within the household which I explore in the next section.

Once the task was completed, enumerators elicited beliefs over the likelihood of each scenario. Respondents were shown a board with a description of the four hypothetical employment options – scenarios 2 through 5 – and were asked to allocate 20 beans as to represent the likelihood that the female spouse would find a job with those characteristics if she searched for employment. Figure A.8 shows the average elicited probability of each scenario by respondent's gender. Encouragingly, no scenario was deemed unlikely: the average likelihood of each *job* is at least 22% for men and 16% for women. Figure A.9 instead shows the full distribution of answers.

[22]In terms of budget shares, these are increasing for joint expenditure, and decreasing for both female and male private consumption (see appendix figure A.12). However, these results are not directly comparable to other estimates of household demands found in the literature. This is because the *joint expenditure* category in my setting bundles together goods purchased for household consumption, expenditure of dependents, savings and assets.

Results. Figure 5 plots the expected resource share of the wife - her share in total private consumption - over her relative labor earnings implied by each scenario.[23] I focus on this variable as a proxy for women's position within the household (Calvi, 2020; Blundell et al., 2025).[24] Wives believe their share of private consumption will range from 43% when unemployed to 48% when employed and earning 1.5 times their husbands income. That is, the average sampled woman believes she will always maintain a level of private consumption below that of their husbands', even if she earned substantially more than him.

Men, instead, expect their wives to gain control over a larger share of household resources. At the lowest level of labor income – half of what the husband earns – men on average believe the realized resource allocation will approximate an equal split: the expected shares of private consumption allocated to the wife is 49.5% and not statistically different from 50%.[25] As the wife's relative income increases across scenarios, so does her resource share, reaching 53% in the scenario where she earns more than her husband.

The endogenous bargaining model of section 3 predicts that women are less likely to work in households where men expect larger losses. Thus, figure 5 splits the sample by whether they belong to *single-* or *dual-income* couples (henceforth SI and DI couples). Each panel also plots data on realized resource shares as reported by respondents along the distribution of relative incomes.

The left panel of figure 6 shows that expected outcomes are closely aligned among women, regardless of their labor force participation. Moreover, these expectations are also aligned with realized outcomes (red line, left panel). The only discrepancy emerges in the middle of the distribution, where women have optimistic expectations relative to the data.[26]

In line with the prediction of the model, men's beliefs differ significantly depending on whether their wife currently works for pay. The average husband of an employed

[23] See table A.1 in the appendix for details on how expectations vary by hours worked, and wages.

[24] Under a specific set of assumptions, each spouse's resource share equates their Pareto weight (Chiappori and Mazzocco, 2017). More generally, the two quantities are linked by a monotonic mapping (Browning et al., 2013)

[25] Two scenarios portray the wife as earning this level of income relative to her husbands. In one scenario she works full-time, while in the other she works part-time for half the wage. Table 3 shows that average expectations are closely aligned in the two scenarios.

[26] This discrepancy is not surprising given that 72% of women have zero labor income and 83% of women who work for pay earn less than 50% of their husbands' labor income. Thus, few women would have direct knowledge of the outcomes in households where the wife earns at least as much as her husband.

woman expects her resource share to closely track her relative income: it will remain below 50% if her labor market earnings are below his, it will approximate an equal split (49.6%) if they were to earn the same, and her private consumption will exceed his if she were the largest earner. Moreover, these expectations match closely the cross-sectional data collected from the male sample.

Men in SI couples, instead, expect a large increase in their wife's control over resources if she were to join the labor force. Her resource share is expected to soar to 50% at the lowest level of earnings and monotonically increase with her wage (see table 3). Weighting these beliefs by the elicited probability of each scenario results in a expected resource share of 51% if the wife were to join the labor force, which is 11% (5 p.p.) higher than the average realized value as reported by sampled men in DI couples.

The expected cost of FLFP. I use a discrete choice experiment to measure preferences over household outcomes and demonstrate that men's beliefs are indicative of large expected costs from FLFP. The preference elicitation task is played over three rounds. In each, respondents are presented with a pair of cards depicting two hypothetical sets of household outcomes (see figure C1 and C2 for an example). Each scenario varies total income, how resources are allocated between each spouse's private consumption and joint consumption, hours worked for pay and hours devoted to homeproduction by the wife, and husband's wage. After going through the details of each scenario with the enumerator, respondents are asked "*In which household would you rather live if the choice was yours alone to make?*". Appendix C describes the task in details, together with the empirical specification used to analyze these discrete choices.

Preferences elicited through this experiment indicate a strong distaste for allocations in which the wife's private consumption exceeds that of the husband. Table C1 reports estimated coefficients form a conditional logit regression of respondents experimental choices. For men (column 2), the probability of choosing a given scenario drops by 12.6% if the wife's resource is greater than his. [27] To balance this effect and reach indifference, a men with the median wage in my sample – 450 INR per day – would need to receive 250 INR in additional household income, i.e. a 56% increase in income.

Men's utility drops discontinuously when their wife accrues the majority share of private consumption. This could be driven by gendered norms linking identity and

[27] That is, the average marginal effect of a dummy equal to one if the scenario portrays the wife as consuming more than the husband is -6.28 p.p., relative to the average choice probability that is 50% by construction as card order is randomized.

household outcomes, as suggested by Bertrand et al. (2015) and Gupta (2022) with respect to relative incomes. These norms could determine a direct cost from not being the primary consumer in the household, or from being married to a partner that does not uphold this social norm. In addition, men might expect a woman who holds the majority share of consumption to also hold more bargaining power over other domains not captured in the experimental task – e.g. saving and investment decisions, mobility and personal freedom, or fertility. Importantly, these costs are separate from and compounded by the social stigma associated with FLFP (Bernhardt et al., 2018; Bursztyn et al., 2020; Jalota and Ho, 2024). Regardless of the channel, they deem these costs as likely to materialize if their wife were to join the labor force. Figure 7 shows for men in SI couples the expected resource share of the wife averaged across employment scenarios using elicited scenario probabilities. The average expected share is 51.1%, and 58.7% of men in SI couples expect the wife to accrue the majority resource share if employed.[28]

Robustness. The difference in expectations between men in SI and DI couples is statistically significant. Column 1 of table 4 shows OLS estimates from a regression of expected wife resource share in each scenario on an indicator variable for men in SI couples, controlling for scenario fixed effects. The difference in expectations remains stable and significant when controlling for the wife's current resource share and the wage husbands expect she could earn (columns 2 and 3). This difference in expectations could however be due to the age gradient of FLFP: older women are more likely to work (Andrew and Smurra, 2024), and couples' beliefs might converge over the course of their marriage. Following this argument, column 4 of table 4 controls for years of marriage and spouse's age, but the difference in expectations remains stable and significant. These beliefs could also correlate with unobserved preferences for FLFP. Column 5 controls for whether the wife would like to work in the future, whether she would like to work within the year, whether the husband would like her to work, and whether she has worked prior to marrying. Column 6 additionally controls for husbands' beliefs over the number of hours their spouse spends on leisure and homeproduction, as proxies for her perceived taste for leisure and opportunity cost of time. Columns 7

[28]Interestingly, women's preferences also show a distaste for allocations in which the wife has the majority share of private consumption. Whether they individually uphold these norms or internalize norms held within their household and potential backlash, they do not deem this outcome likely. Women in SI couples expect on average a resource share of 45% if employed, and only 20% expect to hold the majority share of private consumption.

through 9 control for individual characteristics of the spouse, household characteristics, and measures of wife's agency within the household. Column 10 includes all of these regressors in a single specification. In each of these cases, the average difference in expectations between the two groups of men remains significant and fairly stable.

Private information VS generalized beliefs. The expectations of men in SI couples are not only more pessimistic relative to men in DI couples, but are also misaligned from realized outcomes in their communities. These differences, however, could reflect private information husbands have about their partner, for example regarding their preferences. To investigate this, the survey also elicits respondents' beliefs about the allocation of resources in couples of the other type, i.e. men in SI couples are asked about resource allocation in DI couples from their community and vice versa.

According to these beliefs, presented in figure 8 women who currently work for pay in their community receive a share of private household consumption of 50.4%, a value that is both comparable to what they expect would happen in their own household, and is substantially higher than what I observe in the data, where husbands in DI couples report an average resource share of 46% for their wife. In summary, men in SI couples believe all women who work will accrue the majority share of private consumption.

Types VS learning. What drives the gap in beliefs observed between men living in single- and dual-income households? On the one hand, men could simply hold different beliefs (types), which contribute to the selection of women into employment. On the other hand, it could be that men whose wife worked for pay at some point, e.g. due to an income shock, learned from their experience and revised their beliefs. I find some suggestive evidence that the learning story is not the primary driver of these differences. Figure A.13 in the appendix repeats the analysis splitting the sample in three groups: (i) men whose wife never worked since marriage, (ii) those whose wife worked for pay since marriage is not employed at the time of the survey, and (iii) those whose wife is currently employed. While the differences are imprecisely measured due to sample size, the beliefs of men in single-income households are close to each other, regardless of whether the wife worked in the past, and both groups expect the wife to accrue a resource share of at least 50% when she becomes employed.

5 Expectations matter: experimental evidence.

Up to this point, the analysis has relied on survey data. In this section, I leverage a field experiment to show that expectations elicited through hypothetical scenario questions matter for the take-up of a real employment opportunity. Exploring household responses to a real-world job offer has two additional advantages. First, the wage offered is held constant for all women, while in the survey data expectations over housheold outcomes and market wages could be correlated. Second, directly offering an employment opportunity for women in all couples mediates the possible role played by search effort.

Design. Couples were offered the opportunity to enroll the female spouse in a recruitment event organized by the survey firm, followed by remunerated work on the same day. During the event, participants witnessed a practical demonstration of the job, a simple smartphone-based data entry task, and received information on the time requirement and wage: up to 3 hours of work for 300 INR. Women interested in the job participated in a brief test of proficiency with typing on a smartphone.[29] Those who passed the test performed the job straight away. In practice, all women who came to the session applied for the job, virtually all of them proved eligible, and all were employed for the day as the event was not oversubscribed.[30]

I randomized the gender of the spouse who received information about the recruit-

[29]The job was designed to keep the skill requirement as low as possible. Participants were asked to enter simple data scraped from a job ad website. Each entry included job title, wage rate and weekly hours. Data was entered by sending free text messages using own mobile phone. Hence, the only skills required were the ability to read roman alphabet and type on a mobile phone.

[30]These events were designed in order to minimize some of the frictions preventing women from joining. One separate event was organized in each of the six study areas as to minimize transport cost. The events were managed by the survey firm, which had already established trust with local authorities and with which respondents were already familiar: the same team administered the main surveys, advertised the job via phone and organized the events. Most women found it challenging to join without being accompanied by a family member, so events took place over the weekend and husbands were welcome to the venue, although not directly involved in any of the activities. Finally, the recruitment events were held at the same *labs* where the core survey took place - training venues, community halls and rooms rented at religious facilities. Hence, perceived safety risks connected with participation were minimized. In total, recruitment and hours worked added up to approximately 4.5hr, for an effective hourly wage rate of about INR 67. This is twice the wage rate observed among sampled women at baseline, INR 30, and matches the average male wage rate. In terms of hours, piloting indicated that part-time employment away from meal times would be most desirable. Finally, it is worth stressing that the *recruitment* element was added to the event in order to consolidate the perception that this represented a real-job opportunity and prevent participation from being driven by a sense of reciprocity towards the field team and the payment received for the core survey.

ment event. In 30% of couples, the relevant information was communicated directly to women over the phone, while the husband was contacted in the remaining 70% of couples. This design choice maps closely to the context at hand, where 68.8% of sampled women list *family and friends* as the primary source of information about employment opportunities. Existing evidence on strategic information withholding within couples imply that the recipient's identity could matter for job take-up and, in the context of this paper, interact with the spousal expectations.

Randomization was stratified by FLFP, geographic area (block/panchayat) and husbands' expectations. The latter are captured by data on men's beliefs about wife's resource share in the scenario closest to the job being offered: part-time employment earning half as much as her husband.[31] The median husband expects the wife's resource share to be 50% in this scenario and the data is split in two strata according to this threshold. Henceforth, husbands' with *pessimistic expectations* are those expecting an employed wife to command more than half of the household's private consumption, while those expecting to maintain a majority or equal share are labeled as having *moderate expectations*.

Attrition. The field team was able to contact and advertise the job to 89% of the sample. Among these couples, 39% expressed interest in the employment opportunity over the phone, and 13% participated in the event. Table A.2 checks for balanced attrition via the following OLS specification:

$$Y_i = \beta CallMen_i + \delta x_i + \sigma_i + \epsilon_i$$

where Y_i is a dummy indicating that couple i was successfully contacted, $CallMen_i$ is a dummy equal to 1 if the job was advertised to the husband, x_i is a vector of additional control variables that includes a constant, and σ_i is a vector of dummies for stratification variables. The coefficient of interested is β, and standard errors are clustered at the block/Panchayat level. According to these estimates, attrition is balanced and this result is robust to controlling for wife, husband and household characteristics.

Results. Figure 9, panel A, highlights the key take-away of this experiment. It shows the unconditional average job take-up rate for women who received the invitation di-

[31] This is the scenario closest to the job advertised, wit the entire event (recruitment plus work) taking between 4 and 5 hours and paid INR 300, while husbands earn on average INR 530 per day.

rectly, split by husbands' beliefs. They are substantially less likely to join the recruitment event and work if their husband holds pessimistic beliefs about how FLFP would impact his resource share. The raw difference is 6.7 percentage points, 40% lower than the job take up rate among women whose husband expects more moderate changes in household outcomes (16.6%).

Table 6 reports regression coefficients estimated via the following OLS specification:

$$Y_i = \beta_1 CallMen_i + \beta_2 HE_i + \beta_3 CallMen_i \times HE_i + \delta x_i + \sigma_i + \epsilon_i$$

where HE_i is a dummy for pessimistic husband expectations, i.e. whether the he believes his wife's resource share will exceed 50% if she is employed part time. Columns 1 in table 6 shows that the main result - women's job take-up falls with husband's expected loss - is robust to additionally controlling for each spouses' age and education, household size and number of children, caste, and an index of household wealth.

Figure 9, panel B, reports average take-up when job information is communicated to husbands, highlighting two patterns. First, job take-up is lower when the offer is communicated only to the husband. This contrasts with the results of Lowe and McKelway (2025) who, in a similar experiment, find no significant difference when communicating a job offer to the wife rather than the husband. Second, take-up does not exhibit a significant gradient in husband's expectations. The next section delves into the mechanism behind these patterns.

Mechanism. When women receive the job offer, the expectations gradient of participation matches the prediction of the model and the results of the previous section: women who need to negotiate with an husband expecting larger costs exhibit lower job take-up. The lack of a such a gradient when men received the offer, while perhaps surprising, is directly connected to one feature of the experiment: the recipient of the offer can hide this information from the spouse.

To gain insight, note that participation in the recruitment event is the outcome of a two-stage game. In the first stage, the spouse receiving the offer chooses whether to communicate the opportunity to their partner. If they do not share this information, the wife will not join the recruitment event and the game ends in the status quo. Otherwise, bargaining between the spouses determines whether the wife participates. Hence, the spouse with information faces an incentive to conceal it if bargaining over participation with this offer on the table leads to an expected individual payoff that is

worse than the status quo.[32]

Which men face an incentive to hide the offer from their wife? Two of the factors driving this decision can be mapped to the data. The first is wife's current employment. If she is unemployed, taking up the job represents a larger shift in outcomes from the status quo, with larger implications for intra-housheold allocations. In dual-income couples, instead, increasing the wife's labor supply along the intensive margin will have smaller impacts on future bargaining. Second, men will take into account the outcome of the bargaining stage. In couples where the husband expects more moderate costs, the bargaining stage is more likely to deliver the wife's desired labor supply. While he might still oppose the decision, his lower expected costs imply that participation might still be optimal at the household level.

Figure 10, shows this intuition at play. It plots average take-up for couples where the husband holds moderate expectations, split by identity of the offer's recipient and by the status-quo, i.e. whether the wife is currently employed. Panel A focuses on single-income couples. It is precisely among these couples that the identity of the offer's recipient generates the largest statistically significant difference in take-up. When women receive the offer directly participation is 17.6% and it drops to 10.8% when men receive the offer. The difference is thus driven by couples for which bargaining would have led to the wife's participation if she had received the information, but she does not participate when the husband has an opportunity to hide this offer. It is due to the lower take-up among these men, representing 53% of the *CallMen* sample, that the expectations gradient of take-up flattens when men receive the job offer rather than women (see figure 9).

Panel B of figure 10, instead, shows take-up for dual-income couples. In this case, men face a lower incentive to hide the job offer as the wife is already employed, and indeed participation does not differ significantly with the identity of the offer's recipient (13.2% for women and 14.3% for men). While at this granular level of analysis the experiment lacks statistical power (N=186), the point estimates align with the intuition developed in this section. If additional employment leads to a small or even null shift in bargaining power, then women who already work will have a lower incentive to

[32]This setting belongs to the class of strategic information disclosure games (Grossman, 1981; Milgrom, 1981). In the current setting, however, information disclosure is a binary choice (either no or complete disclosure), information is certifiable and, importantly, the receiver cannot draw any information from the absence of communication: couples were not aware that a job offer would be communicated to one of the spouses. A full disclosure sequential equilibrium requires the sender's expected payoff to be be increasing in the information shared. (Okuno-Fujiwara et al., 1990).

participate, and potentially an incentive to hide the offer from the husband, since they alone bear the effort cost of participation and their marginal utility of leisure is higher than that of unemployed women.

Figure 11 repeats the analysis for couples in which the husband holds pessimistic expectations. Panel A shows take-up in single-income couples. This group exhibits the lowest level of average participation, 10.1%, consistent with the role of endogenous bargaining and spousal expectations. Interestingly, take-up does not vary with the identity of the offer's recipient. This could be due to couples arriving at the bargaining stage, where the household finds it optimal to choose non-participation given the high expected cost, or it could be driven by women selecting out potentially unsuccessful negotiations, e.g. if bargaining is costly or if backlash is a concern. For completeness, panel B looks at pessimistic expectations dual-income couples. This group includes 50 observations in total, making it infeasible to draw conclusions from these estimates. Yet, the fact that also in this group take-up is higher when men receive the offer is not surprising: given that the wife is already employed, additional work is less likely to shift household allocations, while the extra income requires no extra effort on the man's part.

Robustness. Figure 12 shows a binscatter of job take-up against a continuous measure of husbands expectations over the wife's share if employed. The patterns shown match the results using a binary indicator for pessimistic expectations.

Husbands' beliefs could be correlated with other factors that affect women's ability to negotiate participation. In particular, in couples where the husband has more pessimistic beliefs, women might simultaneously have lower agency, making it less clear whether this result stems from women being less empowered or from their husbands expecting larger losses. To disentangle the two mechanisms, column 1 of table 7 additionally controls for the degree of say each woman reports over employment decisions. The estimated coefficients on husband's expectations are unaltered. Moreover the coefficients on the wife's agency over employment decisions are positively correlated with job take-up decisions, although less precisely measured when adding the full set of controls (column 2). Thus, women who are more empowered over this dimension are more likely to take up the job offer, and the average woman finds it harder to negotiate participation with a husband who holds pessimistic beliefs.

One concern is that expectations might be correlated between spouses. However, take-up does not vary with wife's expectations. To show this, column 3 of table 7 con-

trols for a dummy equal to 1 if the wife expects a share of private consumption greater than half when employed part-time. Column 4 additionally interacts this dummy with the gender of the spouse receiving information about the job. In both cases, the main results are unaltered and men's expectations remain the significant driver.

Finally, it could be the case that men's expectations are correlated with household level factors affecting labor supply that are not included in the vector of controls added to the regression. If this were the case, however, we would expect the identity of the person receiving the offer to have little impact on participation. The evidence presented so far does not support this argument.

6 Counterfactuals

In this section, I structurally estimate the model of section 3 with two objectives. First, while the evidence presented so far looks at each element of the model in isolation – bargaining power, expected allocations, expected wages – the model brings them together into a unique framework. Second, structurally estimating the model allows me to study two counterfactuals: (i) closing the expectations' gap (full commitment case), and (ii) varying the degree of bargaining power women enter marriage with. The section is currently *work-in-progress*, and the current version offers an overview of the approach, objectives and preliminary results of this analysis.

Model setup. In this discrete choice version of the model in section 3, each household i chooses whether the female spouse joins the labor force, $m_i \in \{0, 1\}$, as to maximize the weighted sum of the individual payoff expected by each spouse:

$$\max_{m_i \in \{0,1\}} V_i(m) = \theta \mathbb{E}_w \left[u_w \left(c_i^W, c_i^H, c_i^J, l_i \right) | m_i \right] + (1-\theta) \mathbb{E}_h \left[u_h \left(c_i^W, c_i^H, c_i^J, l_i \right) | m_i \right] \quad (6)$$

where, as in section 3, θ if the wife's Pareto weight, c^W and c^H represent consumption of the wife and husband respectively, c^J is joint expenditure, and l_i is wife's leisure. Note that each spouse can hold different beliefs about the payoffs connected with each choice. This simpler version of the general framework presented in section 3 can be interpreted as a decision-making framework where the household sharing rule updates immediately after employment decisions are made but before consumption takes place.

Individual utility is linear in the log of its arguments. That is:

$$u_j\left(c_i^W, c_i^H, c_i^J, l_i\right) = \sum_{k=W,H,J} \gamma_j^k ln(c_i^k) + \rho_j \ln(l_i) \quad \text{for } j \in \{w, h\}$$

where γ_j^k is the preference parameter for spouse j over good k. Let α_{ijs}^k be the expected budget share for good k when the wife is employed in job s, according to spouse j in household i. Note that these budget shares correspond to the data elicited directly from each spouse. Similarly, l_{ijs} represents spouse j's expectations over her leisure. With $s = 0$ representing non-participation in market activities, the expected household utility in this scenario can be rewritten as:

$$\begin{aligned} V_i(0) =& \theta \left[\sum_{k=W,H,J} \gamma_w^k ln\left(\alpha_{iw0}^k y_i\right) + \rho_w \ln(l_{iwo}) \right] \\ &+ (1-\theta) \left[\sum_{k=W,H,J} \gamma_h^k ln\left(\alpha_{ih0}^k y_i\right) + \rho_h \ln(l_{iho}) \right] + e_{i0} \end{aligned}$$

where y_i is the income currently earned by the husband, and e_{i0} is an household-level unobserved taste shock.

If the household chooses to supply female labor, the wife receives a single offer from job $s \in \{1, 2, 3, 4\}$. The offer is observed after the labor supply decision is made, but each spouse has well defined beliefs over the probability of each offer. This design choice allows me to abstract from the intensive margin and map the model closely to the data available, where expected household outcomes are elicited over four FLFP scenarios together with the associated probabilities. The expected household utility in this case is:

$$\begin{aligned} V_i(1) =& \kappa_i + \theta \left[\sum_{s=1}^{4} \pi_{iws} \sum_{k\in\{W,H,J\}} \gamma_w^k \ln\left(\alpha_{iws}^k (y_i + \omega_{is})\right) + \rho_w \ln(l_{iws}) \right] \\ &+ (1-\theta) \left[\sum_{s=1}^{4} \pi_{ihs} \sum_{k\in\{W,H,J\}} \gamma_h^k \ln\left(\alpha_{ihs}^k (y_i + \omega_{is})\right) + \rho_h \ln(l_{ihs}) \right] + e_{i1} \end{aligned}$$

where κ_i is an additive preference parameter that captures (dis)taste for FLFP, depends

on household characteristics and includes a constant. For spouse j in couple i, π_{ijs} represents the probability that the wife receives an offer from job s, α^k_{ijs} is the expected budget share for good k when the wife engages in that job, and ω_{is} are her labor market earnings.

Estimation. With normally distributed preference shocks and a standard scale assumption, $e_{i0} - e_{i1} = \varepsilon_i \sim \mathcal{N}(0,1)$, the model can be estimated via Probit regression. That is:

$$\mathbb{P}(m_i = 1 | \alpha_{ijs}, \omega_{is}, Y_i) = \mathbb{P}\big(V_i(1) - V_i(0) > \varepsilon_i\big) = \Phi(v_i).$$

The functional form assumption imposed on utility allows the model to be rewritten as:

$$\begin{aligned} V_i(1) - V_i(0) \equiv v_i = \kappa_i &+ \theta \left[\sum_k \left(\gamma^k_w A^k_{iw} + \gamma^k_w Y_{iw} \right) + \rho_w \ln(L_{iw}) \right] \\ &+ (1-\theta) \left[\sum_k \left(\gamma^k_h A^k_{ih} + \gamma^k_h Y_{ih} \right) + \rho_h \ln(L_{ih}) \right] \end{aligned}$$

where

$$A^k_{ij} = \ln\left(\frac{\prod_s (\alpha^k_{ijs})^{\pi_{ijs}}}{\alpha^k_{ij0}} \right); \quad Y_{ij} = \ln\left(\frac{\prod_s (y_i + \omega_{is})^{\pi_{ijs}}}{y_i} \right); \quad L_{ij} = \ln\left(\frac{l_{ij1}}{l_{ij0}} \right)$$

for $j \in \{w, h\}$.[33] This formulation has an intuitive interpretation, decomposing the difference in expected utility into a component driven by expected changes in household income and one driven by expected changes in budget shares. Both quantities can be constructed directly from available data. The Probit's linear index simplifies to:

$$\begin{aligned} v_i = \kappa &+ \beta_1 Y_{iw} + \beta_2 A^W_{iw} + \beta_3 A^J_{iw} + \beta_4 A^H_{iw} + \beta_5 L^H_{iw} \\ &+ \delta_1 Y_{ih} + \delta_2 A^W_{ih} + \delta_3 A^J_{ih} + \delta_4 A^H_{ih} + \delta_5 L^H_{ih} \end{aligned}$$

[33] The survey includes data collected from each spouse on the wife's current time allocation, and on how she would allocate her time if her labor force participation changed. That is, both spouses in single-income couples are how the wife would allocate her time if she worked for pay, while in dual-income couples spouses are asked about the scenario in which she does not work for pay.

The first three columns of table 8 summarizes the resulting mapping between variables, estimated coefficients – the β's and δ's – and the structural parameters.

A threat to the model's identification is reverse causality from labor force participation to women's expected labor market outcomes. For example, the low prevalence of FLFP in the sample may suggest that women have limited access to information about job opportunities unless they have firsthand experience. This is however not the case for men, who are all employed and have direct experience with local labor market conditions. Another source of reverse causality would be on-the-job skill development. Indeed, currently employed women expected higher paying jobs to be more likely to materialize. I thus instrument the wife's expected change in household income between participation statuses, Y_{iw}, with two IVs.

The first instrument is the number of friends a female respondent has. 69% of female respondents say that friends and family are their primary source of information about job opportunities. Indeed, when asked to list their friends and report the activities they engage in together, 46% state they have discussed work and job opportunities with their friends recently.[34] Moreover, given that most women work either from home or on family land, it is unlikely that employment expands their social network directly.

The second set of IVs captures the employment history of respondents' mothers: whether they worked the year prior to the daughter's marriage and whether they worked during her adolescence. The exclusion restriction for these instruments requires that having experienced FLFP in the natal household affects women's employment only through her expected labor outcomes. The condition would be violated if maternal employment shifted marital outcomes via dowry payments and, through this channel, the daughter's future employment, e.g. if a larger dowry led the daughter to marry into a richer family. For this reason, when using these instruments, I also control for the value of dowry payments, an index of martial household's wealth, and husband's wage.

Table 8 reports coefficient estimates.[35] Note that all specifications include individual and household level controls, and further control for the expected change in wife's homeproduction time, and for dummies capturing whether each spouse expects the wife's resource share to exceed the husband's when she joins the labor force. Column (1) reports standard Probit results. Column (2) reports estimates from the IV Probit

[34] I focus on friends from *outside* the household as the presence of other working age women in the household could have a direct impact on respondent's FLFP, violating the exclusion restriction.

[35] Coefficients are estimated under the constraints implied by the model. These are $\beta_1 = \beta_2 + \beta_3 + \beta_4$ and $\delta_1 = \delta_2 + \delta_3 + \delta_4$.

specification, estimated via maximum likelihood.

Counterfactuals. *(Preliminary)* The evidence of section 4 showed lower FLFP among couples in which the husband expects larger and more unfavorable changes in household outcome. Moreover, husbands' expectations are on average misaligned from their wife's. Therefore, the first counterfactual explores how FLFP would change if women could credibly commit to the sharing rule implied by their expectations, which on average favors the husband even when her relative income is greater than one. Notice that, despite expecting more modest gains in terms of how private consumption is shared between spouses, most women still declared themselves willing to work.

The average level of FLFP estimated by the baseline model is 25.9%. Employment rises to 30.8%, if husbands' expectations over consumption allocations are constructed using their partner's expected sharing rule for private consumption, while keeping the rest fixed (i.e. the scenario probabilities, expected wage and time allocation). This 4.5 percentage points rise in employment represents a 19% increase over baseline levels and corresponds to 8.3% of the gender gap in employment registered at the national level.[36]

Aligning husbands' expectations over wife's time use (leisure and homeproduction) to those of their spouse, instead, has a negligible additional impact on simulated employment. The low impact of aligning expectations over time use is mostly driven by the small differences between spouses: while men underestimate women's home production time in levels, the change induced by FLFP is on average the same between spouses – both spouses expect the wife to engage in the *second shift* after working hours (see appendix D.3).

7 Discussion

This paper documents how intra-household bargaining dynamics and expectations contribute to the persistent gap between Indian women's aspirations to work and their actual participation in the labor market. Using novel matched data from over 1,100 couples in Uttar Pradesh, the study shows that husbands in single-income households

[36]Own elaboration of Indian Periodic Labor Force Survey data for the 2014. I define *employment* as engaging in paid productive activities, whether on own-account, in family businesses, or as an employee. I restrict the sample to respondents aged 15-64, and exclude those in education and those not able to work due to disability. The participation rate is 92% for men and 37% for women. Note that female participation is higher than in my sample because it increases with age. Female participation from the PFLS for the sample of women aged 18-30 is 27.4.

systematically overestimate the loss of bargaining power and control over household resources that would result from their wives' employment. The evidence supports a model in which bargaining power is endogenous to labor supply, and inefficient equilibria arise because primary decision-makers seek to protect their relative position within the household rather than maximize joint welfare.

The paper's experimental validation further highlights the behavioral relevance of these expectations. When offered a real employment opportunity, women married to husbands with more pessimistic beliefs are about 40 percent less likely to take up the job, even after accounting for their reported agency. This suggests that low female labor force participation reflects not only structural constraints, but also strategic behavior and misaligned expectations within couples. The findings underscore the need for policies that target both sides of the household decision-making process—enhancing women's bargaining power while addressing men's beliefs about the implications of female employment—to unlock latent labor supply and promote more efficient and equitable household outcomes.

References

Afzal, U., G. d'Adda, M. Fafchamps, and F. Said (2022, July). Intrahousehold consumption allocation and demand for agency: A triple experimental investigation. *American Economic Journal: Applied Economics 14*(3), 400–444. (Cited on page 11.)

Ambler, K. (2015). Don't tell on me: Experimental evidence of asymmetric information in transnational households. *Journal of Development Economics 113*, 52–69. (Cited on page 11.)

Anderberg, D., H. Rainer, J. Wadsworth, and T. Wilson (2016). Unemployment and domestic violence: Theory and evidence. *The Economic Journal 126*(597), 1947–1979. (Cited on page 11.)

Anderson, S. and M. Eswaran (2009). What determines female autonomy? evidence from bangladesh. *Journal of Development Economics 90*(2), 179–191. (Cited on page 7.)

Andrew, A., S. Krutikova, G. Smarelli, and H. Verma (2024). Empowering adolescent girls: Does it take a village? Working paper. (Cited on pages 16 and 5.)

Andrew, A. and A. Smurra (2024). Seclusion and women's time: Descriptive evidence from india. IFS Working Paper W24/39, Institute for Fiscal Studies. (Cited on page 21.)

Ashraf, N. (2009). Spousal control and intra-household decision making: An experimental study in the philippines. *American Economic Review 99*(4), 1245–1277. (Cited on page 11.)

Ashraf, N., E. Field, and J. Lee (2014). Household bargaining and excess fertility: An experimental study in zambia. *American Economic Review 104*(7), 2210–2237. (Cited on page 10.)

Attansio, O. and V. Lechene (2014). Efficient responses to targeted cash transfers. *Journal of Political Economy 122*. (Cited on pages 2 and 15.)

Basu, K. (2006). Gender and say: a model of household behaviour with endogenously determined balance of power. *The Economic Journal 116*. (Cited on pages 3, 9, and 10.)

Bernhardt, A., E. Field, R. Pande, N. Rigol, S. Schaner, , and C. Troyer-Moore (2018). Male social status and women's work. *AEA Papers and Proceedings 108*. (Cited on pages 2 and 21.)

Bertrand, M., E. Kamenica, and J. Pan (2015). Gender identity and relative income within households. *Quarterly Journal of Economics 130*(2), 571–614. (Cited on page 21.)

Bloch, F. and V. Rao (2002). Terror as a bargaining instrument: A case study of dowry violence in rural india. *American Economic Review 92*(4), 1029–1043. (Cited on page 11.)

Blundell, R., P. Chiappori, and C. Meghir (2005). Collective labor supply with children. *Journal of Political Economy 113*. (Cited on page 8.)

Blundell, R., H. Karjalainen, V. Lechene, and K. Pendakur (2025, July). Gender inequality in expenditure: Great britain 1978 to 2019. Technical Report WP202526, Institute for Fiscal Studies, London. (Cited on page 19.)

Browning, M. and P.-A. Chiappori (1998). Efficient intra-household allocations: A general characterization and empirical tests. *Econometrica 66*(6), 1241–1278. (Cited on pages 10 and 11.)

Browning, M., P.-A. Chiappori, and A. Lewbel (2013). Estimating consumption economies of scale, adult equivalence scales, and household bargaining power. *Review of Economic Studies 80*(4), 1267–1303. (Cited on page 19.)

Bursztyn, L., A. L. González, and D. Yanagizawa-Drott (2020, October). Misperceived social norms: Women working outside the home in saudi arabia. *American Economic Review 110*(10), 2997–3029. (Cited on page 21.)

Bursztyn, L., I. K. Haaland, N. Röver, and C. Roth (2025). The social desirability atlas. *Journal of Political Economy Microeconomics*. forthcoming. (Cited on page 14.)

Calvi, R. (2020). Why are older women missing in india? the age profile of bargaining power and poverty. *Journal of Political Economy 128*. (Cited on pages 2, 4, 9, and 19.)

Calvi, R. and A. Keskar (2023). 'til dowry do us part: Bargaining and violence in indian families. *Review of Economics and Statistics*, 1–45. (Cited on page 11.)

Castilla, C. and T. Walker (2013). Is ignorance bliss? the effect of asymmetric information between spouses on intra-household allocations. *American Economic Review 103*(3), 263–268. (Cited on page 11.)

Chiappori, P.-A. (1988). Rational household labor supply. *Econometrica 56*(1), 63–90. (Cited on page 11.)

Chiappori, P.-A. (1992). Collective labor supply and welfare. *Journal of Political Economy 100*(3), 437–467. (Cited on page 11.)

Chiappori, P.-A. and M. Mazzocco (2017). Static and intertemporal household decisions. *Journal of Economic Literature 55*. (Cited on pages 9, 10, and 19.)

de Quidt, J., J. Haushofer, and C. Roth (2018). Measuring and bounding experimenter demand. *American Economic Review 108*(11), 3266–3302. (Cited on page 8.)

Dervisevic, E. and M. P. Goldstein (2023). He said, she said: The impact of gender and marriage perceptions on self and proxy reporting of labor. *Journal of Development Economics 161*, 103013. (Cited on page 8.)

Field, E., R. Pande, N. Rigol, S. Schaner, and C. T. Moore (2021). On her own account: How strengthening women's financial control impacts labor supply and gender norms. *America Economic Review 111*. (Cited on pages 2 and 14.)

Field, E., R. Pande, N. Rigol, S. Schaner, and E. Stacy (2023). Measuring time use in rural india: Design and validation of a low-cost survey module. *Journal of Development Economics 164*, 103105. (Cited on page 6.)

Fletcher, E. K., R. Pande, and C. T. Moore (2018). Women and work in india: Descriptive evidence and a review of potential policies. *India Policy Forum 14*. (Cited on pages 2 and 6.)

Friedberg, L. and S. Stern (2014). Marriage, divorce, and asymmetric information. *International Economic Review 55*(4), 1155–1199. (Cited on page 11.)

Grossman, S. J. (1981). The informational role of warranties and private disclosure about product quality. *Journal of Law and Economics 24*(3), 461–483. (Cited on page 26.)

Gupta, S. (2022). Labor market response to gendered breadwinner norms: Evidence from india. Job Market Paper, Columbia University. (Cited on page 21.)

Heath, R. and X. Tan (2020). Intrahousehold bargaining, female autonomy, and labor supply: Theory and evidence from india. *Journal of the European Economic Association 18*. (Cited on pages 2 and 14.)

Hsieh, C.-T., E. Hurst, C. I. Jones, and P. J. Klenow (2019). The allocation of talent and u.s. economic growth. *Econometrica 87*. (Cited on page 2.)

Jalota, S. and L. Ho (2024). What works for her? How work-from-home jobs affect female labor force participation in urban india. (Cited on page 21.)

Lechene, V., K. Pendakur, and A. Wolf (2022). Ordinary least squares estimation of the intrahousehold distribution of expenditure. *Journal of Political Economy 130*. (Cited on page 2.)

Lechene, V. and I. Preston (2011). Noncooperative household demand. *Journal of Economic Theory 146*(2), 504–527. (Cited on page 11.)

Lise, J. and K. Yamada (2019). Household sharing and commitment: Evidence from panel data on individual expenditures and time use. *Review of Economic Studies*. (Cited on page 10.)

Lowe, M. and M. McKelway (2025). Coupling labor supply decisions: An experiment in india. Unpublished manuscript. (Cited on page 25.)

Lundberg, S. and R. A. Pollak (1993). Separate spheres bargaining and the marriage market. *Journal of Political Economy 101*(6), 988–1010. (Cited on page 11.)

Majlesi, K. (2016). Labor market opportunities and women's decision making power within the household. *Journal of Development Economics 119*. (Cited on page 14.)

Mazzocco, M. (2007). Household intertemporal behaviour: A collective characterization and a test of commitment. *Review of Economic Studies*. (Cited on page 10.)

McKelway, M. (2022). Women's employment and empowerment: Descriptive evidence. *AEA Papers and Proceedings 112*. (Cited on page 14.)

Milgrom, P. R. (1981). Good news and bad news: Representation theorems and applications. *The Bell Journal of Economics 12*(2), 380–391. (Cited on page 26.)

Munshi, K. and S. Singh (2024). Social status, economic development and female labour force (non) participation. (Cited on page 2.)

Okuno-Fujiwara, M., A. Postlewaite, and K. Suzumura (1990). Strategic information revelation. *The Review of Economic Studies 57*(1), 25–47. (Cited on page 26.)

Peters, H. E. (1986). Marriage and divorce: Informational constraints and private contracting. *American Economic Review 76*(3), 437–454. (Cited on page 11.)

Rasul, I. (2008). Household bargaining over fertility: Theory and evidence from malaysia. *Journal of Development Economics 86*(2), 215–241. (Cited on page 10.)

Stock, J. H. and M. Yogo (2005). Testing for weak instruments in linear iv regression. In D. W. K. Andrews and J. H. Stock (Eds.), *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, pp. 80–108. New York: Cambridge University Press. (Cited on page 17.)

Tagat, A., H. Kapoor, and S. Kulkarni (2024). Private lives: experimental evidence on information completeness in spousal preferences. *Journal of the Economic Science Association 10*(1), 62–75. (Cited on page 11.)

Uckat, H. (2023). Leaning in at home: Women's promotions and intra-household bargaining in bangladesh. Policy research working paper, World Bank. (Cited on pages 2 and 14.)

Udry, C. (1996, October). Gender, agricultural production, and the theory of the household. *Journal of Political Economy 104*(5), 1010–1046. (Cited on page 10.)

Walther, S. (2018, September). Noncooperative decision making in the household: Evidence from malawi. *Journal of Development Economics 134*, 428–442. (Cited on page 10.)

World Bank (2024). Women, business and the law, 2024. Technical report, World Bank. (Cited on page 2.)

Zhang, S. (2024, June). Hidden in plain sight: Asymmetric information and hidden income within the household. Working paper, Tufts University – The Fletcher School of Law and Diplomacy, available at SSRN: `https://ssrn.com/abstract=4883384`. (Cited on pages 8, 10, and 3.)

Tables

Table 1: Sample descriptives

	Women	Men	
Panel A. Demographics			
Age	25.5	29.0	
	(3.14)	(4.59)	
Education (years)	7.60	6.91	
	(4.22)	(4.27)	
Age at marriage	18.7	22.2	
	(2.55)	(3.94)	
Engaged before 18yo	.307	.050	
	(.461)	(.218)	
Panel B. Employment			
Wants to work	.917		
Worked since marriage	.373	1	
Worked past week	.261	1	
Conditional on employment			
Works from home	.726	.122	
Hours	4.59	8.77	
	(2.59)	(3.03)	
Wage (INR/hr)	29.7	62.8	
	(39.7)	(65.3)	
Panel C. Households	Sample		NFHS 2019
Arranged marriage	.789		
Distance from wife's family (km)	50.0		
	(91.9)		
Household size	5.27		6.68
Children (any)	.852		.816
Children (num)	1.68		1.74
SC/ST/OBC	.868		.823
Hindu	.826		.844

Notes: Working from home computed from time use module as the share of respondents who work for pay, report positive hours worked, but zero hours worked outside of dwelling or family land. Both wives and husbands were asked whether their marriage had been arranged. The table reports the share of couples in which both spouses report an arranged marriage. In 9% of cases only one spouse reports an arranged marriage while the other reports a love marriage. In 12% of couples both spouses report a love marriage (i.e., not arranged by family members). Panel C reports household level characteristics together with data from the National Family Health Survey 2019 for comparison. The latter data is restricted to married women, age 18–30 and residing in Uttar Pradesh.

Table 2: Beliefs over resource allocations, scenarios' details

		Income (tokens)	
Scenario	Wife's LFP	Wife	Husband
1	Home production only	0	20
2	Part-time	10	20
3	Full-time	10	20
4	Full-time	20	20
5	Full-time	30	20

Notes: Characteristics of the hypothetical scenarios used to elicit beliefs over household allocations. The task is performed as follows. First, each respondent is asked to report the current expenditure allocation within their household. They do so by allocating 20 tokens to a board with the depiction of 3 categories of goods: private consumption of the wife, joint expenditure, and private consumption of the husband. The enumerators presented each respondents with each of the scenarios above, asking them to report how they believe expenditure would be allocated if the female spouse had the labor market outcomes described. The first scenario was presented only to couples in which the wife is currently working for pay. While describing each scenario and the income generated by each spouse, enumerator placed the corresponding number of tokens under the avatars of the wife and the husband on the pictogram (see figure A.5), making the relative distribution of income salient. The number of tokens placed on the husband's picture are kept constant at 20 tokens throughout, making it salient that he did not receive a negative labor market shocks and total household resources are increasing with female employment.

Table 3: Resource allocations, current and hypothetical, by gender.

Reported by:	Women				Men			
Outcome:	Shares			W/(W+H)	Shares			W/(W+H)
	Wife	Joint	Husband		Wife	Joint	Husband	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Current outcomes								
Whole sample	**0.176**	**0.598**	**0.226**	**0.434**	**0.209**	**0.552**	**0.238**	**0.468**
	(0.067)	**(0.125)**	**(0.073)**	**(0.084)**	**(0.076)**	**(0.133)**	**(0.084)**	**(0.095)**
Wife unemployed	0.172	0.605	0.224	0.430	0.209	0.555	0.236	0.470
	(0.066)	(0.125)	(0.073)	(0.083)	(0.075)	(0.131)	(0.083)	(0.096)
Wife works for pay	0.188	0.580	0.232	0.445	0.211	0.542	0.247	0.461
	(0.069)	(0.123)	(0.072)	(0.085)	(0.078)	(0.141)	(0.089)	(0.091)
B. Scenario 1: wife does not work for pay								
Whole sample	**0.168**	**0.610**	**0.223**	**0.426**	**0.196**	**0.564**	**0.240**	**0.448**
	(0.069)	**(0.128)**	**(0.077)**	**(0.092)**	**(0.081)**	**(0.144)**	**(0.093)**	**(0.106)**
Wife unemployed	-	-	-	-				
Wife works for pay	0.168	0.610	0.223	0.426	0.196	0.564	0.240	0.448
	(0.069)	(0.128)	(0.077)	(0.092)	(0.081)	(0.144)	(0.093)	(0.106)
C. Scenario 2: wife works part-time, earns 0.5x husband's income								
Whole sample	**0.149**	**0.664**	**0.187**	**0.444**	**0.193**	**0.607**	**0.199**	**0.492**
	(0.054)	**(0.111)**	**(0.067)**	**(0.070)**	**(0.071)**	**(0.127)**	**(0.072)**	**(0.080)**
Wife unemployed	0.148	0.666	0.186	0.443	0.196	0.606	0.198	0.498
	(0.053)	(0.110)	(0.066)	(0.068)	(0.071)	(0.125)	(0.071)	(0.081)
Wife works for pay	0.153	0.658	0.189	0.447	0.183	0.612	0.205	0.471
	(0.055)	(0.114)	(0.069)	(0.073)	(0.072)	(0.136)	(0.076)	(0.075)
D. Scenario 3: wife works full-time, earns 0.5x husband's income								
Whole sample	**0.155**	**0.652**	**0.192**	**0.445**	**0.200**	**0.597**	**0.203**	**0.498**
	(0.056)	**(0.112)**	**(0.066)**	**(0.067)**	**(0.071)**	**(0.129)**	**(0.076)**	**(0.080)**
Wife unemployed	0.155	0.653	0.192	0.446	0.202	0.595	0.203	0.502
	(0.056)	(0.113)	(0.066)	(0.068)	(0.070)	(0.127)	(0.076)	(0.081)
Wife works for pay	0.156	0.650	0.194	0.444	0.192	0.605	0.203	0.484
	(0.054)	(0.110)	(0.066)	(0.067)	(0.074)	(0.135)	(0.074)	(0.077)
E. Scenario 4: wife works full-time, earns 1x husband's income								
Whole sample	**0.150**	**0.678**	**0.172**	**0.465**	**0.192**	**0.620**	**0.187**	**0.508**
	(0.056)	**(0.111)**	**(0.061)**	**(0.060)**	**(0.072)**	**(0.134)**	**(0.074)**	**(0.069)**
Wife unemployed	0.151	0.677	0.173	0.466	0.194	0.618	0.187	0.511
	(0.056)	(0.112)	(0.063)	(0.061)	(0.073)	(0.134)	(0.074)	(0.070)
Wife works for pay	0.149	0.681	0.171	0.462	0.184	0.628	0.188	0.496
	(0.055)	(0.106)	(0.057)	(0.059)	(0.069)	(0.134)	(0.073)	(0.063)
F. Scenario 5: wife works full-time, earns 1.5x husband's income								
Whole sample	**0.141**	**0.706**	**0.153**	**0.479**	**0.189**	**0.643**	**0.168**	**0.530**
	(0.057)	**(0.110)**	**(0.061)**	**(0.065)**	**(0.077)**	**(0.138)**	**(0.072)**	**(0.076)**
Wife unemployed	0.141	0.706	0.153	0.479	0.190	0.641	0.168	0.533
	(0.057)	(0.110)	(0.059)	(0.064)	(0.076)	(0.135)	(0.071)	(0.078)
Wife works for pay	0.141	0.705	0.154	0.478	0.183	0.647	0.169	0.519
	(0.056)	(0.111)	(0.067)	(0.069)	(0.080)	(0.148)	(0.076)	(0.066)

Notes: Sample means, standard errors in parenthesis.

Table 4: Expected resource share of the wife if employed, difference between men in single- and dual-income couples

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Single income couple	0.019*	0.016*	0.019*	0.017*	0.018*	0.024**	0.015**	0.018*	0.019**	0.017*
	(0.008)	(0.006)	(0.008)	(0.008)	(0.008)	(0.009)	(0.006)	(0.007)	(0.007)	(0.007)
Current share		Yes								Yes
Expected wage			Yes							Yes
Marriage length				Yes			Yes			Yes
Ages				Yes						Yes
Work preferences					Yes	Yes				Yes
Time use						Yes				Yes
Education and wage							Yes			Yes
Household controls								Yes		Yes
Agency									Yes	Yes
N	4,388	4,388	4,388	4,388	4,388	4,388	4,388	4,388	4,388	4,388

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The outcome variable is the wife's share in total private consumption. Standard errors clustered at the Block/Panchayat level. All regressions include fixed effects for each of the four different scenarios portraying the wife as employed and used to elicit expectations. Controls: *Current share* - wife's share of private consumption, as reported by the husband; *Expected wage* - probability weighted average relative wage across scenarios multiplied by husband's current wage, in logs; *Marriage length* - number of completed years of marriage; *Ages* 3rd degree polynomials of each spouses' age; *Work preferences*: wife wants to work in the future (dummy), wife wants to work now (dummy), wife worked before marriage (dummy), husband wants spouse to work in the future; *Time use*; wife's time allocation to care duties/chores/family businesses, and to leisure activities, as reported by the husband; *Education and wage*: dummies for each level of education for each spouse, and husband's log daily wage; *Household controls*: caste dummies, household size, number of children, love marriage (dummy), years of marriage; *Agency*: index of wife's perceived agency over household decisions, and index of wife's freedom to move within here community.

Table 5: Aspiration-Employment gap and bargaining power

	(2) OLS	(3) OLS	(4) IV	(5) IV
Decision-making index	-0.036**	-0.036**	-0.438*	-0.412*
	(0.011)	(0.013)	(0.238)	(0.219)
Wife's resource share (ratio)				
Wife's expectations		-0.023		-0.199
		(0.102)		(0.126)
Husband's expectations		-0.026		-0.019
		(0.053)		(0.065)
F-stat			7.988	9.100
N	1098	1098	1098	1098

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The outcome variable is a dummy equal to one if the female spouse wants to work but is not currently employed. The decision-making index is constructed via IRT, which aggregates women's reported agency over 9 decisions commonly taking place within the household. Standard errors clustered at the Panchayat level. All regressions include Panchayat fixed effect, and futher control for in index of household wealth, a quadratic polynomial of women's age, total number of children, husbands' log daily wage, and cast dummies. Columns 2 and 4 further control the ratio of expected resource share of the wife across participation statuses, as reported by the wife and husband respectively.

Table 6: Job take-up, heterogeneity by wife's current employment status

	(1)	(2)	(3)
Pessimistic expectations |Call wife	-0.061**	-0.067***	-0.154
	(0.016)	(0.013)	(0.127)
Call husband |Modest expectations	-0.069**	-0.091***	-0.004
	(0.021)	(0.011)	(0.101)
Call husband |Pessimistic expectations	0.026	0.013	0.110
	0.017	0.008	0.080
Sample	all	wife unempl.	wife empl.
Avg. Part. |Call wife & Mod. Expect.	.166	.176	.132
N	956	760	196

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All regressions includes dummies for each value of the stratification variables - husband's expectations, FLFP and Panchayat - and standard errors are clustered at the block/panchayat level. Individual controls include: a cubic polynomial for age and a cubic polynomial for years of education. Household controls include a dummy for having a child, the number of children, total household size and a wealth index, constructed aggregating information on asset ownership and quality.

Table 7: Job take-up, Robustness

	(1)	(2)	(3)	(4)	(5)
Call husband	-0.055*	-0.067**	-0.053*	-0.054*	-0.064**
	(0.026)	(0.023)	(0.025)	(0.026)	(0.023)
Pessimistic expectations |Call wife	-0.068*	-0.064***	-0.069*	-0.067*	-0.066***
	(0.027)	(0.015)	(0.029)	(0.029)	(0.016)
Pessimistic expectations |Call husband	0.026	0.029	0.026	0.028	0.031
	(0.017)	(0.016)	(0.016)	(0.016)	(0.016)
Agency over FLFP:					
"No say"	-	-			
(omitted)	-	-			
"Some say"	0.076*	0.059			
	(0.031)	(0.037)			
"Joint decision"	0.053*	0.029			
	(0.024)	(0.034)			
"Big say"	0.060	0.031			
	(0.031)	(0.036)			
"I decide"	0.136**	0.101			
	(0.048)	(0.058)			
Wife's expectations			-0.064	-0.073	-0.035
			(0.042)	(0.043)	(0.053)
Wife's expectations × Call husband				0.014	-0.026
				(0.054)	(0.076)
Wife's controls		Yes			Yes
Husband's controls		Yes			Yes
Household controls		Yes			Yes
Strata FE	Yes	Yes	Yes	Yes	Yes
N	984	983	984	984	983

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All regressions includes dummies for each value of the stratification variables - husband's expectations, FLFP and block/panchayat - and standard errors are clustered at the block/panchayat level. Individual controls include: a cubic polynomial for age and a cubic polynomial for years of education. Household controls include a dummy for having a child, the number of children, total household size and a wealth index, constructed aggregating information on asset ownership and quality.

Table 8: Structural model, parameters estimates.

			Current FLFP	
Variable	Coefficient	Parameters	Probit (1)	IV Probit (2)
Y_w	β_1	$\theta(\gamma_w^W + \gamma_w^H + \gamma_w^J)$	1.161**	0.449
			(0.454)	(0.857)
Y_h	δ_1	$(1-\theta)(\gamma_h^W + \gamma_h^H + \gamma_h^J)$	0.653**	0.657**
			(0.331)	(0.330)
A_w^W	β_2	$\theta\gamma_w^W$	0.314**	0.209
			(0.157)	(0.190)
A_w^H	β_3	$\theta\gamma_w^H$	0.143	-0.011
			(0.184)	(0.241)
A_w^J	β_4	$\theta\gamma_w^J$	0.704**	0.251
			(0.306)	(0.555)
A_h^W	δ_2	$(1-\theta)\gamma_h^W$	0.158	0.166
			(0.150)	(0.150)
A_h^H	δ_3	$(1-\theta)\gamma_h^H$	0.319**	0.311**
			(0.156)	(0.156)
A_h^J	δ_4	$(1-\theta)\gamma_h^J$	0.176	0.179
			(0.205)	(0.204)
L_w	β_5	$\theta\rho_w$	2.278***	2.295***
			(0.302)	(0.302)
L_h	δ_5	$(1-\theta)\rho_h$	-0.118	-0.128
			(0.302)	(0.302)
Constant			-1.575**	-1.176
			(0.672)	(0.787)
N			1063	1063

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Current FLFP is defined as the wife reporting positive hours worked on the day prior to the survey. Each regression controls flexibly for the following characteristics via dummies: wife's educational attainment (no schooling, less than standard 10, std 10, std 12, tertiary education), age (2 years bins), and age of the youngest children (no children, age 0-1, age 2-5, age 6-12). In addition, controls include household size, an index of household wealth, husband's log wage and the value of dowry payment.

Figures

Figure 1: Average time use, by gender

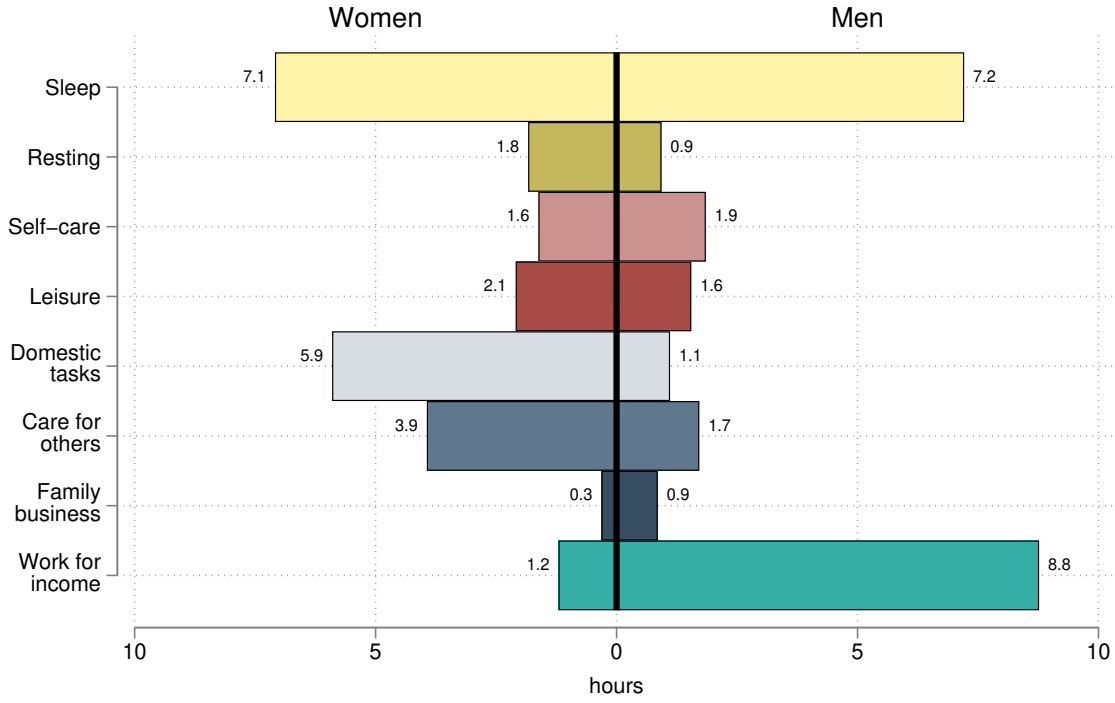
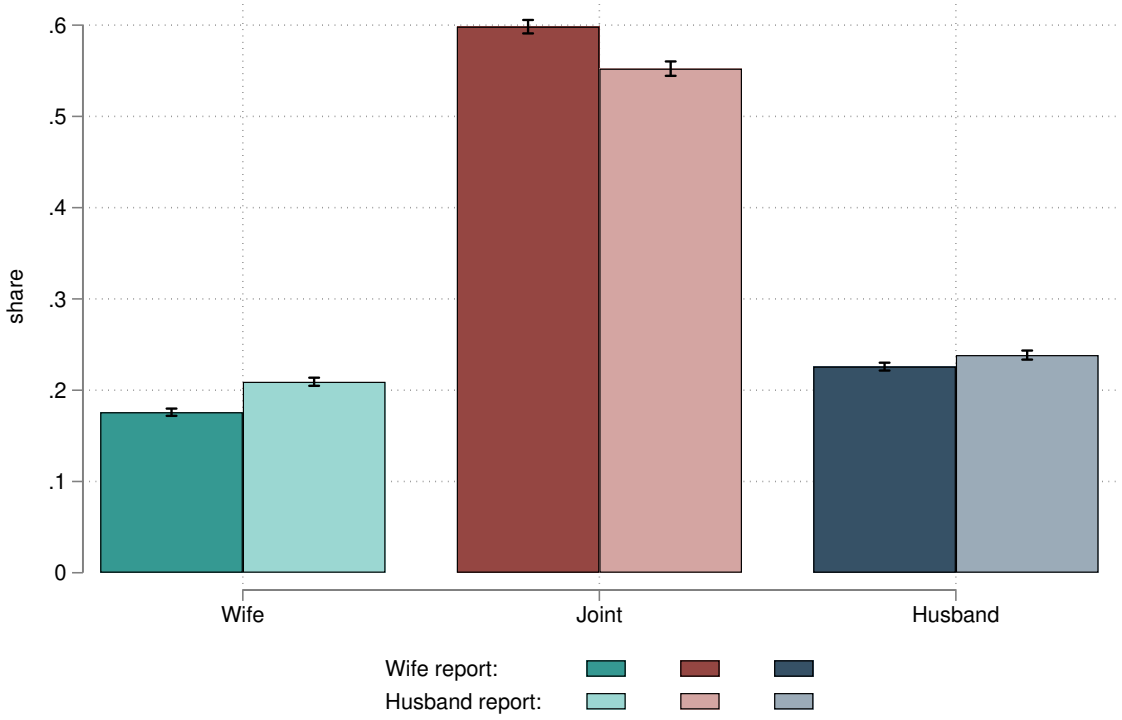
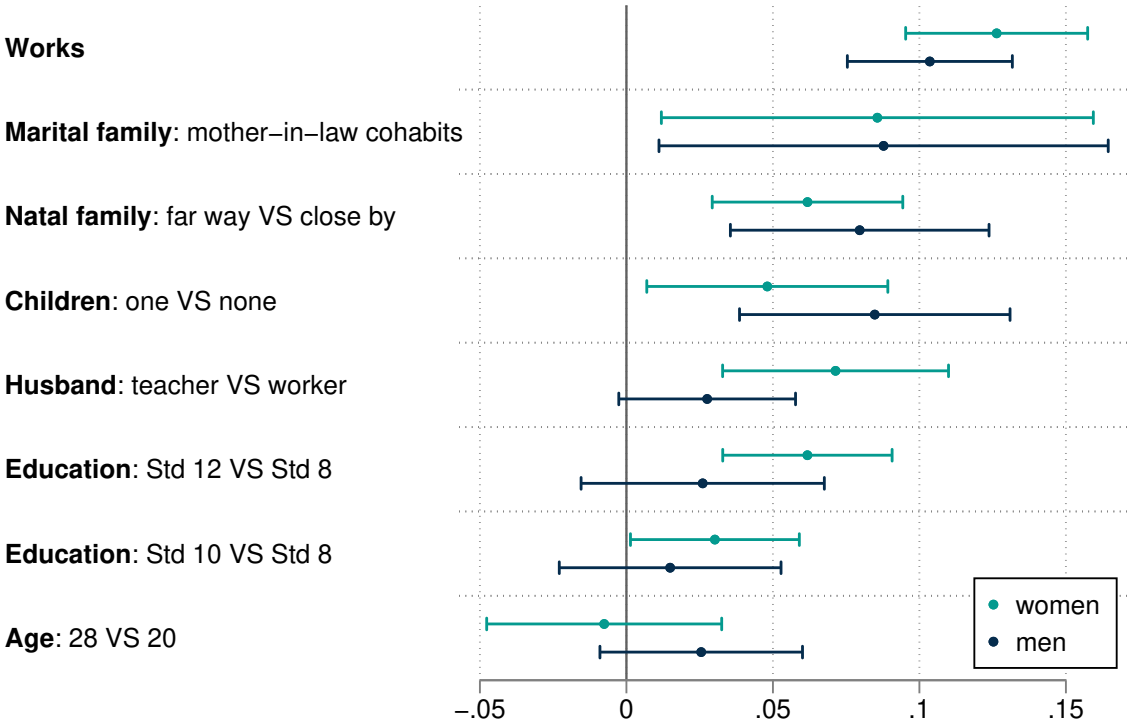


Figure 2: Current household budget allocations, shares



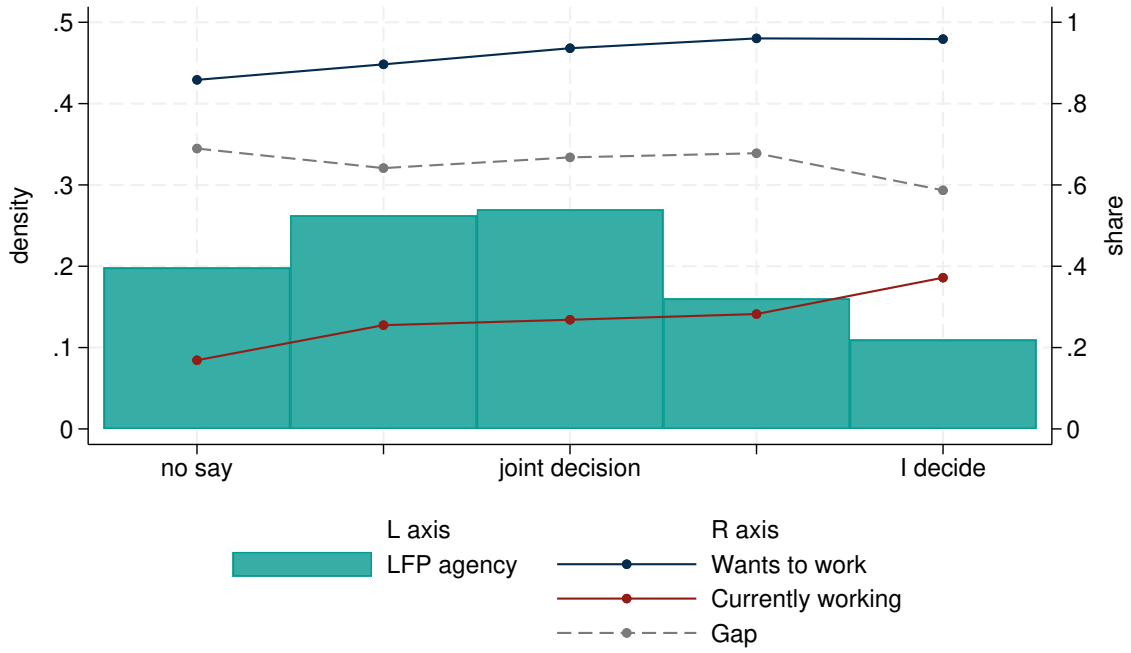
Note: Unconditional averages by gender, with 95% confidence intervals.

Figure 3: Women's characteristics and agency over household expenditure
Average marginal effects by respondents' gender



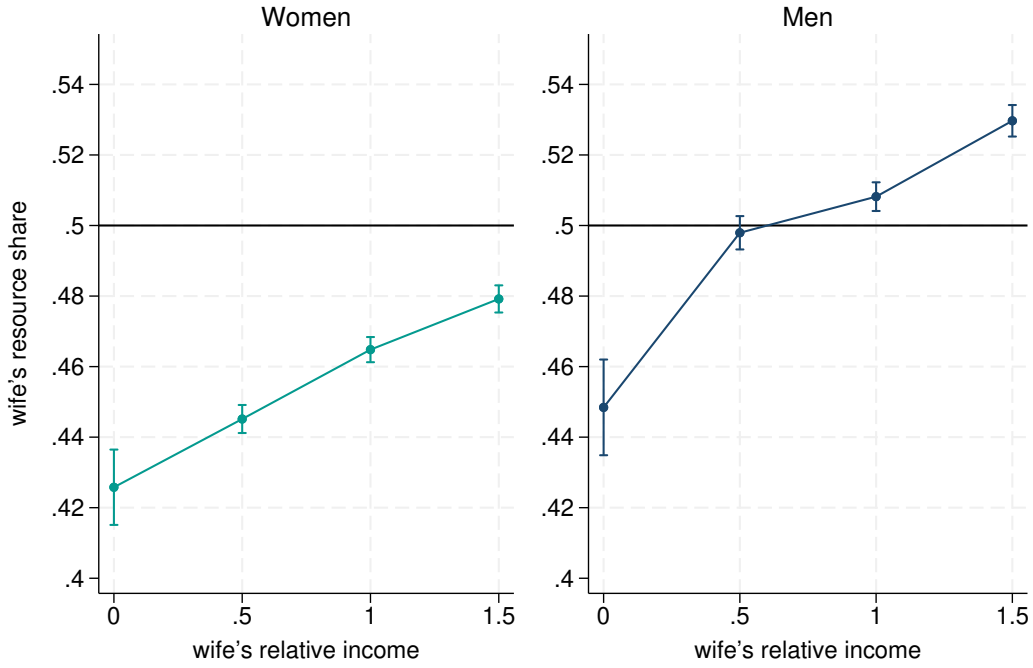
Note: AME from conditional logit regressions, run seperately by gender. The outcome variable indicates which of two fictional women represented in a vignette is selected as having most agency over a spending decision. The characteristics of both women in the vignette are randomly drawn with replacement from the dimensions and values listed along the vertical axis.

Figure 4: Wife's agency over FLFP and employment rates



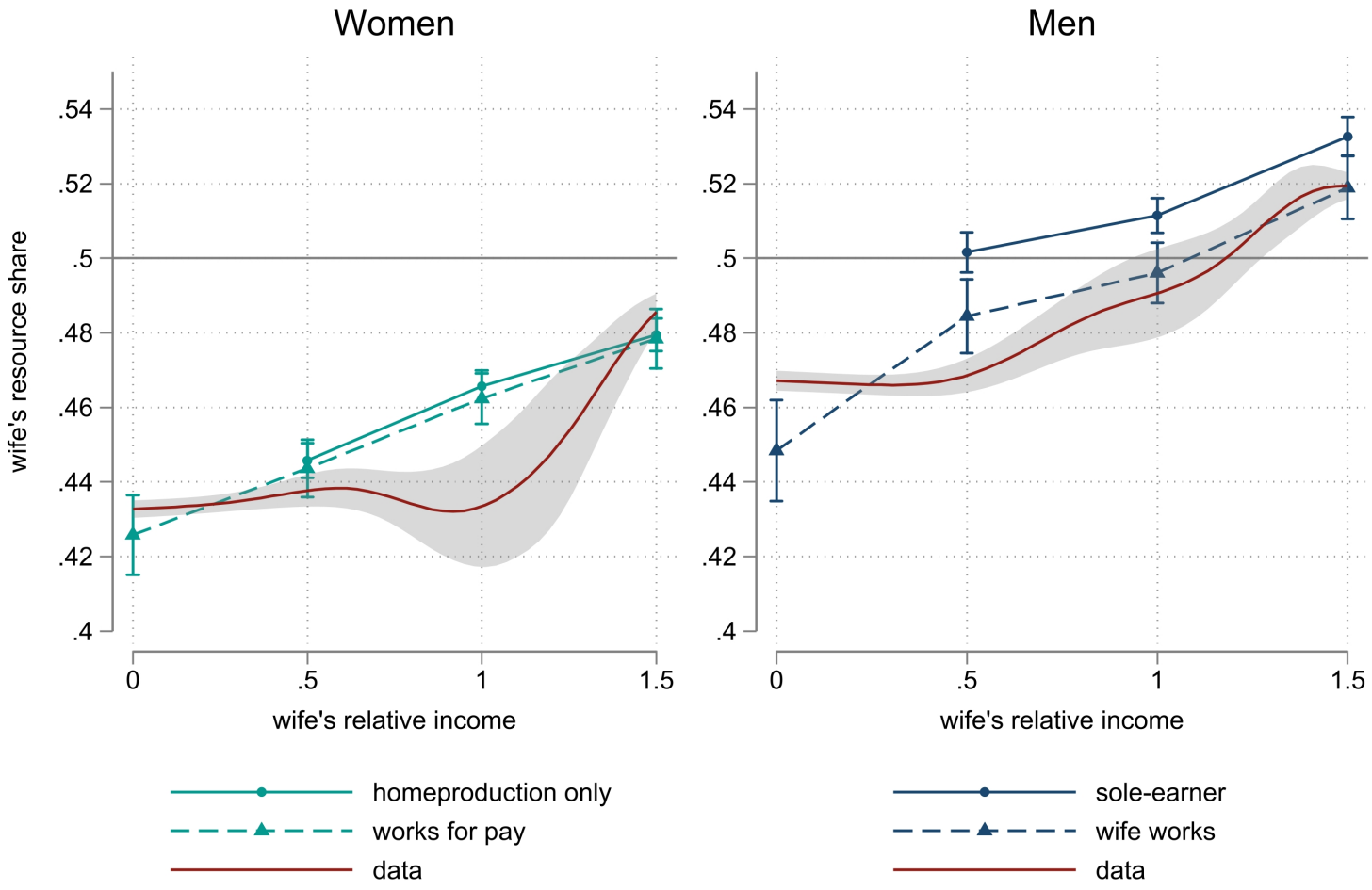
Note: The bars depict female respondents' answers to the question: "*If [you were presented with a job opportunity, how important is your opinion at home when it comes to deciding whether to accept/reject the offer?*". The possible answers are: *"I have no say"*, *"My opinion is not very important"*, *"We take the decisions together"*, *"My opinion is very important"*, *"I decide"*.

Figure 5: Expected resource allocation, by gender and wife's participation.



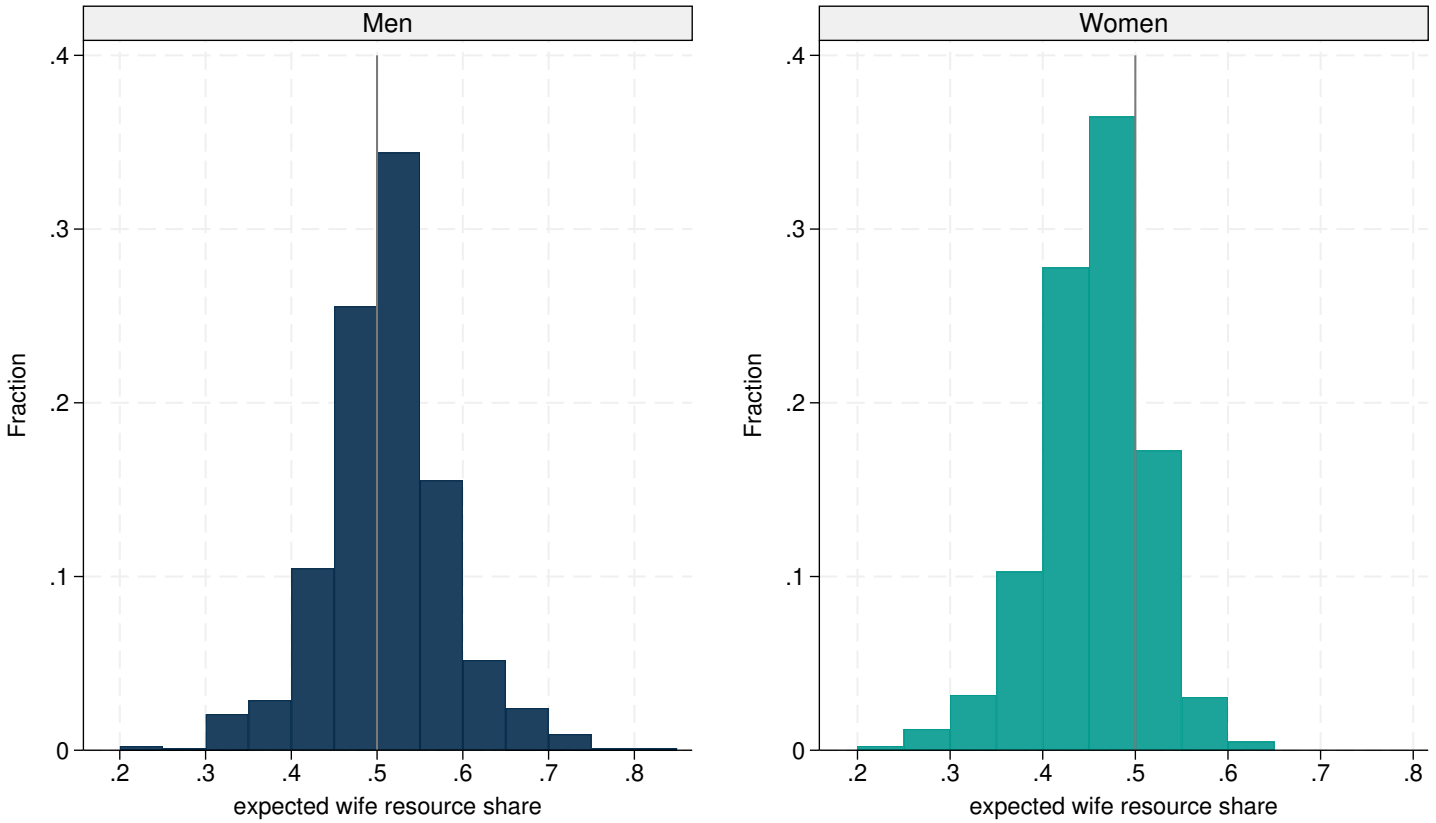
Note: 95% CI. The vertical axis represents the share of household private consumption expected to be allocated to the wife, i.e. (wife's share)/(1 - joint share).

Figure 6: Expected resource allocation, by gender and wife's participation.



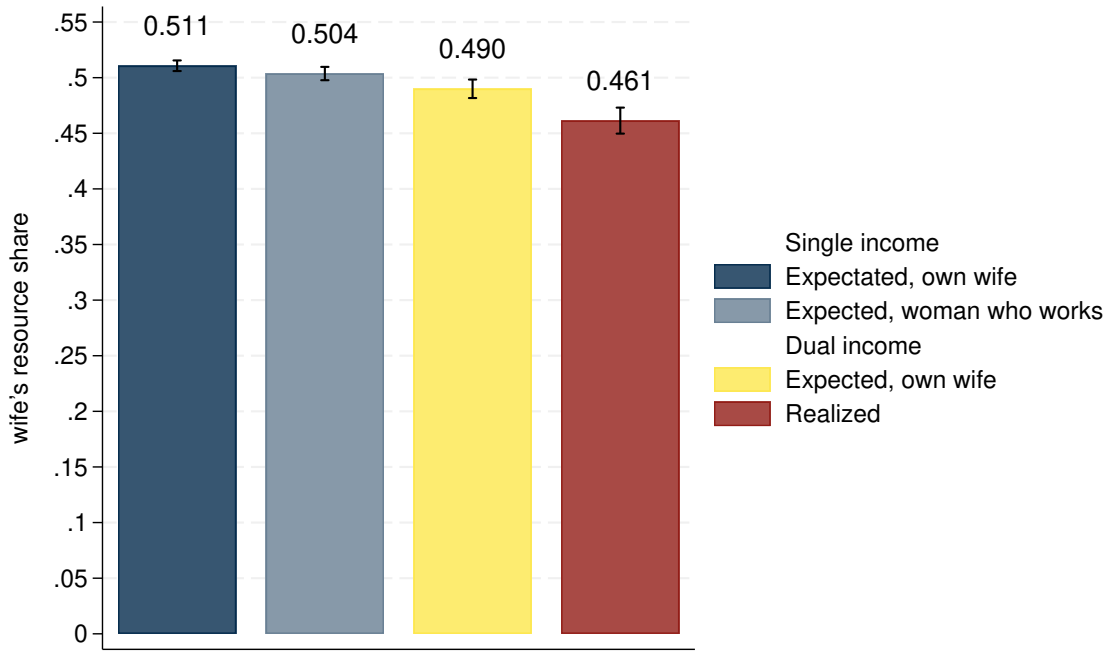
Notes: 95% CI. The vertical axis represents the share of household private consumption expected to be allocated to the wife, i.e. (wife's share)/(1 - joint share).

Figure 7: Distribution of average expected resource share if wife employed, single income couples.



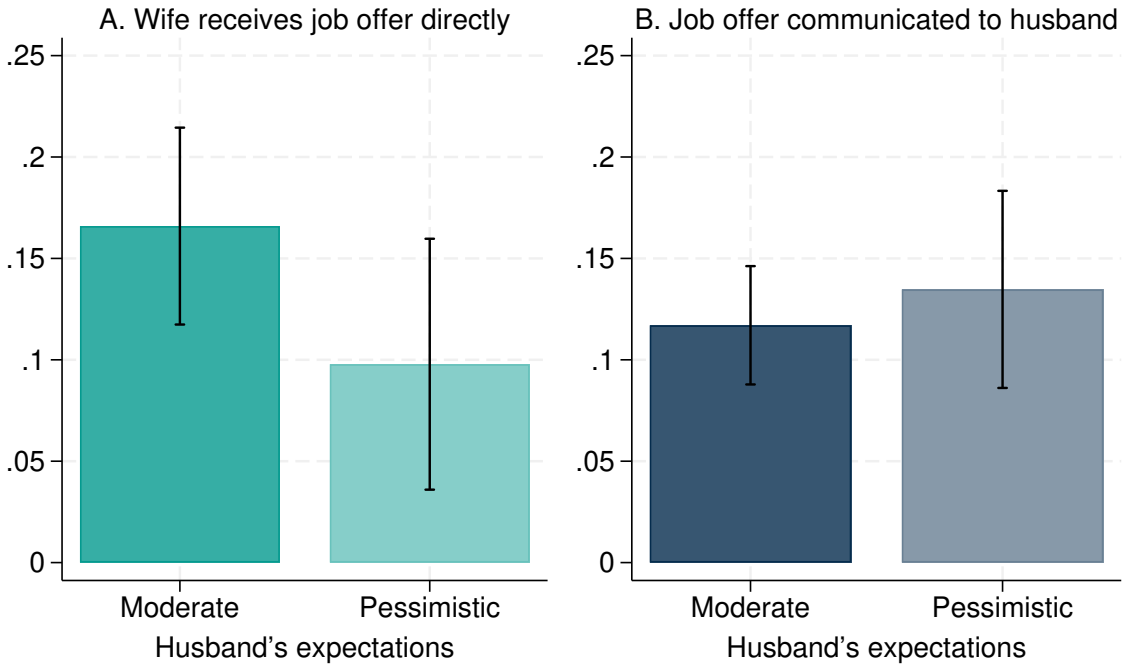
Note:

Figure 8: Men's expected resource share of the wife if employed, own partner VS other women.



Note:

Figure 9: Job offer take-up,
by husbands' expectations and gender of the offer's recipient



Note: 95% CI

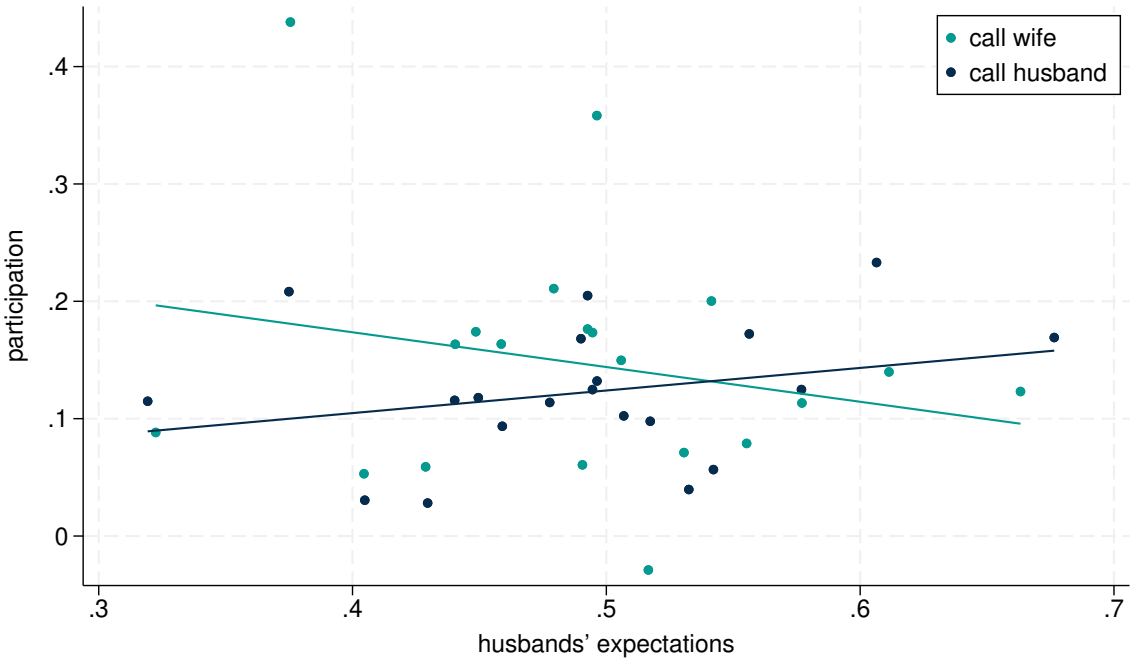
Figure 10: Job offer take-up and women's current LFP,
by husbands' expectations and gender of the offer's recipient

Note: 95% CI

Figure 11: Job offer take-up and women's current LFP,
by husbands' expectations and gender of the offer's recipient

Note: 95% CI

Figure 12: Job offer take-up and men's expectations,
by gender of the offer's recipient



Note: 95% CI

Appendix Tables

Table A.1: Men's expectations over wife's resource share if employed, by hours, wage and earnings.

	(1)	(2)	(3)
Hours:			
Part-time	-		
(reference)	-		
Full-time	0.016***		
	(0.001)		
Wage relative to husband:			
Relative wage: 50%		-	
(reference)		-	
Relative wage: 100%		0.010***	
		(0.003)	
Relative wage: 150%		0.032***	
		(0.002)	
Scenarios:			
Part Time, relative earnings 50%			-
(reference)			-
Full Time, relative earnings 50%			0.006**
			(0.002)
Full Time, relative earnings 100%			0.016***
			(0.001)
Full Time, relative earnings 150%			0.038***
			(0.001)
Average in reference group	0.492***	0.498***	0.492***
	(0.002)	(0.004)	(0.002)
Scenarios	2,4	3,4,5	2,3,4,5
N	2210	3315	4420

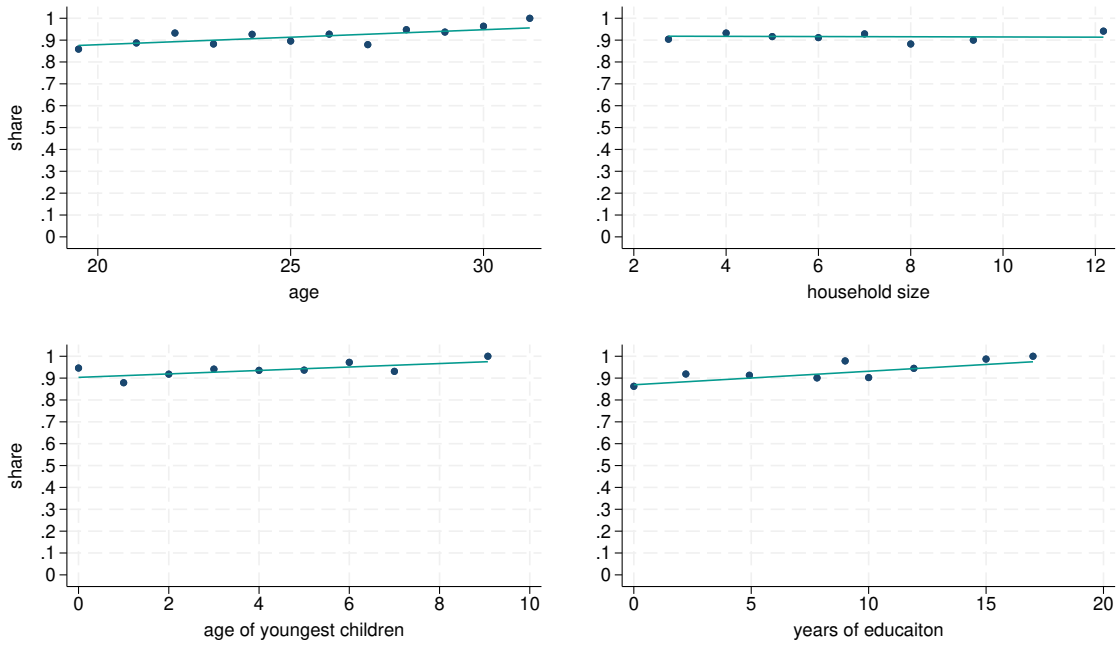
Table A.2: Couples successfully contacted with job advertisement

	(1)	(2)	(3)	(4)	(5)
Call Husband	-0.0304	-0.0367	-0.0352	-0.0341	-0.0371
	(0.026)	(0.026)	(0.026)	(0.028)	(0.027)
Wife's controls		Yes			Yes
Husband's controls			Yes		Yes
Household controls				Yes	Yes
N	1105	1105	1105	1105	1105

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All regressions includes dummies for each value of the stratification variables - husband's expectations, FLFP and block/panchayat - and standard errors are clustered at the block/panchayat level. Individual controls include: a cubic polynomial for age and a cubic polynomial for years of education. Household controls include a dummy for having a child, the number of children, total household size and a wealth index, constructed aggregating information on asset ownership and quality.

Appendix figures

Figure A.1: Share of women who wants to work in the future



Note:

Figure A.2: Pictogram for time use taks

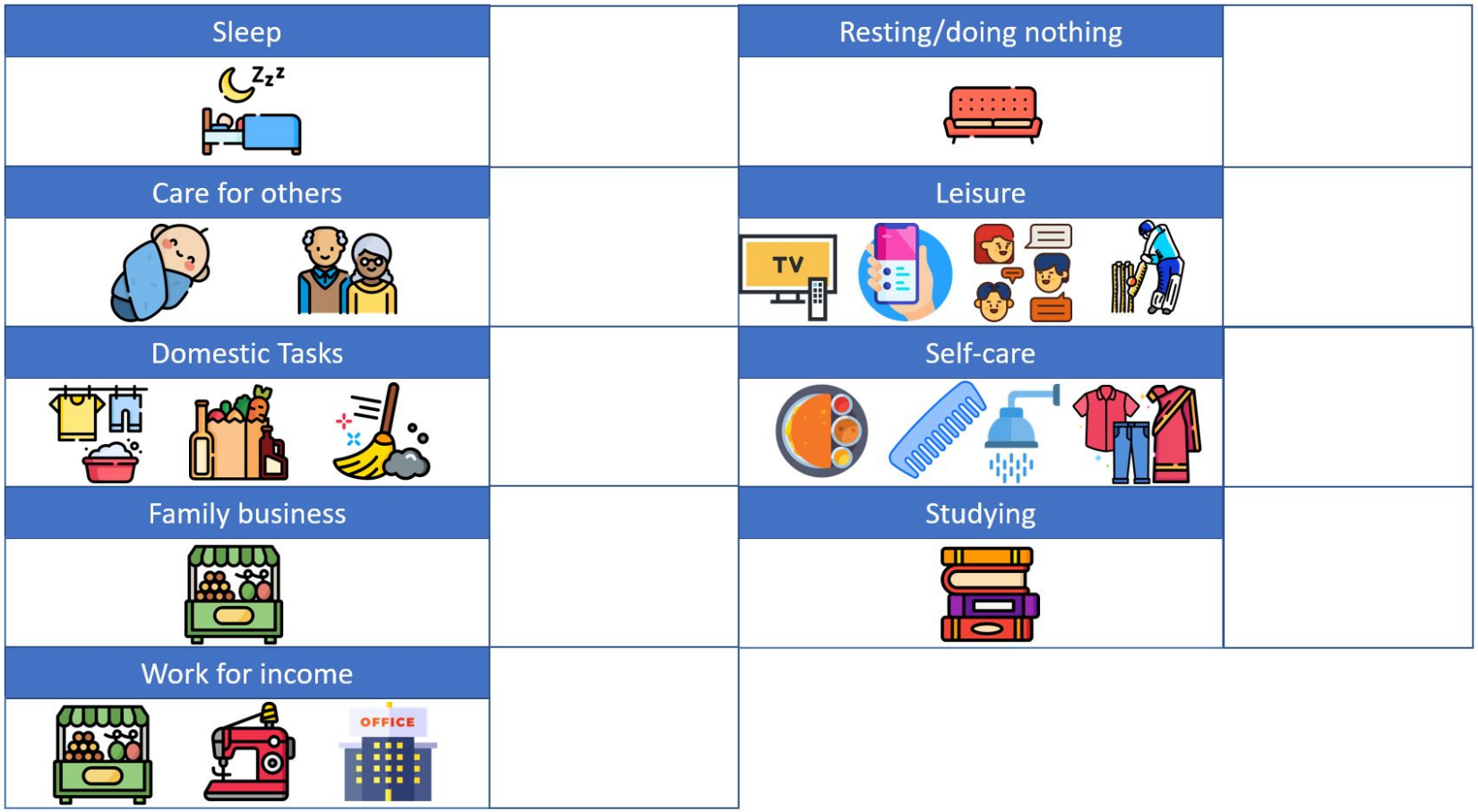


Figure A.3: Agency over household and individual decisions, Women

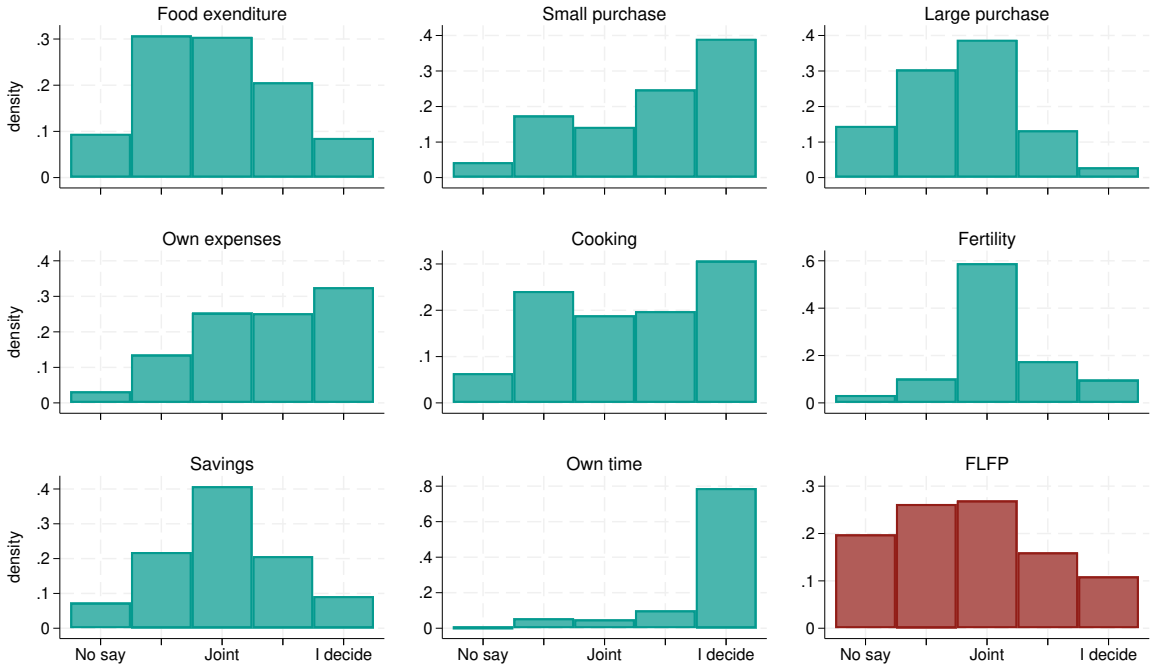


Figure A.4: Agency over household and individual decisions, Men

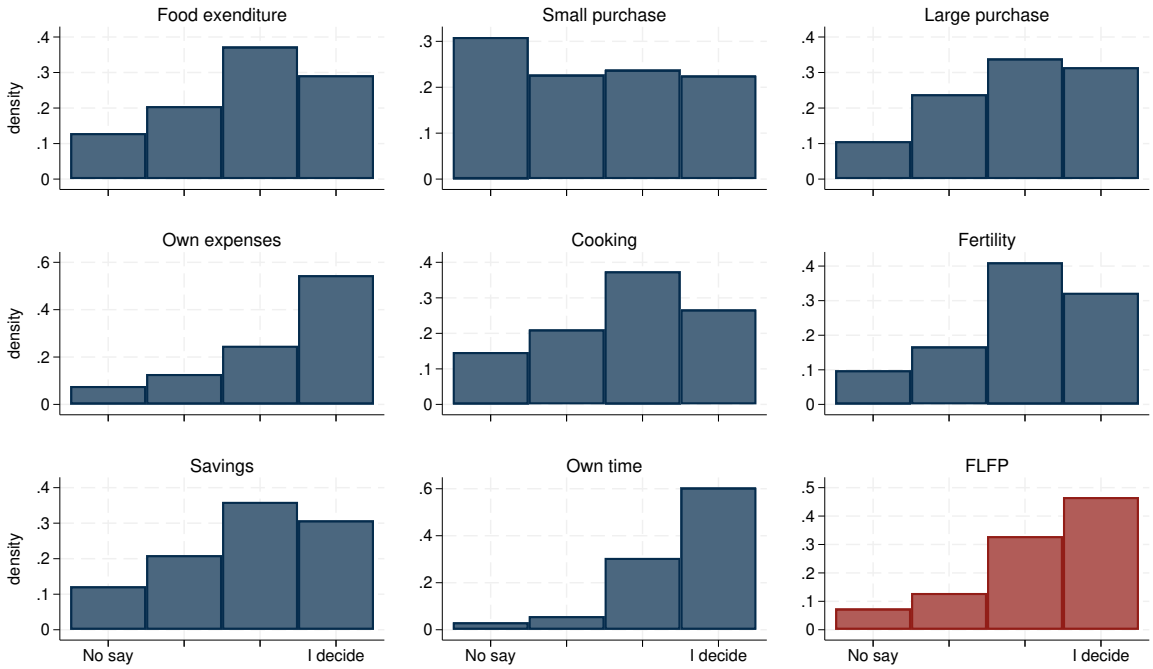


Figure A.5: Pictogram for resource allocation task

Figure A.6: Time use, by gender and wife's FLFP

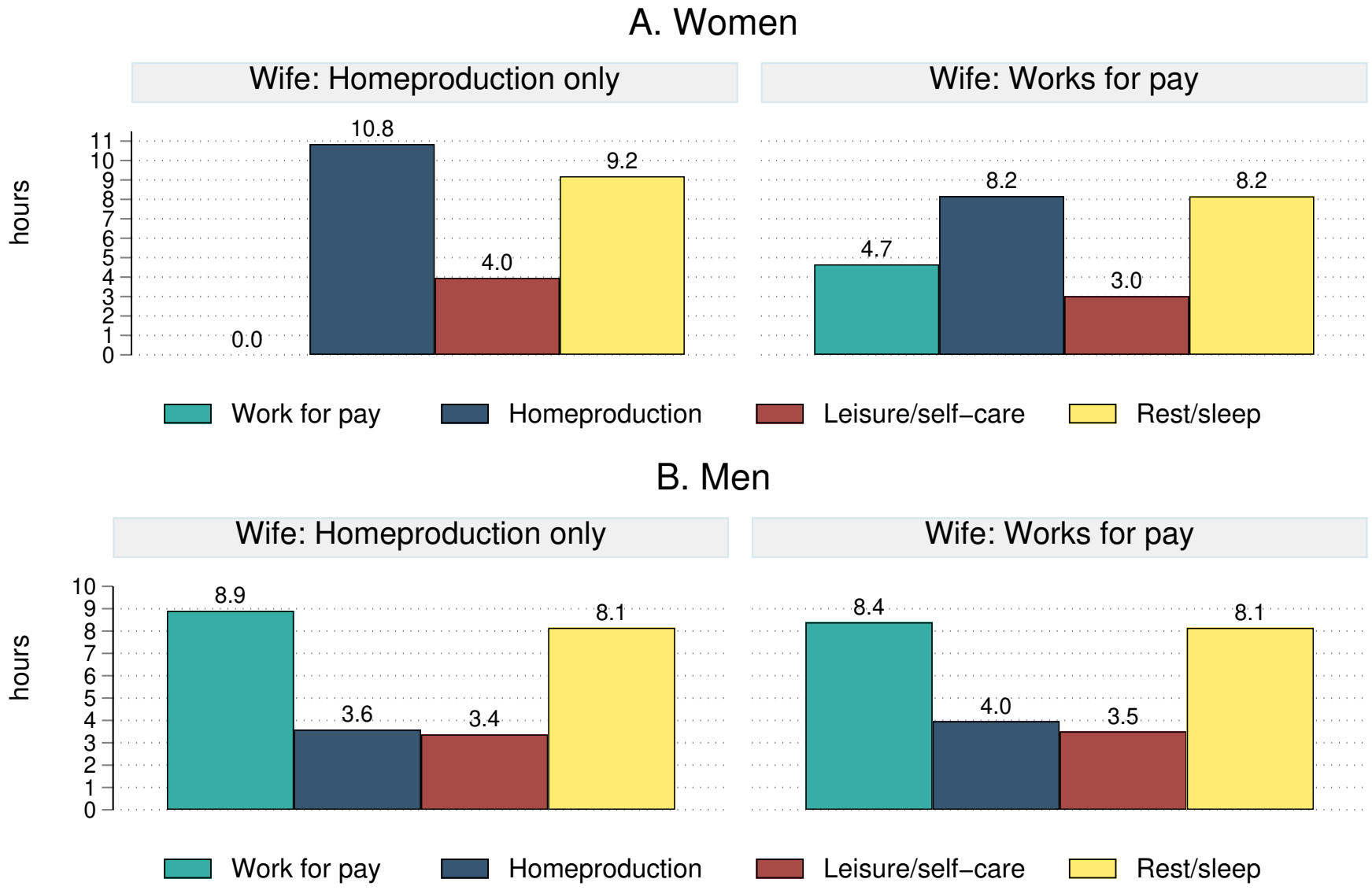
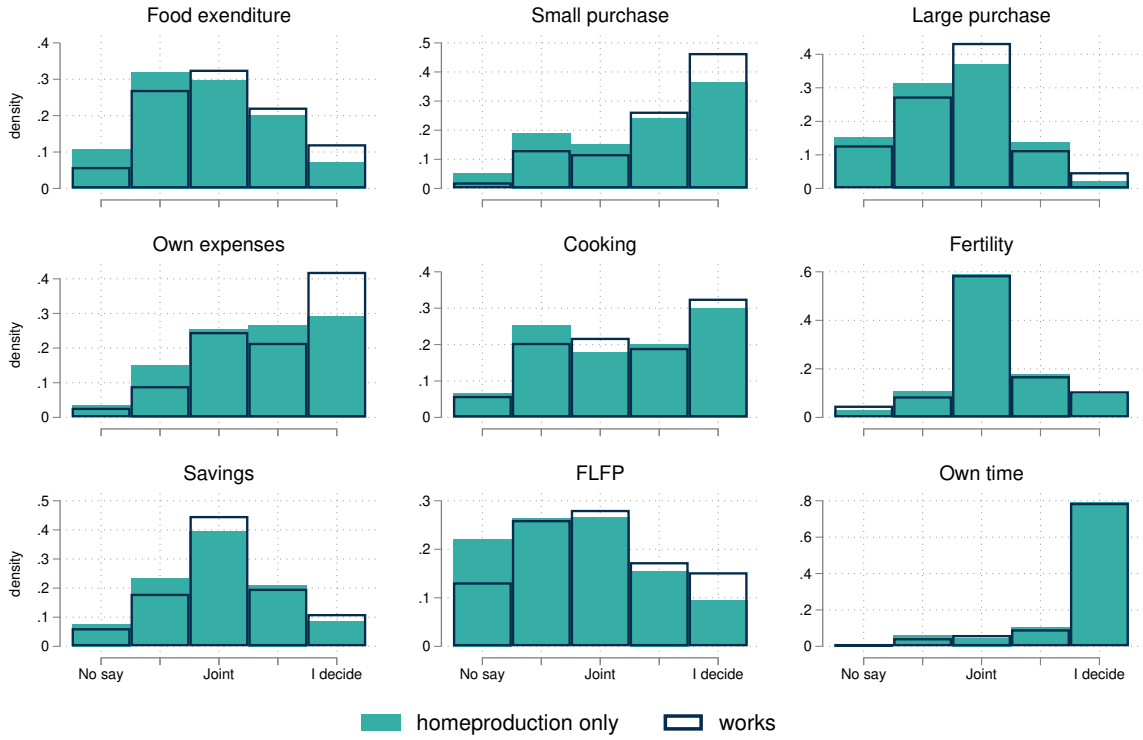


Figure A.7: Female agency over decisions and FLFP

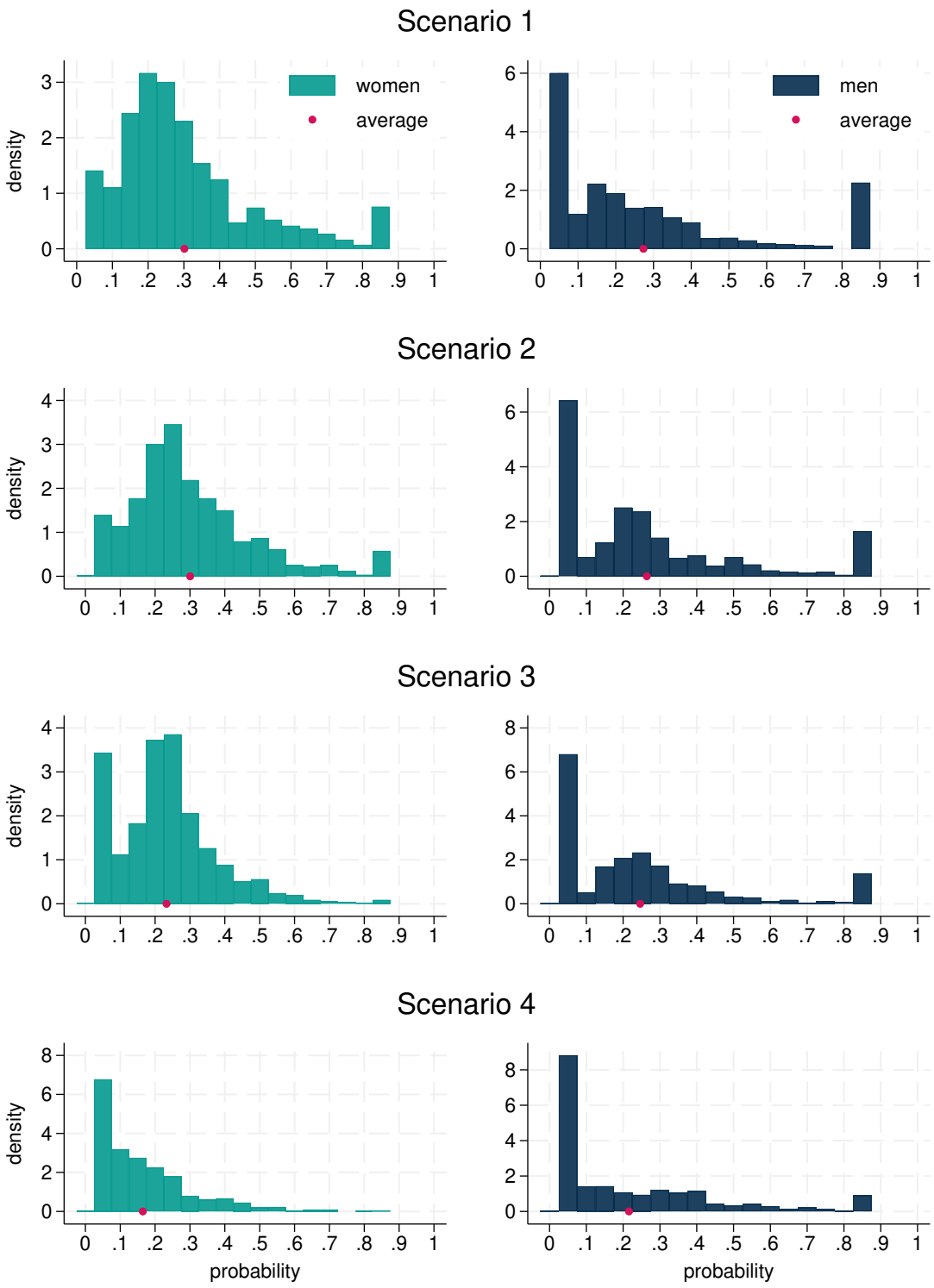


Note:

Figure A.8: Beliefs elicitation, average probability by scenario and gender

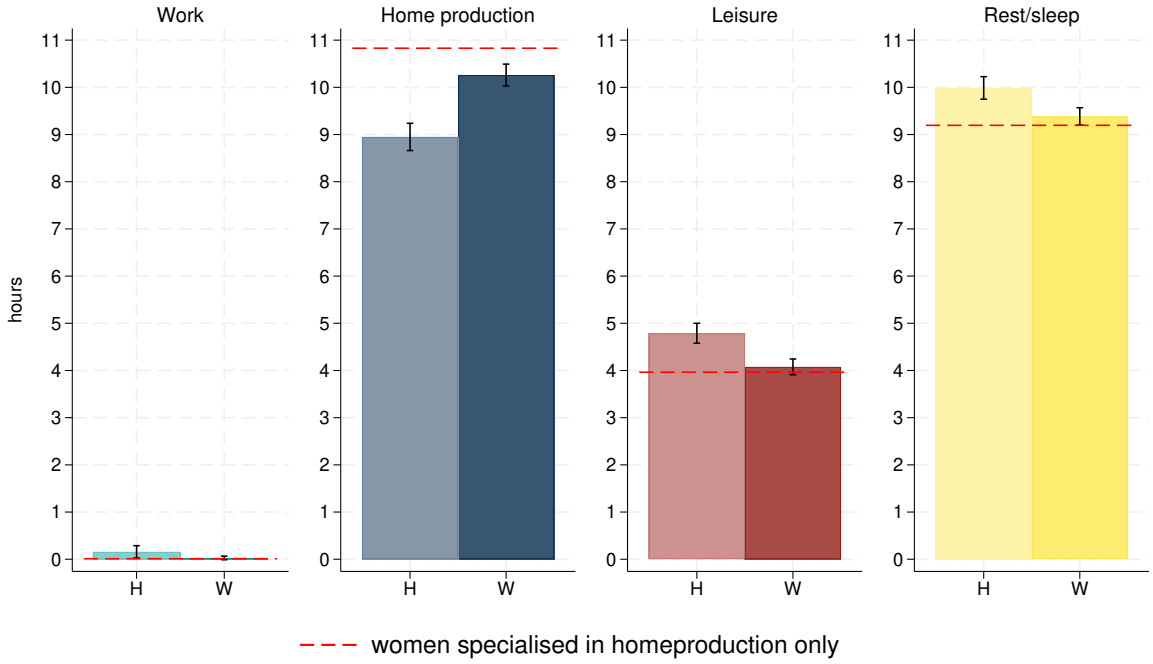
Note:

Figure A.9: Beliefs elicitation, distribution of probabilities by scenario and gender



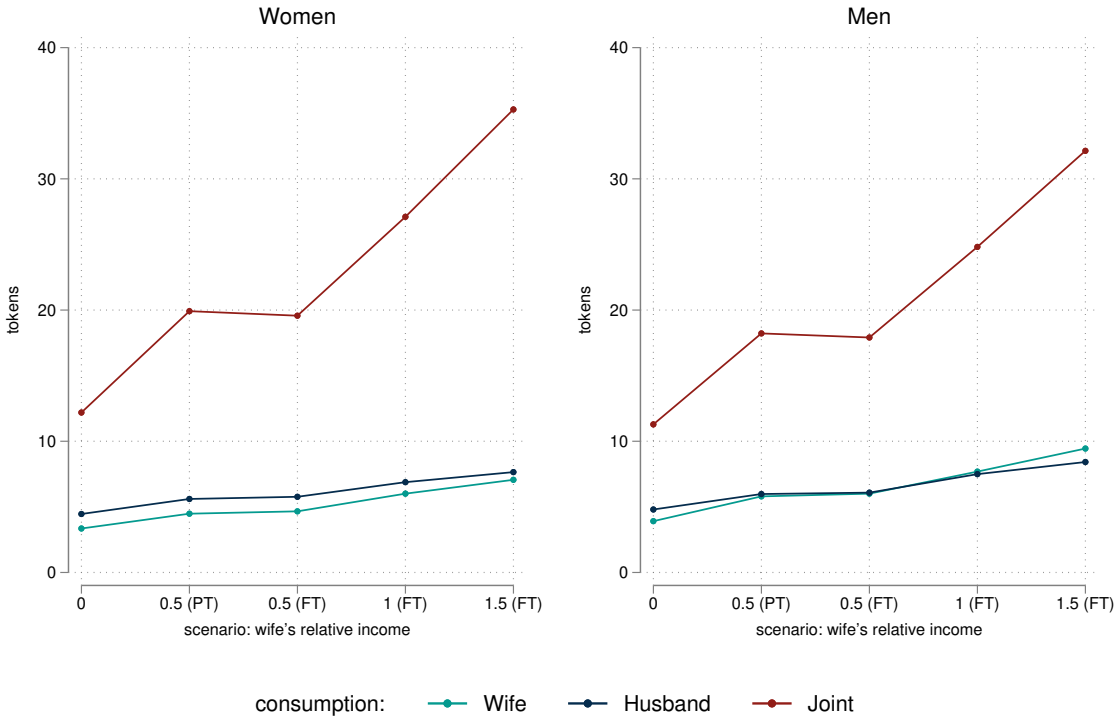
Note:

Figure A.10: Expected time use if wife stopped working, by gender



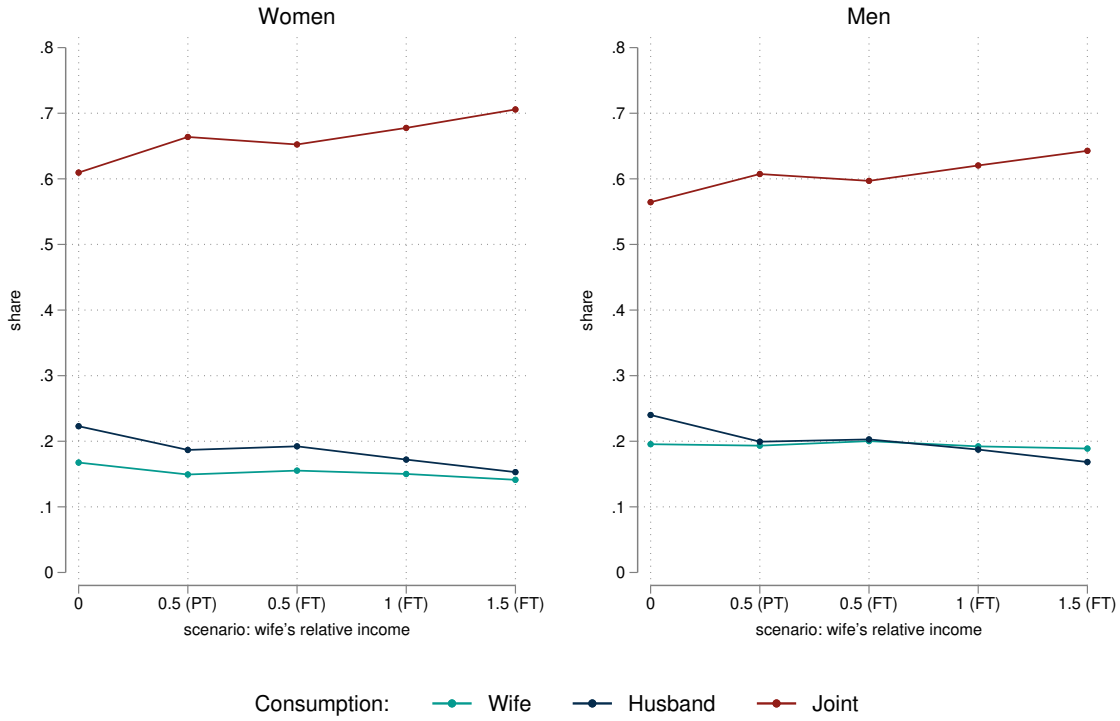
Note: Sample restricted to couples in which the wife works for pay. The bars represent the expected time devoted by the wife to each activity if she specialized solely in homeproduction, elicited from both the wife (W) and the husband (H), together with 95% confidence intervals. The dashed red lines show the realized time allocation of women who work for pay.

Figure A.11: Hypothetical household allocations and wife's relative income, by gender



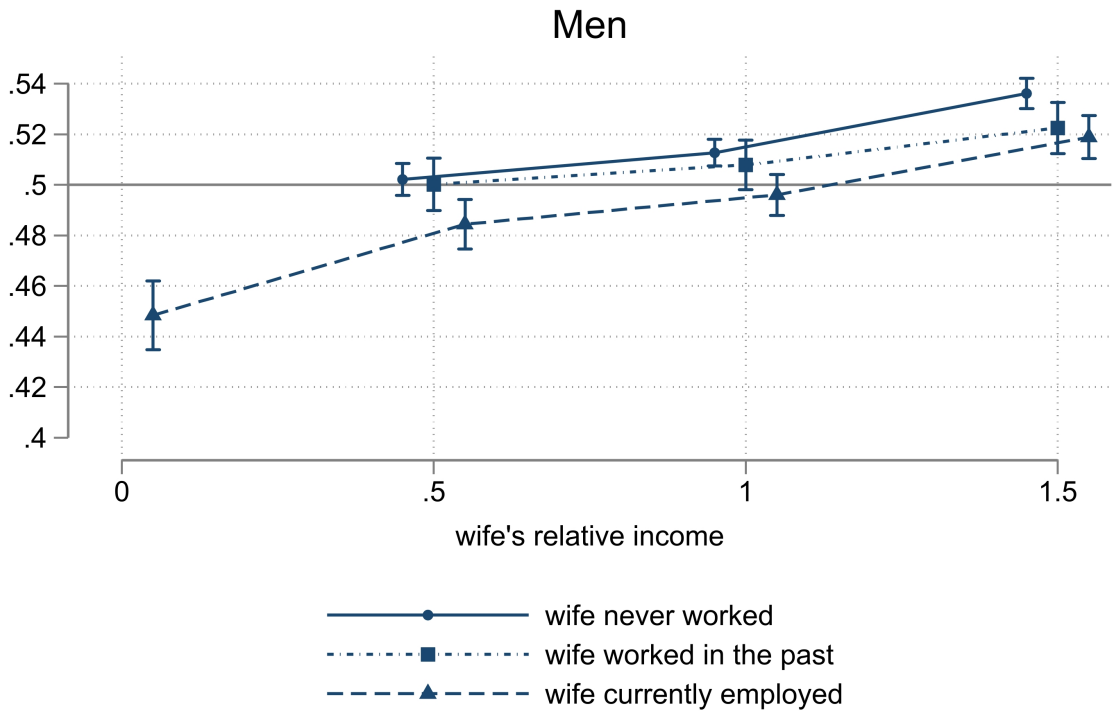
Note:

Figure A.12: Hypothetical budget shares and wife's relative income, by gender



Note:

Figure A.13: Expected wife resource share, by work history



Note:

B Appendix: Sampling and data collection

This section provides details on the data collection activities. Respondents where drawn from 6 locations within Lucknow's urban and peri-urban area. Four of these locations are Nagar Panchayats (peri-urban local administrative bodies): Bakshi Ka Talab, Gosaiganj, Mohanlalganj and Malihabad. In each of these, 40% of the wards were randomly selected and included in the study. The remaining two localities fall under Lucknow's municipal authority – Faizullaganj and Kalyanpur. In these locations, all wards were included in the study.

Prior to the main data collection, teams of enumerators carried out an household listing exercise in order to produce a sampling frame. In less populous wards, all households were included, i.e. enumerators visited every dwelling. In more densely populated wards and urban locations, the listing exercise targeted two thirds of hoseholds, i.e. enumerators skipped one dwelling every two visited.

The listing exercise took place between July and October 2024. Over this period, enumerators visited $17,874$ dwellings and were able to interview an household member in 63% of cases ($11,217$ households). Eligible couples were mapped in two steps. First, enumerators asked whether any married couple lived in the dwelling. This was the case in 92% of households ($10,304$ households). If so, they recorded the age of every married woman in the household. These questions captured the first two eligibility criteria for the study: married couples in which the wife is of age between 18 and 30. Provided these criteria were met ($3,795$ couples), enumerators explained the objective of the study and that they would randomly select couples from the community for the study. With the respondent's consent, enumerator recorded names and phone numbers of each spouse, together with their employment status. Note that each household couple contain multiple eligible couples.

The contact information of $3,438$ eligible couples was compiled into randomly ordered lists for each ward, and enumerators attempted to contact and recruit participants following this random order. The objective was to recruit approximately 30 participants per ward. The target sample size of $1,100$ was achieved by attempting to contact and recruit $2,282$ couples, i.e. with a success rate of 42%.

(table with summary statistics)

(GIS plot of sampling frame and respondents)

C Appendix: Preference Elicitation Task

I estimate the impact of the various dimensions depicted on the card through a Conditional Logit specification:

$$\mathbb{P}(\text{card 1 selected}|x_{i1}, x_{i2}) = \frac{exp(x_{i1}\beta)}{\sum_{h=1}^{2} exp(x_{ih}\beta)}$$

where x_{ij} is a vector of features of card j shown to respondent i and includes: a dummy equal to 1 if wife's consumption exceeds the husband's; a quadratic of own consumption, joint consumption and total income (all expressed in logs); log husband's wage; dummies for each of the three possible values of wife's hours worked (0, 5 and 8) and homeproduction (4, 6 and 8), and iteration fixed effects. In addition, x_{i2} includes an intercept. Since each card is shown randomly as number 1 or 2, this constant captures whether respondents select one options with higher frequency due, for example, to inattention.

Table C1: Preferences over household outcomes, Logit coefficients

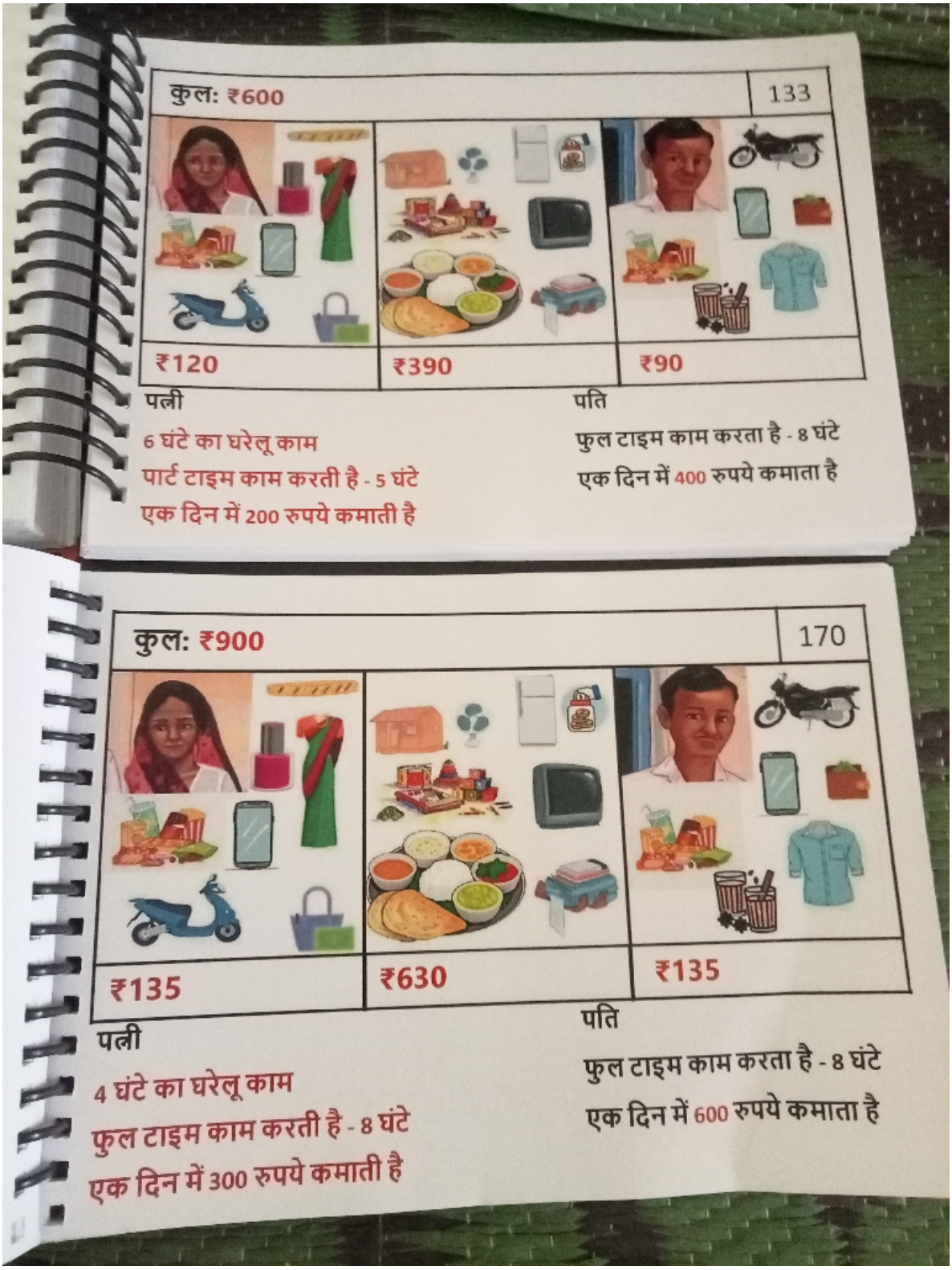
	(1) Women	(2) Men
$\mathbb{1}$[wife > husb]	-0.279***	-0.268**
	(0.100)	(0.107)
Joint expenditure	4.898*	9.047***
	(2.929)	(3.488)
Joint expenditure^2	-0.328	-0.645**
	(0.268)	(0.317)
Own consumption	0.585	3.000***
	(0.632)	(1.143)
Own consumption^2	-0.0674	-0.353***
	(0.0862)	(0.133)
Total income	2.297	-6.715
	(4.271)	(5.148)
Total income^2	-0.300	0.580
	(0.371)	(0.447)
Husband's wage	0.596	-1.597
	(1.288)	(1.247)
$\mathbb{1}$[Wife works 5hr]	0.433	-0.259
	(0.579)	(0.559)
$\mathbb{1}$[Wife works 8hr]	0.772	-0.614
	(0.812)	(0.784)
$\mathbb{1}$[Homeproduction 6hr]	0.0947	0.0250
	(0.0683)	(0.0706)
$\mathbb{1}$[Homeproduction 8hr]	-0.0695	-0.144
	(0.104)	(0.111)
N	6630	6630

Standard errors in parentheses

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

Figure C1: Example of scenario card

Figure C2: Preference elicitation task, example.



D Appendix : Additional results

D.1 Information Asymmetries.

One strength of the chosen study design is the availability of data from both wives and husbands on key household outcomes. Comparing spouses' responses, however, reveals systematic differences. The first objective of this section is to quantify within-couples differences in reports as to explicitly account for them when analyzing gaps in expectations (section 4.3). The second objective is to provide evidence that these discrepancies are not merely the result of bias but stem from more non-cooperative behavior and information asymmetries within couples.

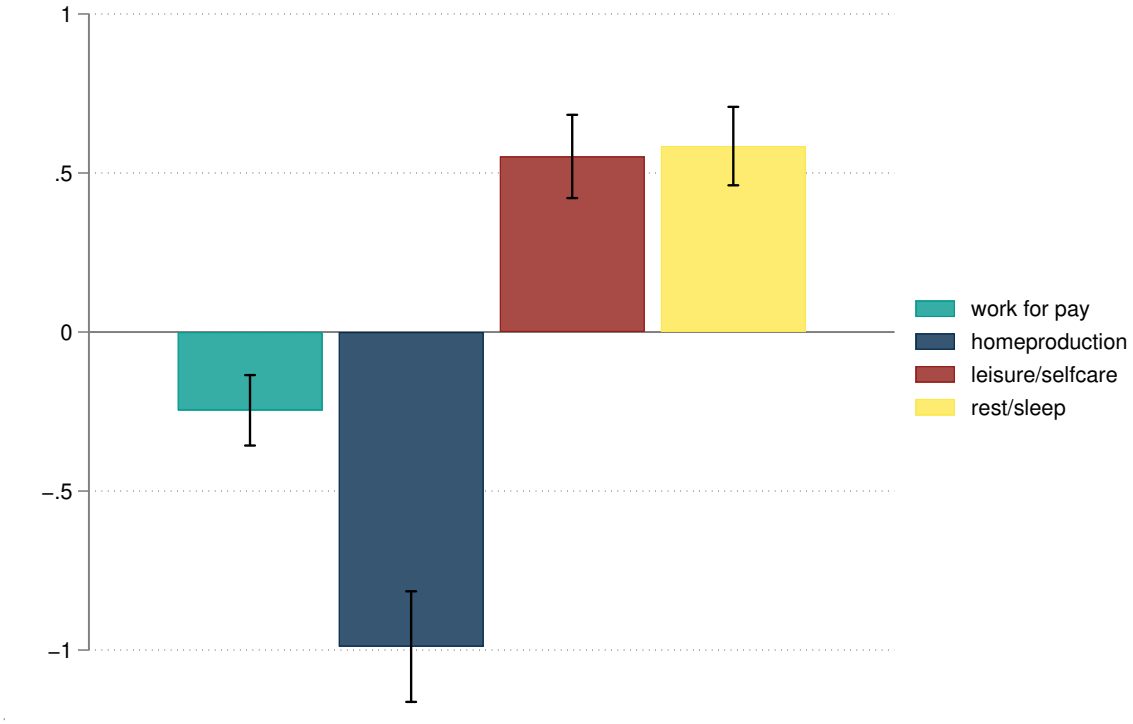
Time use. Figure D1 plots the average difference in the time allocation of wives as reported by husbands versus the actual data provided by their spouse. A clear pattern emerges, whereby men report higher engagement on recreational activities and rest ($+.55hrs$ and $+.58hrs$ respectively), and lower engagement in productive activities. According to men, women spend one fewer hour on home production and .25 fewer hours working for pay compared to their wives' reports, thus underestimating their contribution to the household economy by 11%.

Interestingly, husbands not only underestimate the burden of chores shouldered by their partners, but also their hours worked for pay. Probing this further, we find that among women who work for pay 38% of their husbands report zero hours worked by their wife. While this is consistent with male stigma towards FLFP pushing them to under-report, this could also be consistent with a story of low bargaining power driving women into concealing their employment status from their husbands, as he would either oppose their participation or exert control over their earnings.

Resource allocation. I find further evidence of strategic information asymmetries in expenditure data. Figure 2 showed the average allocation of resource within the household as reported by wives and husbands. On average, husbands report lower joint expenditure by 4.6 percentage points when compared to their wives, imputing most of the difference to the wife's private consumption.[37] As a result, the average wife resource share is 3.4 percentage points higher (7.8%) when reported by men as opposed to women. Qualitative interviews with respondents highlighted an explanation for this

[37]From the perspective of our elicitation task, these differences amount to husbands placing one fewer token on in the joint expenditure pot, allocating it to the wife in most cases.

Figure D1: Difference between husbands' beliefs and wives' actual time use



Note:

gap that finds support in the data: some women save the money they are given for personal expenses without telling their partner, so that they can retain full control on how these savings are used. As a result, while women correctly place these savings in the *joint* category, from the husband's perspective they represent private consumption of the wife.

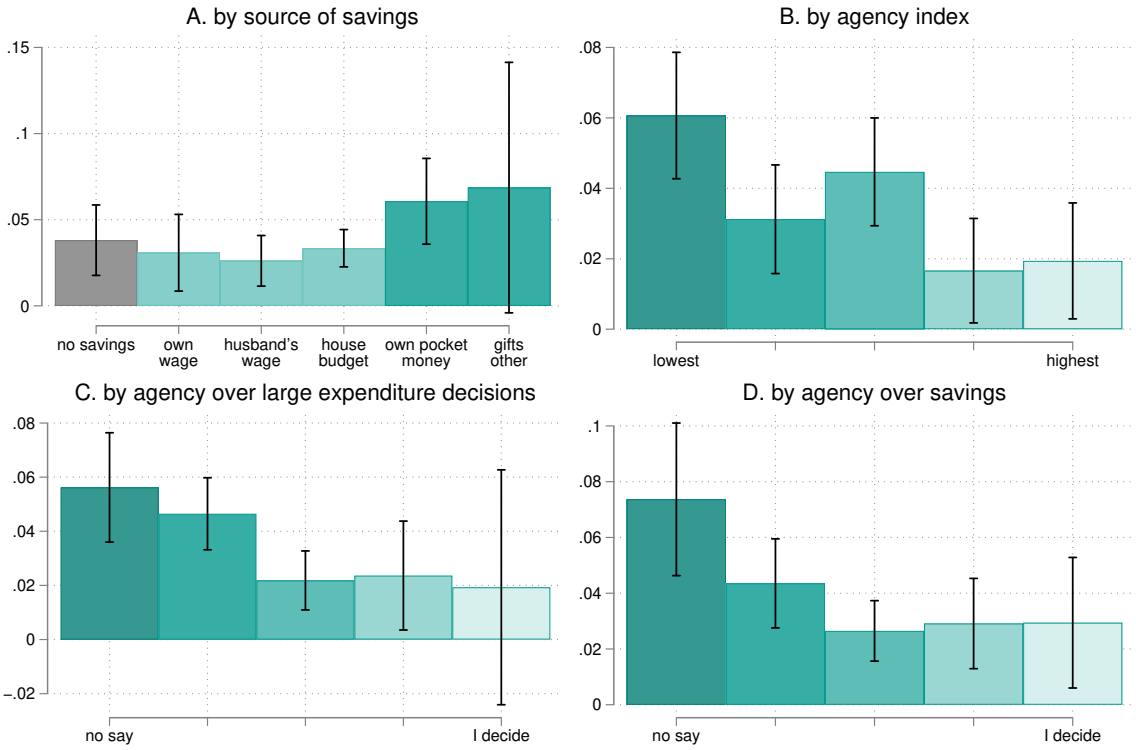
Figure D2 provides evidence of this mechanism. Each panel plots the difference in wife's resource share as reported by the two spouses. A positive value indicates that the husband's report is higher than the value reported by their spouse. Panel A plots the outcome variable against the wife's saving behavior. If the main source of her savings is pocket money or money she received as gifts, discrepancies in reports of resource allocations are approximately twice as large as in the other cases. The latter include (i) no savings, (ii) saving from wage income, which is likely know to the husband, and (iii) saving money from household expenses, where there is no room for misclassification as they both fall in the joint expenditure category. Thus, at least part of these discrepancies in reports appear to stem from hidden savings.

Panel B plots the average discrepancy separately for each quintile of an index of agency over household decisions we constructed for each woman.[38] Panel C and D instead focus on how much say women report having over decisions concerning large expenditures and the use of savings respectively. Each of these panels indicates that discrepancies in reports of resource allocations are larger among women with the lowest degree of agency and are instead smallest among the most empowered women. That is, hidden savings appear to be more common among women with the lowest degree of bargaining power.

These patterns have two implications for economic models of the household. First, evidence of information asymmetries indicates that household outcomes are not on the Pareto frontier, as in full-commitment collective household models (Zhang, 2024). For example, hidden savings reduce the marital surplus by diminishing the insurance value of marriage. Second, these patterns suggest an alternative mechanisms that underpins bargaining within the couple. While in the collective household model the distribution of bargaining power is pinned down by each spouse's outside option, i.e. the value of divorce, this mechanism is harder to justify in contexts where divorce is rare or

[38]The index aggregates answer to nine survey questions asking women how much say they have over the following decisions: small purchases, large purchases, clothing, food, number of children to have, savings, labor force participation, time allocation. Answers are coded on a 5-point likert scale ranging from "no say" to "I take the decision", and are aggregated using IRT.

Figure D2: Difference between spouses' reports of wife's private consumption



Note: The outcome variable is the difference in reports of wife's private consumption between spouses. A positive value indicates that the husband over-estimates his spouse's private consumption. 95% **CI.**

extremely costly, such as in India. However, the evidence in this section shows an alternative mechanism that sustains spouses' bargaining power: the ability to revert to non-cooperative strategies when household outcomes are too misaligned with the preferences of either spouse.

D.2 Women's agency and FLFP

Among married women in our sample, labor market outcomes are strongly correlated with women's decision-making power within the household. To show this we created two indices of female agency. The first index maps directly to within-household decision-making power and aggregates answers to nine scenario-based questions, each presenting women with a decision commonly made within the household and asking how much

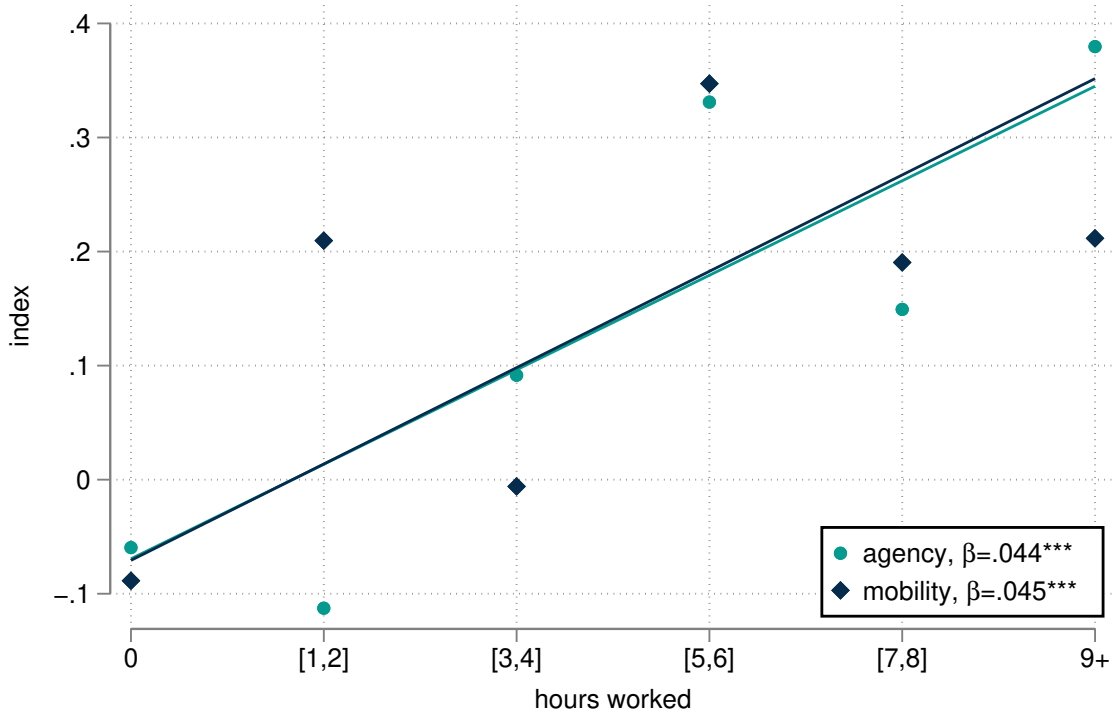
say they have in each.[39] Answers are coded on a 5-point Likert scale ranging from "*I have no say*" to "*I decide*", and aggregated in a standardized index using IRT. The second index measures women's freedom of movement, capturing wives' ability to challenge prevailing social norms of female seclusion enforced within the household (Andrew et al., 2024).[40] It is constructed via IRT from five binary variables measuring whether the respondent is *allowed* to perform the following activities unaccompanied by other household members: go to the market, visit the Anganwadi centre, take public transport, go to her natal village, meet with friends outside own home.

Figure D3 shows a binscatter of these two indices of agency against hours worked by women, together with slopes estimated via OLS. Female respondents working a full time job report 0.49σ higher agency index when compared to women engaged solely in homeproduction. Figure A.7 in the appendix plots each dimension of the index separately by women's employment status, highlighting that the dimensions driving this correlation are those relating to decision-making over how resources are spent. We also find evidence of women working for pay being more empowered over decisions relating to personal freedom, with the mobility index being 0.42σ higher for women who work full time as opposed to those engaged in homeproduction only.

[39]The decisions presented to respondents are: deciding how much to spend on food each month; making a small purchase, such as utensils or cookware; making a big purchase, such as appliances; buying clothing for yourself; deciding what to cook on a daily basis; deciding how many children you should have; saving-related decisions, such as festivals or saving for children's education; accept/reject a job offer; deciding how to spend your time during the day.

[40]For example, only 52% of women in our sample are allowed to visit a friend without the supervision of another household member.

Figure D3: Wife's agency and hours worked for pay



Note:

D.3 Expected changes in time use.

The cross-sectional evidence shown in section 2.4.1 indicates that women who join the labor force engage less in both homeproduction and non-productive activities, in roughly equal measure, when compared to women specialized solely in homeproduction. Moreover, husbands in dual-income households don't seem to increase their engagement in homeproduction and, as a result, less time gets devoted in total to the production of public goods and services in these household. From the perspective of households in which only the man works, expectations over the reallocation of time to activities if the wife were to join the labor force will factor into the participation decision.

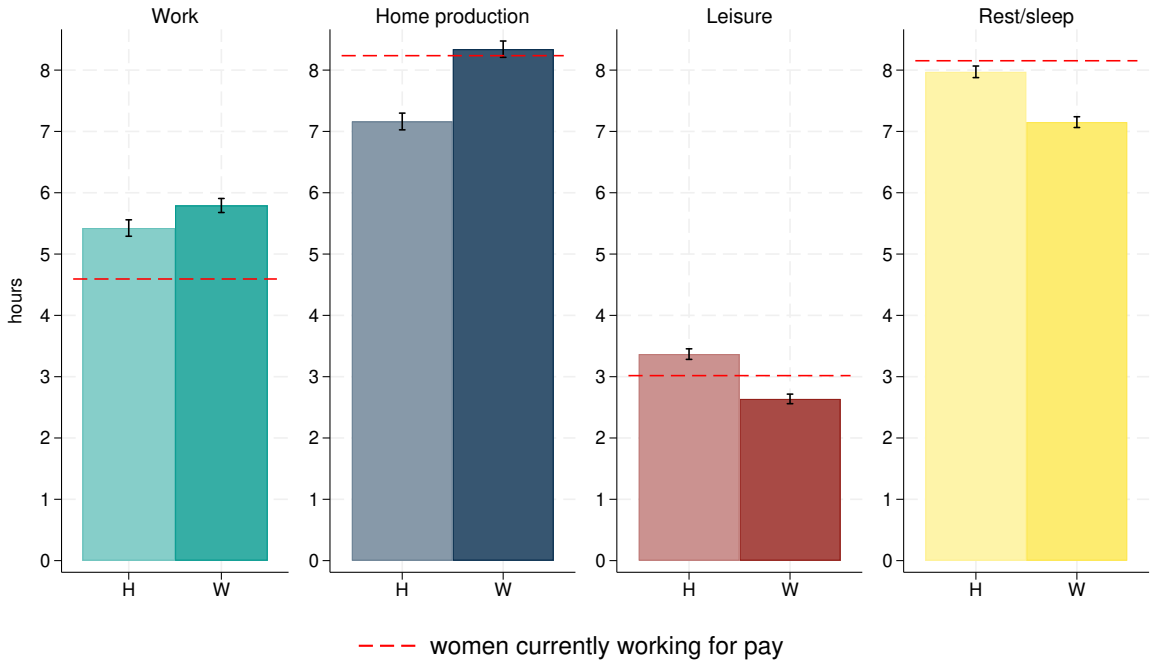
I elicit these expectations directly from respondents. Both women and men are asked to focus on the expected time allocation of the wife, as this is the most important channel through which FLFP affects time use at the household level. After women have reported their current time use and men have reported beliefs over their wife's, with the board and tokens representing their answers still in front of them, enumerators asked respondents to focus on the hypothetical scenario in which the wife's participation status changed. Women specialized solely in homeproduction and their husbands were first invited to think about the hypothetical scenario in which the wife starts working for pay. Enumerator then asked how many hours they thought she would work per day, inviting respondents to remove the corresponding number of tokens from the activities she currently engages in and reallocate them to the *work for pay* category. Women working for pay and their husbands, instead, were invited to remove all of the tokens allocated to the *work for pay* category and reallocate them to the other activities according to what they expect would happen if she dropped out of the labor force. In both cases, enumerators reviewed answers with respondents and confirmed that no further changed was necessary.

Figure D4 shows what sole-earning men and their wives expect her time allocation to be if she joined the labor force, together with the realized time allocation of employed women for reference (dashed line). Both spouses believe the wife would supply approximately 5.5 hours to paid employment. However, differences emerge in the expected level of homeproduction, which husbands believe would fall to about 7 hours while wives expect would stay above 8 hours, at a level similar to that of currently employed women. Accordingly, husbands expect their wife would retain an higher level of leisure and rest when employed.

Figure A.10 in the appendix repeats the analysis for women currently working for

pay and their husbands. Wives expect their time to be reallocated in a way that closely resembles the daily routine of women currently specialized in homeproduction. The only difference is a lower expected engagement in homeproduction, by approximately 0.6 hours. This is driven by the *care for others* component, likely due to the fact that currently employed women live in households that are on average .4 members smaller. In line with the expectations of sole-earning men and the information asymmetries discussed in section D.1, husbands of employed women also underestimate the homeproduction burden that women will shoulder by approximately one hour when compared to their wives' expectations.

Figure D4: Expected time use if wife started working, by gender



Note: Sample restricted to couples in which the wife specializes solely on homeproduction. The bars represent the expected time devoted by the wife to each activity if she started working for pay, elicited from both the wife (W) and the husband (H), together with 95% confidence intervals. The dashed red lines show the realized time allocation of women who work for pay.