



Bringing Work Home: Internet-Mediated Gig Work and Women's Employment

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This paper studies the effects of introducing flexible work arrangements on female labour force participation (FLFP) and gender norms. In a field experiment with 1,670 households in West Bengal, we test whether offering flexible jobs could be a promising strategy for increasing FLFP. We find that flexible work arrangements are effective at increasing women's employment; nearly half of women who are not in the labour force at the beginning of the study take up the most flexible job. By toggling on and off specific dimensions of job flexibility, we find that the ability to multitask with childcare and to work from home are the deciding factors in labour supply for many women, particularly those from more traditional households. In turn, work experience shifts gender attitudes to become less traditional. Lastly, we show that despite the efficacy of flexible work arrangements at increasing women's labour supply, employers may avoid offering job flexibility because of negative worker selection and effects on productivity.

Introduction and Policy Motivation

Labor force participation (LFP) is lower for women than for men nearly everywhere. This is particularly true in India, where the LFP rate was 20.3% for women and 76% for men in 2020 (ILO). Even in the cross-country U-shape of FLFP and income per capita, India is a major outlier (Fletcher et al., 2019). FLFP has stagnated and even declined in recent years, and Covid-19 has likely exacerbated this trend (Deshpande 2020). Many constraints on female labor force participation tie women to the home. In this RCT, we test an array of job opportunities which toggle on and off the ability to mix paid work with household responsibilities. First, we measure to what degree common attributes of work which inflexible -- for example, fixed work shifts -- are binding on the extensive margin of labor supply. Second, we test whether these job opportunities, which offer paid work which caters to current household expectations on the women's time use (what we call "employment at the right level") -- could act as a stepping stone to full-time or outside-the-home employment.

Stubbornly low levels of FLFP have both macroeconomic causes as well as drivers at the household level. At a macro level, FLFP in rural areas is declining. The transition away from a rural agrarian economy has reduced agricultural work, which was a common way for women to participate in economic production near the home. More economic activity has transitioned to urban areas, but FLFP rates in urban areas are even lower than in rural areas. At a micro level, FLFP in India is low for a number of interacting reasons, including limited physical mobility, early marriage and



childbearing, and responsibility for household chores. Social norms and beliefs about women arise from these existing conventions and in turn feed into perpetuating them.

Given that these household responsibilities and norms tie women to the home, bringing flexible opportunities to the home may be an effective way to support labor force entry for women who would otherwise not work for pay. Although Covid-19 has initially lowered FLFP, one silver lining may be a shift towards more flexible work arrangements, which in the long term may allow more women to work (Goldin, 2021). In this experiment, we test whether a flexible array of work opportunities, including at-home jobs – say, “employment at right level” – may be an effective way to support entry into the labor force for women. By creating a practicable stepping stone, at-home opportunities which are less disruptive to existing norms may assist women in the transition from exclusively unpaid, at-home production to the external labor market by offering a way for the household to take multiple smaller steps rather than one large leap in its adjustment to women becoming earning members of the household.

Our evaluation consists of an RCT in Kolkata, West Bengal with approximately 1,600 households. Participating households are randomly assigned into job treatment groups and a control group. The smartphone-based jobs consist of contributing to a Bengali or Hindi dataset by speaking aloud provided sentences, with three different levels of task difficulty. The job treatment groups vary across three dimensions: 1) ability to choose work location, 2) ability to choose work hours, and 3) ability to multitask with childcare. First, we offer jobs and measure the difference in job acceptance for each job variation. Second, we return to a random subset of participants who were originally offered inflexible work arrangements, and we offer them the option to switch to the most flexible job. Third, we implement the month-long jobs. Lastly, at the end of the short-term job, we provide application assistance to further training and work and measure take up as a primary outcome.

Data and Methodology

We undertake three primary activities over the course of the study: (1) recruitment and baseline survey, (2) intervention, and (3) endline survey. The field and research teams implemented these three activities across eight regions in a staggered manner. In total, 1674 households that completed the baseline survey were randomized into one of the treatment or control groups. The baseline survey for women consisted of nine modules: (1) demographics information, (2) preferences regarding work arrangements, (3) digital technology access and use, (4) time use, (5) women’s agency, (6) attitudes about gender, (7) psychological well-being, (8) financial access, and (9) friends and knowledge of others participating in the study. When possible, we also completed a survey with children in the household. Children were eligible to participate if they were between the ages of eight to eighteen, and both they and their mother consented for them to participate. The baseline children’s survey consisted of three modules: (1) aspirations, (2) household behaviours, and (3) gender-related attitudes.

Households were assigned to the control group or one of five work arrangements which varied across three dimensions: 1) the ability to choose work location, 2) the ability to choose work hours, and 3) the ability to multitask with childcare. We were able to implement these five different work arrangements over the course of month-long jobs, as per the original workplan. We implemented these jobs over the course of one month through an Android app called Karya.

The jobs consisted of 1000 tasks per week which were available on the Karya platform. All tasks were speech-related, in either Hindi or Bengali as per the participant's choice. The tasks involved speaking aloud a given sentence, with three different types of tasks. In the easiest task, participants read aloud a sentence on a screen. In one harder task, participants had to read the sentence backwards. In another harder task, participants had to read a short paragraph and read aloud the sentence with a given word. Participants were paid according to the accuracy and quality of their speech recordings.

Results

Our main results fall into three categories: (1) take up of work, (2) selection into and the impacts of different work arrangements, and (3) the impacts of those jobs.

We measure take-up of work in three ways. First, we measure take up of work through the baseline survey, when we ask each participant about each of the five different work arrangements, varying the order in which we ask about them. We ask participants the question, 'would you accept this job if it is offered to you?' and explain that their choice about one job does not affect their probability of receiving any other job. Second our jobs team actually delivers job offers to participants. Each participant is randomly assigned to receive one job offer. We measure whether or not the participant accepts the job. Third we measure whether the participant actually begins work by submitting completed tasks for review.

Here, we find that for 48% of women, flexibility in the ability to multitask with childcare and work from home is the deciding factor in whether or not to work. In terms of which job attributes make a difference, time flexibility is important when we measure job interest at the baseline survey stage, but time flexibility does not make a significant difference once we consider the rates at which women accept job offers or start work. On the other hand, multitasking with childcare and working from home are very important across all three ways of measuring job take up. Removing the ability to multitask with childcare reduces take up by 19pp, even when women can work from home. Similarly, requiring women to work from an office reduces take up even more, by 33pp.

On the selection margin, we find that holding constant the job arrangement, women who are willing to work in inflexible arrangements – such as requiring showing up in person – have higher on-the-job productivity, suggesting that one reason employers might choose to offer office-based work is to

screen for the most productive workers. For this, we compare (1) participants who were initially offered and accepted the most flexible job with (2) participants who were initially offered and accepted an inflexible job but were randomly selected for an upgrade. This tells us how workers who are willing to work under inflexible conditions compare to workers who are only willing to work when the job is fully flexible.

To estimate the treatment effects of flexibility, we hold constant acceptance of the initial job offer and compare participants who were upgraded to those who were not. For example, we look at the participants who were initially offered and accepted the office-based job and then we compare those who were randomly selected for an upgrade to those who were not. Here, we find the allowing women to work from home greatly decreases the rate of no-shows (i.e. the fraction of people who accept the job but never begin) and attrition, which are often concerns for employers in this context. Only 45% of participants who accepted the office-based job ever show up at the office, as compared to 78% of those who are upgraded to be able to work-from-home.

Lastly, in our third set of results, when estimating the impacts of work, we find that work moves gender attitudes to become more progressive – by about 0.1 SDs, and this effect is concentrated on the more conservative women at baseline. We do not find impacts of work on agency or well-being. In terms of the impacts on interest in future work, we find that both the treatment and control groups have much higher take up of work at endline than the treatment group had during the initial intervention. We also have suggestive evidence that flexibility is less important to job take-up for the treatment group than the control group at endline, which is consistent with the finding that work makes gender attitudes more progressive and that flexibility is less important to more progressive households.

Policy Implication

One policy implication of these findings is that offering flexible work arrangements could be an excellent strategy for the recruitment and retention of female workers. If firms have work that can be paid piece rate, and that could be completed from home, then it could be in the firm's best interest to allow workers to work from home, as this increases the number of potential workers they could access, and workers who can work from home are more likely to complete their work assignments than workers who are required to come to the office. Given that workers who have some work-from-home experience with a firm are more likely to then accept office-based jobs at the firm, employers might even be able to offer home-based training which would lead to office-based work. This could allow employers to tap a larger potential workforce while the training period could allow them to screen for the most competent workers.

Next Steps

One limitation of the study is the inability to look at whether part-time, at-home work could act as a stepping stone to *full-time* work. If it is most effective to offer jobs which are incrementally more demanding on women's time use and attention, then there is likely too large a leap between the jobs involved in our study and the jobs currently available to women outside the study. The gap between where participants were left at the end of the study and widely available job opportunities is likely too large to easily bridge without further policy interventions.

Additionally, testing whether increased interest in work (in both the control and treatment groups) is due to greater interest in jobs with the specific employer or greater interest in jobs more generally, can be researched moving forward. If one reason that households are hesitant for women to work is concerns about safety, or general trustworthiness of the employer, then offering at-home work could be an effective starting point because it is lower risk. Once all members of the household see that the employer is offering work which seems appropriate, that their managers seem to be trustworthy, and that payments are arriving as promised, then women might be more likely to take office-based work with that same employer. Because all of the jobs are associated with the Calcutta Foundation, we cannot test this hypothesis.

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