# Breadwinning Norms: Experimental Evidence from India\*

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#### Abstract

How important are social norms in shaping women's labor supply relative to neoclassical economic forces? The widely studied "breadwinner norm" holds that it is socially undesirable for married women to earn more than their husbands. We test this prediction using an experiment in India. We randomly vary wage offers for salaried jobs among married women. If the norm binds, labor supply should be discontinuous or flatten when women are offered wages above their husbands' income. We find no evidence that women withdraw from the labor force when offered wages that exceed their husbands' incomes and can reject negative discontinuities as small as 1.5 percentage points. Instead, labor supply is highly responsive to wages, consistent with standard economic models. These findings hold even in the most conservative households.

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# 1 Introduction

Despite decades of policy intervention, women earn less than men in almost every country in the world. Governments, firms, and intergovernmental organizations continue to spend substantial resources trying to close these gaps. While standard economic models emphasize wages as the primary driver of labor market decisions (Cahuc et al., 2014), a growing literature highlights the role of social norms—particularly those operating within households—in shaping women's labor supply (Bénabou and Tirole, 2011; Bursztyn et al., 2020; Jayachandran, 2020). Empirically evaluating the importance of social norms relative to market incentives is critical for understanding and addressing gender gaps in the labor market.

A prominent theme in the economics of gender norms is that women's labor market success may generate intra-household conflict. Empirical studies find that a wife's promotion can increase odds of divorce and that women who work longer hours often face greater domestic burdens (Folke and Rickne, 2020; Bertrand et al., 2015). The literature highlights on one potential mechanism behind this intra-household conflict: the breadwinner norm or the expectation that, in heterosexual marriages, men should earn more than their wives. In their seminal work, Bertrand et al. (2015) find that women who are more likely to outearn their husbands are less likely to participate in the labor market. While these cross-sectional patterns are suggestive of breadwinning norms, they may also reflect unobservable differences in couples with relatively more skilled wives. In this paper, we use an experimental approach to test whether married women to forgo labor market opportunities that would cause them to out-earn their husbands. While standard models imply a smooth, upward-sloping labor supply curve, breadwinner norms predict a drop or flattening in women's labor supply when their potential earnings exceed their husbands'.

Empirically testing breadwinning norms poses several challenges. First, isolating causal effects requires exogenous variation in wage offers that shifts a woman's earnings relative to her husband's—without simultaneously affecting his income. This is rarely the case: most shocks, such as trade or local labor demand, influence both partners and the broader eco-

nomic context. Second, even when wage shocks are exogenous and only affect wives, they must be large enough to induce some women to begin earning more or less than their husbands. Third, a well-powered test for a discontinuity in labor supply requires the researcher to observe many job choices with wage offers close to the husbands' incomes. Fourth, researchers should ideally measure attitudes to confirm that any labor supply discontinuity arises from norms, not other constraints, such as negative non-wage amenities of the job—if norms matter, the drop should be relatively more pronounced in conservative households. Finally, identifying the mechanisms through which these norms operate requires detailed data at the point at which a given decision is made, for example, before or after bargaining with the husband. These challenges make it difficult to estimate the causal effect of breadwinner norms in many observational and experimental settings.

To overcome these challenges, we conduct a field experiment in partnership with a large vocational training provider in India. Our experimental setting allows us to observe 171 married women's labor supply decisions over approximately 5,000 high stakes job choices with randomized wages. We survey married, female, graduates and their husbands from eight training centers. During the initial survey, we ask husbands to state their income in the presence of their wives to establish a reference point for the breadwinning norm. We then ask participants whether they would be interested in new placement opportunities being offered by the vocational training provider. If they are interested in this opportunity, we present participants with 40 job offers and truthfully inform them that some of the opportunities are for real jobs, already secured by the training provider, and that some are hypothetical. We randomize the wage offer on the hypothetical jobs to be above or below the husband's stated income, and ask them which of the jobs they would like to apply to. Importantly, participants are not told which jobs are real and which jobs are hypothetical, so each choice is in expectation a high stakes labor market decision. This design effectively allows us to estimate labor supply for real jobs. We use an incentive compatible mechanism to assign participants to jobs based on their preferences by randomly implementing one of their choices for the reals jobs. We charge them a 150-rupee (\$7.5 PPP) placement fee if they apply to the randomly implemented job to further incentivize accurate preference elicitation.<sup>1</sup>

A few days later, we follow up with participants to allow them to reconsider choices after discussing them with their families.<sup>2</sup> This step helps capture the influence of husbands or other members if they have not already internalized their preferences. In a final survey, we measure gender attitudes to test whether labor supply discontinuities, if present, are concentrated among households with the strongest adherence to breadwinning norms.

Our findings reveal several key patterns. First, in the cross-section, we replicate previous observational studies: a significant share of married women earn just below their husbands, while few outearn them. Second, our sample exhibits strong adherence to conservative gender norms, with 31% of women reporting that a woman earning more than her husband would create tension.

In stark contrast to observational findings, our experimental results show no evidence that breadwinning norms constrain women's labor market choices. Instead, women's labor supply responds strongly to wages, consistent with standard economic models. A 1 percent increase in wages raises labor supply by 2 percent. In our pre-registered main specification, we detect no discontinuity in labor supply. We can reject negative discontinuities as small as 2 percentage points – considerably smaller than the 30 percentage point discontinuity found in the cross-section (Gupta, 2022).<sup>3</sup> We find no evidence of breadwinning norms using alternative specifications, including testing for a negative labor supply elasticity or calculating a difference in means for wage offers above and below the husband's income – in all our main analyses we find statistically significant upward sloping labor supply estimates. We find similar patterns both in their initial selections and in their final decisions after

<sup>&</sup>lt;sup>1</sup>To ensure the mechanism is incentive compatible, we only charge the fee to participants who are successfully matched to a job. It is possible that multiple participants apply to the one job, in which case we match one of the participants to the job at random and do not deduct the fee for the others.

<sup>&</sup>lt;sup>2</sup>Though we elicit the husbands' preferences in front of the wife in the first survey, we do not ask them to be present for the choices. Given all the choices are made during the initial phone call, women do not have time to discuss the individual decisions with their husbands.

<sup>&</sup>lt;sup>3</sup>We compare the experimental discontinuity estimate to the dip observed in the cross-sectional income share distribution in North Indian states.

reconsidering with their families.

We also examine whether breadwinner effects emerge in subsamples where norms might be strongest: households with conservative gender attitudes (31% of households), those where women practice veiling (76%), and those where husbands have steady wages that can be easily compared to the wife's wage (44%). Across all these groups, we find no evidence of a discontinuity.

Our results suggest that previous observational patterns may either stem from factors unrelated to social norms, such as labor market frictions, assortative matching, or from the norms binding in the marriage market, where couples only marry if the husband is likely to outearn the wife.<sup>4</sup> In ongoing work follow-up work, we randomize salaries on marriage profiles to test for breadwinning norms in the marriage market. From a policy perspective, the null result suggests that wage subsidies targeted at married women are not likely to be undermined by negative social norms—at least with respect to the acceptance of a new position.

This project contributes to the literature on how gender norms shape women's labor market outcomes. Previous studies suggest that norms depress female labor participation (Bursztyn et al., 2020; Folke and Rickne, 2020; Bertrand et al., 2015; Bursztyn et al., 2017). However, empirical evidence on breadwinning norms is mixed. Bertrand et al. (2015) document that many married women in the U.S. earn just below their husbands, attributing this pattern to social norms. Similar patterns emerge in India (Gupta, 2022) and West Germany (Sprengholz, Wieber, and Holst, 2022). Others interpret these patterns differently: Slotwinski and Roth (2020) find similar patterns in Austria and Switzerland, but show that couples in which a woman outearns her husband misreport their incomes to satisfy a breadwinner norm, Binder and Lam (2022) argue that models of assortative mating without norms can explain the empirical evidence, and Zinovyeva and Tverdostup (2021) show that a similar discontinuity in Finland is explained by the income of women rising (toward their husband's)

<sup>&</sup>lt;sup>4</sup>We measure this prior to making any job offers.

when they work at the same firm. To our knowledge, our study provides the first direct experimental test to distinguish these explanations using real labor market decisions.

We also contribute to the literature estimating the labor supply elasticities, particularly of women in countries with low female labor force participation. Estimating this elasticity is critical for assessing the extent to which wage increases can draw women into the labor market. We find a high elasticity of labor to wages even though only 19% of the women in our sample are already working, suggesting that higher wages could play a role in increasing female labor force participation. This echoes the findings in Jensen (2012) and Heath and Mobarak (2015) that labor demand shocks increased employment among young, unmarried, women in rural India and Bangladesh. While these papers show effects for young, unmarried women, we find married women are responsive to wages as well—even when the higher wage would cause them to outearn their husbands. By contrast, Jalota and Ho (2024) and Rajah (2025) find, in two different urban Indian contexts, that women's takeup of parttime work was minimally responsive to wages. While Goldberg (2016) finds that labor supply for day labor is not very responsive to wages in rural Malawi. Our results suggest that the responsiveness of female labor supply to wages may depend on the context, and in particular, whether women have engaged in the labor market before. Standard models of labor supply, which emphasize wage responsiveness, remain relevant for women in lowparticipation settings.

Finally, this project contributes more broadly to the literature on female labor force participation in developing countries. Existing work documents the importance of a wide range of factors including social factors such as norms and social status (Bernhardt et al., 2018; Field et al., 2021; Jayachandran, 2020; Agte and Bernhardt, 2023), marriage markets (Afridi et al., 2023), psychological barriers McKelway (2025), bargaining power (Sharma, 2023), discrimination (Buchmann et al., 2024), and safety concerns (Garlick et al., 2025). Our paper highlights the importance of wages in increasing women's labor supply.

The remainder of this paper proceeds as follows: Section 2 presents cross-sectional ev-

idence, Section 3 our experimental design, Section 4 our empirical strategy, Section 5 the results, Section 6 offers a discussion and our interpretation, and Section 7 concludes.

# 2 Motivation From Cross-Sectional Evidence

An existing empirical literature documents a "missing mass" of couples in which the wife earns more than her husband, consistent with a social norm that husbands "should" be the primary breadwinners (Bertrand et al., 2015; Gupta, 2022). To motivate our experiment, we replicate the analysis in Gupta (2022) in the population where we conduct our study. We use data from three rounds<sup>5</sup> of the National Sample Survey (NSS) which covers 2007-2012. To match the geographical distribution of our experimental sample, we restrict the sample to married couples living in urban areas in Uttar Pradesh, Madhya Pradesh, Jharkhand, and Chhattisgarh<sup>6</sup>. Following Bertrand et al. (2015) and Gupta (2022), we compute the wife's share of total couple earnings and plot the resulting distribution.

Figure 1 plots the distribution of the wife's income share. Consistent with prior work (Bertrand, Kamenica, and Pan 2015; Gupta 2022), there is a pronounced dip in the fraction of couples for whom the wife earns slightly more than half of total income. In other words, while the distribution is relatively smooth from 0 to 50 percent, there is a sharp decline above the 50 percent threshold. Following the main specification in both Bertrand et al. (2015) and Gupta (2022), we include couples who report earning the same amount (share = 0.5) on the left side of the red line. However, as in prior work, Figure 1 suggests a disproportionate number of couples reporting earning exactly the same amount as each other. For robustness, Figure 2 plots the distribution of the wife's income share excluding couples who report earning the same amount as each other. This population still exhibits a 10 percentage point

 $<sup>^5</sup>$ We conduct the analysis using rounds 64, 66, 68 of the Employment-Unemployment module in the National Sample Survey NSS

<sup>&</sup>lt;sup>6</sup>The vocational training centers are located in Lucknow, Prayagraj, Indore, Gorakhpur, Sehore, Ranchi, Vidisha, and Raipur. The jobs available are generally located in the same cities. Women in our sample are generally unwilling to relocate for jobs, so in practice, our sample is women who live in these urban areas. These restrictions substantially restrict the sample size, leaving us with 468 couple-level observations. This generates some choppiness in the distribution.

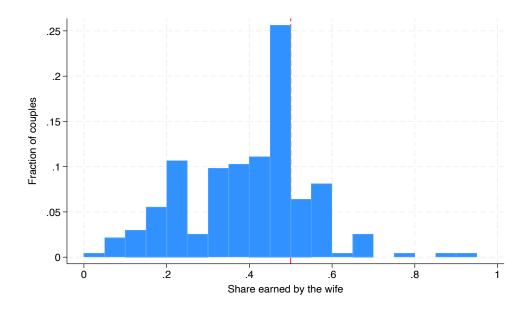


Figure 1: Distribution of the wife's share of income across India.

Notes: Using NSS data we restrict to households where both partners are working. The bars show the fraction of households within 0.05 relative income bins. The red line shows a relative income share of 0.5.

decline in the share of couples at share = 0.5. This suggests our sample of urban couples in north Indian states where wives work is an appropriate setting in which to study the determinants of this cross-sectional pattern.

# 3 Research Design

# 3.1 Setting

We implement the experiment in partnership with Pratham, an NGO providing education and training services in India. One of Pratham's major programs involves providing vocational training to young men and women aged 18-25. Their programs offer full-time two-month training across a range of sectors, including healthcare, beauty, hospitality, electrical, automotive, and plumbing. Their programs help to place participants in jobs at the end of the training program. We identify women who graduated from the vocational training program in healthcare across the states of Uttar Pradesh, Madhya Pradesh, Jharkhand, and

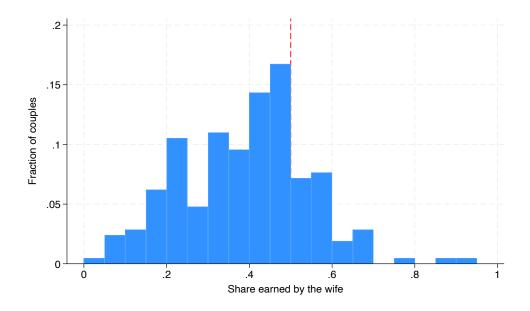


Figure 2: Distribution of the wife's income share excluding a 50-50 share across India. Notes: Using NSS data we restrict to households where both partners are working. The bars show the fraction of households within 0.05 relative income bins. The red line shows a relative income share of 0.5.

#### Chhattisgarh.

Our population of Pratham's healthcare training alumni in urban North India provides several unique advantages for rigorously testing breadwinning norms. First, because participants are interested in jobs, it provides a real labor market setting in which we can include randomized wages for jobs that closely mirror actual labor market conditions, rather than relying solely on hypothetical scenarios or temporary, researcher-created job opportunities. Second, healthcare features salaried jobs, with a minimal role for other potential determinants of salary such as negotiation or commission unlike other sectors, for example, the beauty sector. This allows us to control final wages and concentrate them at or near the husband's income, precisely where any discontinuity should appear if breadwinning norms bind. Third, norms around female labor force participation remain conservative in these regions, even by the standards of India. These features let us test whether the breadwinning norm exerts a meaningful influence on women's labor-supply choices in a place they would be prima facie expected.

# 3.2 Study Population

Table A.2 describes our sample demographics. The average age of women in our sample was 27, ninety percent were Hindu, and about half had finished college. Twenty percent of women were working, and by construction, all of their husbands were working. Figure 3 plots the cross-sectional relative income of married couples in our sample who are both already working. Our experimental sample replicates observational result from India, the US, and other countries of a "missing mass" of couples where the woman slightly outearns her husband. Because the sample of couples where both are already working is small, we are not powered to statistically test for the existence of this missing mass.

# 3.3 Experimental Design

We designed our experiment to test for breadwinning norms in the labor supply decisions of married women. Specifically, our design allows us to test whether the salary of a job relative to her husband's income affects whether the wife applies for a job. We offer women the opportunity to apply for jobs, randomizing the wage of each job to be in the vicinity of the husband's income. Our setting allows us to offer real job opportunities to women who are interested in and eligible for jobs.

The main test of the hypothesis comes from the salaries being randomized within-person across job opportunities. We also exogenously vary the involvement of the husband by randomizing whether we send the participant's initial choices to just the participant or to both the participant and her husband. This is intended to shed light on the mechanism behind breadwinning norms, and whether they emerge when the wife applies to jobs or after discussing them with her husband.

#### 3.4 Survey Details

The participants are surveyed three times over the phone. In the first survey, we elicit the husband's income and elicit initial interest in job opportunities with randomized wages. In the second survey, we re-elicit interest in jobs after participants are given time to think about their choices and potentially discuss with their husbands. In the third survey, we measure gender attitudes and tell participants their placement outcome.

Survey 1: In the first part of the survey, we measure the husband's income. We intentionally design the survey to make the husband's income salient during the survey. We ask the husband to join the surveyor and his wife and elicit his income in front of his wife. Later, his wife is asked to confirm his income. This provides a salient measure of the husband's income commonly known to the researcher and the participant. We subsequently randomize wages on job offers around this number. We also ask about variability in husband's income, as variable income may make breadwinning norms less salient.

Next, we provide the participant with the opportunity to apply for jobs. They are provided with 40 job opportunities. The jobs are a mix of real jobs (secured by Pratham) and hypothetical jobs, which participants are truthfully told are similar to the jobs Pratham hopes to secure. We randomize the wages of hypothetical jobs around their husband's income. The surveyor goes through 40 jobs, one by one, and the participant can choose to either apply or not apply to each one. We use an incentive compatible mechanism to elicit participants' preferences. The placement procedure is as follows: After the surveys, we randomly select one job. If the participant was interested in that, they are placed into the job. If not, they are not placed. If multiple individuals are randomly placed into a job, then one of them is randomly selected for actual placement. Thus, it is in their interest to simply consider each job opportunity on its own, and to honestly tell us whether you would

<sup>&</sup>lt;sup>7</sup>To ensure the wages of the hypothetical jobs are realistic, in our pre-analysis plan, we specify that we will drop participants for whom half of husband's wage is more than the highest real job wage, or four times the husband's wage is less than the lowest real job wage (at a given vocational training center). We also rounded wages offers to the nearest 100 rupees. We discuss econometric implications of this in the Empirical Strategy section.

be interested in applying for it. To ensure participants' choices are costly they also pay a placement fee if they are placed into a job: participants receive a 500 rupee voucher for participating, where 150 rupees is deducted if they are placed in a job. Therefore, it is not in their interest to say yes to jobs they would not take.

Finally, the list of jobs chosen is shared via WhatsApp either (1) with the participant or (2) with the participant and her husband. <sup>8</sup> Participants are randomized into (1) or (2). Participants in arm (1) are told they are being given a few days to consider the opportunities more carefully and those in arm (2) are told they are being given a few days to consider the opportunities more carefully and to discuss them with their family. All participants are then given an opportunity to remove any of her selections. This allows participants in (2) to remove any choices before they are shared with her husband.

**Survey 2:** The second phone survey is conducted 1-3 days later. We ask the wife whether she discussed the jobs with her family and who decided which jobs she would apply for. Then, the surveyor goes through each job she expressed interest in, and the participant is asked for each job whether she is still interested in applying.

**Survey 3:** After all participants have completed Survey 2, we run the placement algorithm and administer the final phone survey. In Survey 3, we ask questions about gender attitudes and behaviors and collect additional data on their work history and marriage formation. Finally, we inform the participant of their placement outcome.

# 4 Empirical Strategy

Our pre-registered main specification tests for a discontinuity at the husband's income in the style of the evidence found in Bertrand, Kamenica, and Pan (2015).

$$Applied_{ij} = \alpha \mathbb{1}_{[RelativeWageLevel_{ij}>1]} + f(RelativeWageLevel_{ij}) + \gamma_i + \delta_j + \varepsilon_{ij}$$
 (1)

<sup>&</sup>lt;sup>8</sup>Participants are not informed about this ahead of time, so the treatment creates variation in the extent to which participants may internalize their husband's preferences.

We estimate Equation 1 where i indexes participants and j indexes jobs. RelativeWageLevel is the wage of the job offer minus the husband's wage in levels. The function  $f(RelativeWageLevel_{ij})$  denotes a flexible local linear function of the running variable. In our main pre-registered specification, we estimate this using the optimal bandwidth. The coefficient of interest is  $\alpha$ . Since we round randomized job offers to the nearest 100 rupees (to make them realistic), we induce different treatment probabilities at different values of the husband's income. Our definition of relative wage in this specification allows us to use inverse probability weighting to address this and recover an unbiased estimate of  $\alpha$ . While we preregistered this re-weighting procedure, we also provide estimates without it for completeness and attain similar results.

#### 4.1 Alternative Specifications

Breadwinning norms may not necessarily take the form of a discontinuity, but instead cause a change in labor supply elasticity near or above the husband's income. While the raw data suggests none of the alternative potential forms of the norm are present, we estimate additional pre-specified models. First, we estimate the slope of the woman's labor supply near the husband's income by estimating Equation 2. If there is any noise, for example, from participants' beliefs about their current or future incomes or mismeasurement, one may observe a negative slope around the husband's income rather than a discontinuity.

$$Applied_{ij} = \alpha + \beta RelativeWage_{ij} + \gamma_i + \delta_j + \varepsilon_{ij}$$
(2)

where we restrict the window of interest to be a small band around the husband's income.  $RelativeWage_{ij}$  is defined as the relative wage before any rounding has been performed (i.e. the randomized relative wage). We estimate this equation for  $RelativeWage_{ij} \in [0.8, 1.2]$ , [0.9,1.1], and [0.95,1.05].

Next, we estimate the difference in means on either side of the husband's income.

$$Interested_{ij} = \alpha + \beta WageAboveHusband_{ij} + \gamma_i + \delta_j + \varepsilon_{ij}$$
(3)

where WageAboveHusband = 1 when the offered (rounded) wage exceeds the husband's wage. Table 1 estimates Equation 3 for bandwidths of [-500,500], [-1000, 1000], [-2000, 2000], and [-3000, 3000] around the husband's income.

# 5 Experimental Results

A breadwinning norm may present as (1) a discontinuity, where agents pay a fixed cost if the wife's income exceeds the husbands, (2) as a change in slope, where the cost of violating the norm is increasing in how much the wife's income exceeds the husband or both. For this reason, we nonparametrically plot the choice data to allow for a visual test of breadwinning norms, and we run multiple (pre-registered) specifications testing for both discontinuities and changes in slope. All specifications reject relative income as a determinant of labor supply decisions. We reject the importance of relative income even among subsamples where we ex-ante hypothesized breadwinning norms may be strongest.

# 5.1 Sample

Survey 1 was completed by 171 eligible women, Survey 2 by 155 eligible women, and Survey 3 by 143 eligible women. All the women in our sample completed Pratham's vocational training program for healthcare work. All participants were interested in placement opportunities. 90% say yes to at least one of the job opportunities. While 79% have worked before, only 19% were currently working. This is likely because completing the training program would not have made sense for women who are not interested in ever working, while placement opportunities may be of less interest to women who are currently working. In our sample, 31% agree with the statement that it would cause problems in a marriage if a wife earned more than her husband. This is similar to the national average in WVS. Seventy-three

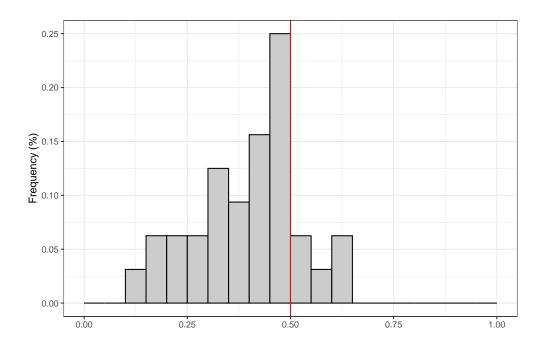


Figure 3: Distribution of the wife's share of income in the experimental sample.

Notes: We restrict to households where both partners are working. The bars show the fraction of households within 0.05 relative income bins. The red line shows a relative income share of 0.5.

percent say their husband or in-laws have more say than they do about their career decision, and all of the women already working say their husband knows exactly how much they earn. Finally, similar to the cross-sectional evidence from Gupta (2022), when we plot the relative income of women who are already working, we find a missing mass of women earning more than their husbands (Figure 3).

# 5.2 Sample Restrictions

In our analysis, we drop participants where the husband's wage is much higher (2 times above highest offer) or much lower (4 times below lowest offer) than the real job offers in their location. For these participants, the randomized wage offers of the hypothetical jobs may have been unrealistically high or low, thus making it obvious to those participants which job offers were real and hypothetical. We pre-registered this sample restriction.

#### 5.3 Non-Parametric Estimation

We begin by plotting the data to provide a visual test of breadwinning norms. Figure 4 a shows a kernel regression of choices against the relative wage (\frac{\text{wage of job offered}}{\text{wage of husband}}). We see no visual evidence of a flattening or decreasing labor supply around the husband's income. Labor supply is monotonically increasing in the wage. Breadwinning norms may take many forms: a discontinuity at the husband's income, a local reduction in slope around the husband's income, or a permanent flattening of the labor supply everywhere near or above the husband's income. The non parametric labor supply curve suggests none of these patterns, but rather a more neoclassical pattern, where labor supply increases in the absolute wage.

#### 5.4 Main Results

We formally test for a discontinuity around the husband's income by estimating Equation 1. Table 1 provides the regression results and Figure 4b plots the regression discontinuity. In general, across specifications, we are able to reject small discontinuities less than a 2 percentage point reduction in labor supply.

# 5.5 Heterogeneity

While we reject small discontinuities in our main specification, these norms may only appear among certain subgroups. To explore this possibility, we estimate our main specification for pre-registered subgroups that may be more likely to exhibit breadwinning norms. We do not find evidence of breadwinning norms in any of the subsamples (Figure 5 and Table A.1). Figure 6 plots coefficients and confidence intervals for these groups along with the discontinuity implied by the cross-sectional evidence. This section describes each cut. The questions about gender norms used in this section were all asked after final job applications were elicited to ensure they did not affect job choices.

World Values Survey question: The World Values Survey asks respondents to what

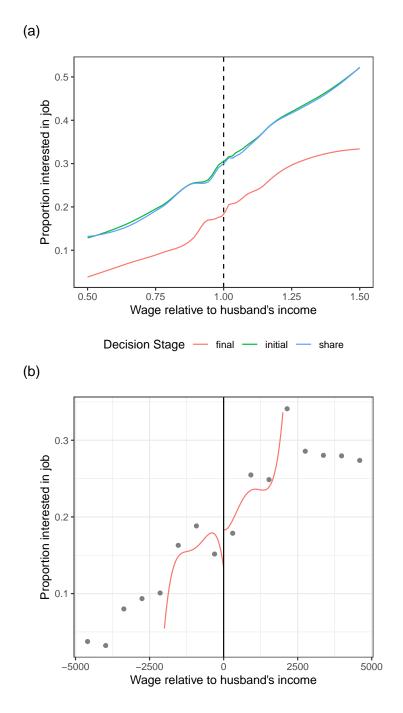


Figure 4: Inverse labor supply curves.

Notes: Panel (a) shows a local linear regression of women's labor supply at a given relative wage offer calculated in percentage terms ( $\frac{\text{Wage offer}}{\text{Husband's income}}$ ). We plot the inverse labor supply curve at three different decision stages: *initial*, their choices the first time they are read the job descriptions; *share*, their choices after being read all the job descriptions, and; *final*, their choices after having time to discuss the jobs with their family. Panel (b) shows a local linear regression of women's labor supply at a given relative wage offer calculated in absolute terms (Wage offer – Husband's income). We plot women's *final* choices and allow for a discontinuity at the husband's income.

Table 1: Estimates of discontinuities and labor supply elasticities near the husband's income.

Panel A: Regression Discontinuity			
2 00101 111 1	[BW = 1000]	[BW = 2000]	[BW = 3000]
RD Estimate	0.0595**	0.0227	0.00261
	(0.0244)	(0.0193)	(0.0179)
	0.014	0.240	0.884
	[0.012, 0.11]	[-0.015, 0.061]	[-0.033, 0.038]
Observations	4834	4834	4774
Panel B	: Difference in M	Ieans	
	[-1000, 1000]	[-2000, 2000]	[-3000, 3000]
Offer above husband's wage	0.0317**	0.0457***	0.0666***
	(0.0142)	(0.0125)	(0.0117)
	0.025	0.000	0.000
	[0.0039, 0.060]	[0.021, 0.070]	[0.044, 0.090]
Constant	0.166***	0.163***	0.156***
	(0.00894)	(0.00801)	(0.00747)
	0.000	0.000	0.000
	[0.15, 0.18]	[0.15, 0.18]	[0.14, 0.17]
Observations	2532	3198	3575
Panel C: Slope			
	[0.95, 1.05]	[0.9, 1.1]	[0.8, 1.2]
Offer relative to husband's wage	0.673**	0.265*	0.375***
0	(0.292)	(0.149)	(0.0819)
	0.021	$0.075^{'}$	0.000
	[0.10, 1.25]	[-0.027, 0.56]	[0.21, 0.54]
Constant	-0.485*	-0.0754	-0.189**
	(0.292)	(0.149)	(0.0816)
	$0.097^{'}$	0.613	0.021
	[-1.06, 0.088]	[-0.37, 0.22]	[-0.35, -0.029]
Observations	2057	2880	3385

Notes: Panel A shows RD estimates of labor supply on relative wages in absolute terms (Wage offer – Husband's income) at the husband's income. Columns (1) (2) and (3) show estimates for bandwidths of 1000, 2000, and 3000 rupees above or below the husband's income respectively. Panel B shows estimates of changes in labor supply for job offers slightly above the husband's income relative to offers slightly below the husband's income. Columns (1) (2) and (3) show estimates for offers 1000, 2000, and 3000 rupees above or below the husband's income respectively. Panel C shows slope estimates of labor supply on relative wages in percentage terms ( $\frac{\text{Wage offer}}{\text{Husband's income}}$ ) around the husband's income. Columns (1) (2) and (3) show estimates for job offers with 5%, 10% and 20% of the husband's income respectively. In all columns, we display the estimates, robust standard errors(in parentheses), p-values, and confidence intervals (in brackets). \* p < 0.10, \*\*\* p < 0.05, \*\*\*\* p < 0.01

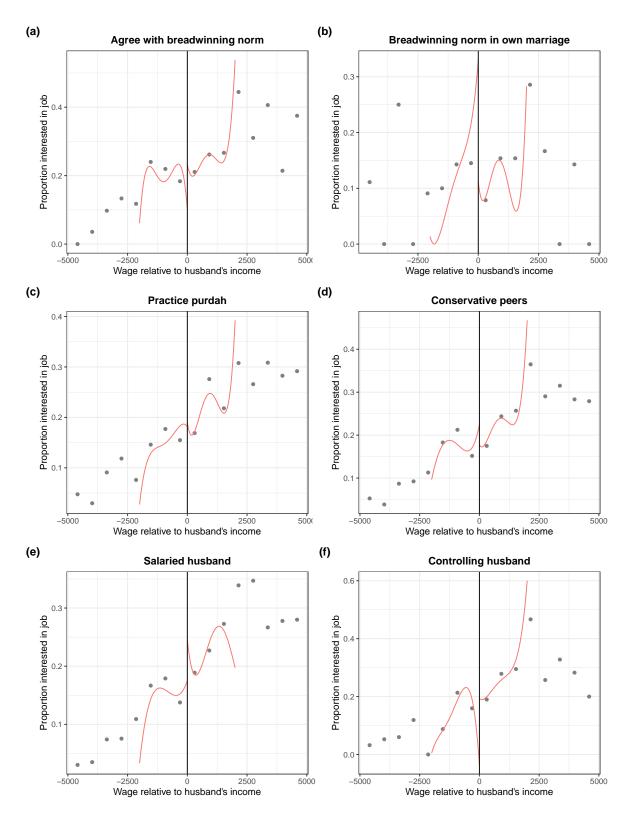


Figure 5: Discontinuity plots for select subsamples.

Notes: The plots show results for subsamples where the impact of breadwinning norms on labor supply may be strongest. We show local linear regressions of women's labor supply against the relative wage offer in absolute terms (Wage offer – Husband's income).

extent they agree with the statement "If a woman earns more money than her husband, it's almost certain to cause problems". In India in 2012, 34.1% of respondents agree or strongly agree with the statement. This has been cited as suggestive evidence of breadwinning norms. In our survey, 31% of respondents agree with the same statement. This subsample may be more likely to exhibit reduced labor supply around the husband's income as they are willing to directly report that they believe earning more than one's husband could cause problems. We are able to reject negative discontinuities larger than 5 percentage points in this group in our preferred specification.

We additionally ask participants "Would it cause problems in your marriage if you earned more money than your husband", and only 9% agree with this statement. In other words, in our sample, most individuals who agree with the statement, do not think it would cause problems in their own marriage. Though it is possible this difference arises from a social desirability bias of wanting to avoid speaking negatively about their own marriage.

World values survey second order beliefs: We ask participants "Of you 10 closest friends and family how many would agree" with the world values survey statement (above). We estimate our main specification on participants who answered above the median (5 or higher). This sample may have more social incentives to avoid earning more than their husbands. We are able to reject negative discontinuities larger than 3 percentage points in this group in our main specification.

**Purdah:** Seventy-six percent of women in our sample practice *purdah*, or veiling. This sample may be more compliant with traditional gender norms. We are able to reject negative discontinuities larger than 3 percentage points in this group in our main specification.

Salaried husband: It may be difficult to compare the earnings of spouses when one or both spouses have variable or unpredictable earnings. The jobs we offer women are all salaried, but their husbands may have variable income making the comparison to the husband's income less salient at exactly the husband's income. In our sample, 44% of husbands have a salaried income. We are able to reject negative discontinuities larger than

4 percentage points in this group in our main specification.

Husbands who will not leave call: Our survey design asks participants' husbands to join the call so we can elicit the husband's salary in front of his wife. After the section where we collect information about the husband's income and work, the surveyor informs him that he is free to leave now. Half of husbands insist on staying on the call (labeled as "controlling husbands"). These may be husbands who care more about monitoring their wife's labor market choices. We are able to reject negative discontinuities larger than 6 percentage points in this group in our main specification.

Those who say it would cause problems in their own marriage: Finally, we estimate our main specification on the 9% of women who say it would cause problems in their marriage if they earned more than their husband. This, of course, may be an underestimate because it may be awkward or uncomfortable to agree with this statement. To some extent this cut may capture those who find the norm more common or expected. This question constrains our sample size substantially, but we are still able to reject negative discontinuities larger than 10 percentage points in this group in our main specification.

# 6 Discussion

Our findings offer evidence that breadwinning norms do not deter married women in our sample from accepting jobs when the offered wage exceeds their husbands' incomes. Even in households traditionally considered most susceptible to breadwinning gender norms—those practicing purdah, those with salaried husbands, or where respondents explicitly endorse the statement that "it causes problems if a wife earns more"—we see no discontinuity in women's labor-supply decisions. Instead, labor supply rises smoothly with wages, consistent with neoclassical predictions of how individuals respond to wages.

We test for breadwinning norms by experimentally varying wage offers around each husband's income: if women indeed face a meaningful "social penalty" for out-earning their

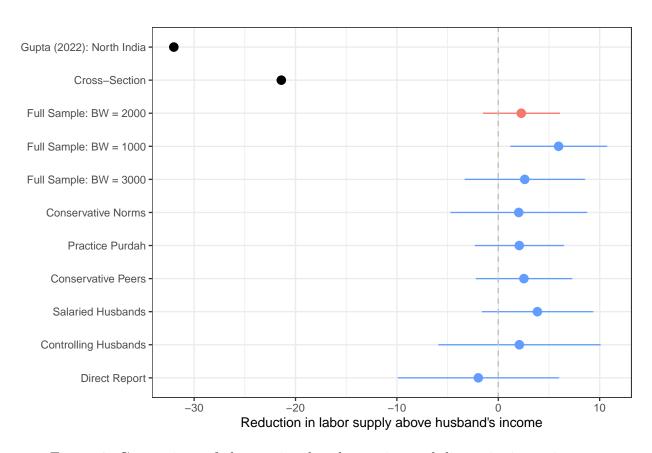


Figure 6: Comparison of observational and experimental discontinuity estimates.

husbands, we should observe a decline in labor-supply participation just above the husband's pay level. Yet our data consistently reject this hypothesis. Even with precise randomization that places many wage offers just above or just below the husband's wage, no discernible discontinuity emerges.

In short, on the margin of job acceptance—i.e., deciding whether or not to take a new job at various wages—breadwinning norms do not appear to meaningfully affect women's labor supply choices in this setting. This null result persists across different functional-form assumptions, bandwidths, and subgroups, suggesting it is not merely a statistical artifact.

One potential explanation for these results is that breadwinning norms are not an important determinant of labor supply decisions for married women in India. There are several additional potential explanations. Breadwinning norms could act before the labor market decision, shaping how couples form in the first place. Women with high wage potential might systematically marry men who earn even more, thereby avoiding conflict. Women may take on additional work to preserve norms within the household. Norms could remain influential in shaping social narratives or dynamics—without affecting the basic decision to accept the higher-paid job. Additionally, these norms could affect a husband's labor supply, motivating him to find higher paying work to maintain a relative income of above 0.5 within the household. Importantly, in any of these cases, breadwinning norms are not constraining women's labor force participation or labor supply. One additional explanation is that norms might emerge later in a job spell—for example, if a woman is offered a promotion or pay raise that would push her above her husband's earnings. If potential intraconflict arises only when the wife surpasses her husband mid-career, we would not observe that channel in this study, but norms would constrain women's labor supply. Finally, even if wives accept offers that exceed their husbands' earnings, they might misreport their pay to friends, family, or even to the husband himself—which is why these norms may appear in low stakes surveys but not in a higher stakes experiment like ours, which involves real job offers.

Our findings speak directly to the labor supply margin of applying for and taking a job.

This is arguably the margin most emphasized in prior breadwinning norm discussions—yet our results suggest that, at least in this context, a large effect does not appear.

By ruling out a major channel of labor market distortion, these results challenge the notion that breadwinning norms necessarily depress married women's willingness to accept higher pay. From a policy perspective, the null result suggests that wage subsidies or wage enhancements targeted at women are not likely to be undermined by negative social norms—at least with respect to acceptance of a new position. Of course, norms may remain relevant for many other dimensions of gender inequality. The mechanisms we cannot rule out—particularly around marital formation, promotions, and private misreporting—are important topics for future research. In ongoing work follow-up, we randomize salaries on marriage profiles to test for breadwinning norms in the marriage market.

# 7 Conclusion

This paper provides the first causal test of breadwinning norms by leveraging experimental variation in job offers to married women in India. While observational studies suggest that women's labor supply exhibits a discontinuity when earnings surpass their husbands', we find no such effect. Instead, labor supply responds smoothly to wages, consistent with standard economic models. Our results hold across subsamples where norms might be expected to bind most strongly—such as households with conservative gender attitudes or those where the husband's income is salaried, providing a clear benchmark for comparison.

These findings challenge the interpretation that these gender norms significantly constrain married women's labor supply and instead suggest that neo-classical market forces may be more important. The discontinuities observed in prior studies may instead reflect selection or assortative matching. More broadly, our results highlight the importance of experimental approaches in disentangling social constraints from market forces. However, our findings do not imply that norms play no role in shaping women's careers. Rather, they suggest that

norms may operate more through other channels including occupational choice or career progression, rather than through immediate labor supply decisions.

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# A Supplementary Tables

Table A.1: Estimates of labor supply discontinuities in select subsamples.

	(1)	(2)	(3)	(4)	(5)	(6)
	Agree with norm	Norm in own marriage	Purdah	Conservative peers	Salaried husband	Controlling husband
RD_Estimate	0.0202	-0.0197	0.0207	0.0253	0.0386	0.00208
	(0.0340)	(0.0407)	(0.0222)	(0.0241)	(0.0278)	(0.0310)
	0.553	0.629	0.350	0.295	0.165	0.946
	[-0.047,0.087]	[-0.099,0.060]	[-0.023,0.064]	[-0.022,0.073]	[-0.016,0.093]	[-0.059,0.063]
Observations	1414	345	3519	2955	2155	1690

Notes: The columns show RD estimates of labor supply on relative wages in absolute terms (Wage offer – Husband's income) at the husband's income using our pre-registered specification. Column (1) restricts to women that agree with the breadwinning norm; column (2) to participants who believe the norm applies in their marriage; column (3) to women who practice purdah; column (4) to participants who report having an above median number of peers who agree with breadwinning norms; column (5) to participants whose husbands have a salaried job; can column (6) to households where the husband refused to leave the call with the wife and surveyor. In all columns, we display the estimates, robust standard errors (in parentheses), p-values, and confidence intervals (in brackets). \* p < 0.10, \*\*\* p < 0.05, \*\*\*\* p < 0.01

Table A.2: Sample characteristics

	Sample mean	SD
Age	26.80	(5.50)
Number of children	1.01	(0.92)
Hindu	0.90	(0.30)
Finished college	0.51	(0.50)
Employed	0.19	(0.39)
Husband's age	30.12	(6.63)
Husband finished college	0.37	(0.48)
Husband employed	1.00	(0.00)
Observations	171	

 $\it Notes:$  The columns show the mean and standard deviation of participants who completed the first survey.

- B Supplementary Material
- B.1 Survey Instrument

# **Demographic Screening**

first_name	
Whats is your first na	ame?
last_name	
What is your last nan	ne?
age	
How old are you?	
city	
In which city/village do	you currently reside?
neighborhood In which neighborhood/	area do you currently reside?
Ç	
	<del></del>
religion	
Which religion do you fo	ollow?
Hindu	
Muslim	
Christian	
Sikh	
Jain	

Buddhist	
Do not belong to a denomination	
Other (specify)	

#### marital

What is your marital status?

Single

Widowed

Separated

Divorced

Live-in relationship with partner (not married)

Married

#### living\_husband

Do you currently live with your husband?

Yes, I am living with my husband

No, I am not living with my husband

#### husband\_often

How often do you speak with your husband?

More than daily

Daily

A few times a week

Weekly

Monthly

Less than once a month

#### marital\_screen

Yes, the information is correct.

#### **Husband Screening**

living with inlaws

Do you currently live with your in-laws?

Yes, I am living with my in-laws

No, I am not living with my in-laws

#### husband\_contact

We need to ask your husband a few questions. Could you ask your husband to join us on the phone/conference call? Could you put the call on speakerphone so we can all speak? Please stay near your phone while we ask questions to your husband so that we can all hear each other.

Husband is there; phone is on speakerphone Husband is on conference call

h\_consent

#### **Husband Consent Form**

Hi,

We are calling from Pratham, as you might remember your wife completed a training program with us.

You are being asked to participate in a research study from the Department of Economics at the M.I.T – a university in the US. We are studying labor markets in India.

This survey is voluntary. You do not have to answer any questions and can stop at any time. The survey should take about 3 minutes to complete.

We do not foresee any major risks to you participating in this survey. However, you might be asked to discuss income information in front of the wife. When the research is published, the data will be posted online but we will make sure to destroy any information that could identify you, including your name and phone number.

Your wife might be compensated for this survey. If you and your wife complete the demographics survey and are eligible for the full survey, your wife will receive a payment/phone recharge worth between 350 and 500 rupees.

If you feel you have been treated unfairly, or you have any questions you may contact the Chairman of the Committee on the Use of Humans as Experimental Subjects at M.I.T by phone on 1-617-253-6787. Do you agree to participate in this study?

Yes, husband agreed to participate No, husband did not agree to participate

#### h\_education

What is your highest level of education attained?

He has not completed primary school

He has completed primary school/5th grade

He has completed 10th grade

He has completed 12th grade

Currently enrolled in diploma/certificate course

Completed diploma/certificate course

He is currently studying undergraduate (Bachelor degree)

He has completed an undergraduate degree (Bachelor degree)

He is currently studying postgraduate (Masters or PhD degree)

He has completed a postgraduate degree (Masters or PhD degree)

#### h\_age

What is your age?

#### h\_employment

Do you currently have any job?

Yes, he has full-time paid employment (30 hours a week or more)

Yes, he has part time paid employment (less than 30 hours a week)

Yes, he has other self-employed work

No, he has no other paid employment but is seeking additional work

No, he has no other paid employment and is not seeking any additional work

# h\_occupation What is your occupation? If you work multiple jobs, please list these. **HUSBAND INCOME** h\_h\_salary\_type What is your total monthly salary in $INR(\mathbb{Z})$ ? They provided a single number for the salary They provided a salary range They refused to provide a number h\_h\_salary\_take\_home Can we just confirm that this is your in-hand salary? Yes, they confirmed they are talking about their in-hand salary No, they initially did not mention their in-hand h\_h\_salary\_single Record the salary h\_h\_salary\_single2 Record the salary again to confirm.

h_h_salary_range	
Record the salary range	
Lower bound of salary range	
Upper bound of salary range	
h_h_salary_range2	
Record the salary range again to confirm.	
Lower bound of salary range	
Upper bound of salary range	
h_h_salary_range_av We require one number for your salary, what is your average monthly salary?	
	_
h_h_salary_range_av2	
Record the salary again to confirm.	
	_
h_h_salary_fixed	
Is your salary the same each month or does it change from month to month?	
Yes, his total salary is the same each month No, his total salary changes from month to month	

What is your WhatsApp number?

....

#### **WIFE INCOME**

#### education

What is the highest educational level that you have attained?

Have not completed primary school

Completed primary school/5th grade

Completed 10th grade

Completed 12th grade

Currently enrolled in diploma/certificate course

Completed diploma/certificate course

Currently studying undergraduate (Bachelor degree)

Completed an undergraduate degree (Bachelor degree)

Currently studying postgraduate (Masters or PhD degree

Completed a postgraduate degree (Masters or PhD degree)

employment
Do you currently have any job?
Yes, full-time paid employment (30 hours a week or more)
Yes, part time paid employment (less than 30 hours a week)
Yes, I have other self employed work
No, I have no other paid employment but am seeking additional work
No, I have no other paid employment and am not seeking any additional work
occupation
What is your occupation? If you work multiple jobs, please list these.
w_w_salary_type What is your total monthly salary in INR(₹)?
They provided a single number for the salary
They provided a salary range
They refused to provide a number
w_w_salary_single  Record the salary
w_w_salary_single2  Record the salary again to confirm.
w_w_salary_range  Record the salary range
Lower bound of salary range
Upper bound of salary range

Record the salary range again to confirm. Lower bound of salary range Upper bound of salary range w\_w\_salary\_ave We require one number for your salary, what is your **average** monthly salary? w\_w\_salary\_fixed Is your salary the same each month or does it change from month to month? Yes, her total salary is the same each month No, her total salary changes from month to month **HUSBAND INCOME CONFIRM** w\_h\_salary\_type Could you remind us what your husband's average monthly salary is? They provided a single number for the salary They provided a salary range They refused to provide a number or don't know w\_h\_salary\_range Record the salary range Lower bound of salary range Upper bound of salary range

w\_w\_salary\_range2

w_h_salary_range_av	
Thanks, we require one number for salary, can you remind us what his monthly	salary is on average?
w_h_salary_range_av2	
Record the salary again to confirm.	
	_
w_h_salary_single	
Record the salary	
w_h_salary_single2	
Record the salary again to confirm	

# **INTERESTED IN JOBS**

interested\_jobs

We have some job opportunities available which we have found through our Pratham placement team. Would you be interested in applying for any of these job opportunities? You will receive a payment/phone recharge of up to 500 INR for your time.

Yes, I am interested No, I am not interested

#### **HYPOTHETICAL DISCLAIMER - WOMEN**

#### **Placement Opportunities**

Pratham is offering post-placement opportunities to trainees who have graduated from the program. I will now tell you about different job opportunities one at a time, and will ask you which jobs you would be interested in applying for. Some of the job ads are similar to the types of job opportunities we hope to secure, and some of the job ads are job opportunities we have already secured. All salaries are non-negotiable, irrespective of prior experience and additional certification or qualifications unless otherwise specified. Some jobs have a training period in which you will be trained during this period and will not receive a salary. Post the training period, the company will evaluate your performance and finalise your paid employment details.

Unfortunately, there are more applicants than available jobs so we cannot offer you every job. Instead, at the end of the week, we will take the list of available jobs that we read to you, and randomly select one of them.

- If you told us that you were interested in this job, Pratham will reach out to you and try their best to place you into the job.
- If you told us you were not interested in this job, Pratham will not consider you for the job

The important thing to remember is that it is in your interest to simply consider each job opportunity on its own, and to honestly tell us whether you would be interested in applying for it.

You will also receive a phone recharge or UPI payment for participating in this survey. The payment will initially start at ₹500. However, if you are selected for one of the jobs you expressed interest in, you will be charged a processing fee of ₹150 and so will only receive a ₹350 voucher. For example, if you indicate you are interested in 10 jobs but are not selected for any of them you will still receive ₹500. If however, you are placed into one of these jobs you will only receive ₹350. Therefore, please consider each job advertisement carefully, and simply express your interests as honestly as possible. You can say yes or no to as many jobs as you would like. After this initial phone survey, we will give you a few days to reconsider any of the jobs you applied for.

take\_home\_reminder

Ok, I am now going to start reading the job description. The salary I will read for each job refers to the in-hand salary.

#### **JOB OFFERS**

#### Read out all 40 job offers to the participant

Job1

```
Do you want to apply for the following job?
jcode
jd
jloc
jsal
jhrs
jben
Yes, I want to apply for this job
```

job1\_conf

Survey Team: Have you noted this job code into the paper survey?

No, I do not want to apply for this job

Yes

#### **FOLLOW-UP**

follow\_up\_time\_share

Thank you for taking the time to complete this first survey. As mentioned, we will call you in 2-3 days to find out which job opportunities you are still interested in after discussing with your family.

Could you let us know the best time to contact you when you will be free?

follow\_up\_time\_no\_sh

Thank you for taking the time to complete this first survey. As mentioned, we will call you in 2-3 days to find out which job opportunities you are still interested in.

Could you let us know the best time to contact you when you will be free?

#### **HUSBAND\_1**

Q331

I will now send you a WhatsApp message with the jobs you have applied for.

#### **HUSBAND\_2**

Q506

These are the jobs you expressed interest in. We will now give you a few days to consider the job opportunities more carefully. All salaries are non-negotiable, irrespective of prior experience and additional certification or qualifications unless otherwise specified. Remember that if you get selected for the job you are applying for, the voucher you get at the end of the survey will be reduced from Rs 500 to Rs 350.

#### **HUSBAND\_3**

drop\_jobs\_wa\_share

We will now give you a few days to consider the jobs opportunities more carefully and to discuss them with your family. We will also WhatsApp the jobs you said you were interested in to your husband. Remember if you are selected for a job you apply for, it will reduce the voucher you get at the end of the survey by 150 INR.

Before we go, can you take a minute to look over the jobs I sent to you on WhatsApp, are there any you would like to remove from the list right now? Once you've done this, we'll send your final selections to your husband.

Yes, I would like to remove jobs from the list No, the list is fine as is

drop\_jobs\_wa\_noshare

We will now give you a few days to consider the jobs opportunities more carefully. Remember if you are selected for a job you apply for, it will reduce the voucher you get at the end of the survey by 150 INR.

Before we go, can you take a minute to look over the jobs I sent to you on WhatsApp, are there any you would like to remove from the list right now?

Yes, I would like to remove jobs from the list No, the list is fine as is

#### **CONCLUSION\_2**

sharing\_uniqueid\_tex

These are the jobs you expressed interest in. We will now give you a few days to consider the job opportunities more carefully. All salaries are non-negotiable, irrespective of prior experience and additional certification or qualifications unless otherwise specified. Remember that if you get selected for the job you are applying for, the voucher you get at the end of the survey will be reduced from Rs 500 to Rs 350.

#### husband\_uniqueid\_tex

We will now give you a few days to consider the jobs opportunities more carefully and discuss them with your family. All salaries are non-negotiable, irrespective of prior experience and additional certification or qualifications unless otherwise specified. Remember that if you get selected for the job you are applying for, the voucher you get at the end of the survey will be reduced from Rs 500 to Rs 350.