# Access to Finance and Women's Employment: Evidence from Self-Help Groups in Rural India 

Vaishnavi Surendra*<br>Preliminary and Incomplete. Please do not circulate.

March 22, 2023


#### Abstract

This paper relies on the randomized roll-out of a women's self-help group lending program in rural Bihar, India to evaluate its impact on women's market labor supply. I find that the impact differs starkly by caste - women from disadvantaged caste groups reduced their participation in agricultural wage labor; while those from privileged caste groups increase their participation in self-employment. These findings suggest that better access to finance reduces the need to sell labor to smooth income; but allows women to participate in more 'suitable' occupations.


[^0]
## 1 Introduction

Gender gaps in the labor market are prevalent around the world, and women participate in the labor force at two-thirds the rate that men do (World Bank, 2019a, 2019b). ${ }^{1}$ Women's participation in the labor force also varies widely - empirically, there is a 'U-shaped' relationship between a country's GDP per capita and its female labor force participation rate (Boserup, 1970; Durand, 1975; Goldin, 1995; Heath \& Jayachandran, 2018; Mammen \& Paxson, 2000). ${ }^{2}$ Both the lower labor force participation of women relative to men, and the variation in women's participation rates, have been attributed to a lack of suitable opportunities, social norms, discrimination, more responsibilities at home and in care-work, and psychological constraints (Altonji \& Blank, 1999; Goldin, 1995; Mammen \& Paxson, 2000; McKelway, 2019). Even so, India appears to be an outlier - with lower female labor force participation rates than other countries at similar income levels (Fletcher et al., 2017), and lower than most of its South Asian neighbors (World Bank, 2019a). In fact, female labor force participation rates in India have seen a decline since 2005 (World Bank, 2019a), despite nearly a third of married women not in the labor force expressing an interest in working (Field, Pande, Rigol, Schaner, \& Moore, 2019).

This paper examines the role that financial access, in the context of women's empowerment, plays in labor supply decisions. Patriarchal norms in India have historically led to restrictions on women's activities (Srinivas, 1956) - particularly, participation in market-based work. The extent to which such restrictions exist varies across the country; and within a region, women's labor supply is higher at the lower end of caste and wealth hierarchies (Eswaran, Ramaswami, \& Wadhwa, 2013). In this context, not only does direct access to finance (both savings and credit) allow women to accumulate resources themselves, but it also has the potential to empower them, and enable more autonomy in decision-making. With this dual-purpose, access to finance could impact women differentially across existing hierarchies. On the one hand, women who did not previously participate in market-work might accumulate resources and/or autonomy, enabling a foray into employment; while on the other, with additional resources, women who already did participate in the labor force as a coping strategy, might no longer need to.

[^1]To evaluate the impact that access to finance has on women's labor supply, I exploit the randomized roll-out of the second phase of the Bihar Rural Livelihoods Mission, or Jeevika - a self-help group (SHG) program implemented by the government of the Indian state of Bihar. Jeevika was rolled-out in seven districts during this phase, and 180 panchayats ${ }^{3}$ were randomly selected to be part of the evaluation (Hoffmann, Rao, Surendra, \& Datta, 2021). Half of these were randomized into an early roll-out (or treatment) group, while the other half were in the late roll-out group, which was to receive access to the program after the evaluation concluded; and a total of 8,988 households were surveyed. The 'treatment' involved encouraging women to form or join self-help groups, through which they could engage in weekly savings and gain access to loans at much lower rates than the prevailing informal market interest rates. ${ }^{4}$ In addition, women in SHGs were led through a curriculum on basic literacy, numeracy and women's empowerment.

This analysis presents three sets of findings, building on Hoffmann et al. (2021) - where the authors highlight the impact that Jeevika has had on the informal credit market. First, since it is women who primarily access program benefits, one might expect corresponding improvements in measures of women's empowerment. However, this does not appear to be the case. While only few women in the study sample had the most say in decision making relating to borrowing and labor force participation, a large number already had some say; and the program does not impact these measures. Women in treatment areas are, however, 12.4 percentage points more likely to be able to sign their names, and 3 percentage points more likely to read signs.

Second, the program had mixed effects on labor supply. Women from privileged caste households in treatment areas were 8 percent more likely to participate in the labor force. ${ }^{5}$ This represents a modest increase in labor force participation for these women, and appears to have been driven by an increase in self-employment and salaried work. Among marginalized (i.e., Dalit and Adivasi) households, on the other hand, both men and women reduce their labor force participation - specifically in agricultural labor, where 12 percent fewer men and 7 percent fewer women participated in

[^2]treatment villages when compared to control villages. ${ }^{6,7}$ Correlational evidence indicates that the decline in participation in agricultural labor is larger for households that increased their savings, while the increase in self-employment is larger for households which borrowed from SHGs. Finally, accompanying the decline in agricultural labor supply was a 17 percent increase in agricultural labor wages for men and a 12 percent increase for women.

These results contribute to three main strands of literature. First, this paper provides experimental evidence on the impact of SHG based credit interventions on labor market outcomes. Government-led SHG programs have had varying degrees of success, and differential impacts on household outcomes. SHG programs with a credit component have significantly lowered households' high-cost debt (Datta, 2015; Hoffmann et al., 2021; Khanna, Kochhar, \& Palaniswamy, 2015), and even lowered interest rates in informal credit markets (Hoffmann et al., 2021). Households participating in such programs have seen improved food security and nutrition (Datta, 2015; Deininger \& Liu, 2013), increased participation in skilled employment (Khanna et al., 2015), improvements in asset holdings (Datta, 2015; Khanna et al., 2015) and increased women's participation in household decisions and civic life (Desai \& Joshi, 2014). Most studies that look at these outcomes, however, find no impact on household incomes or consumption.

SHG-interventions often involve savings and credit components, and in this respect, their functioning is similar to that of many microfinance institutions (MFIs). In India, in particular, MFIs often employ a self-help group structure to implement their lending initiatives. This paper also contributes to the vast literature on the impacts of access to group-based lending (Angelucci, Karlan, \& Zinman, 2015; Attanasio, Augsburg, de Haas, Fitzsimons, \& Harmgart, 2015; Augsburg, Haas, Harmgart, \& Meghir, 2015; Banerjee, Duflo, Glennerster, \& Kinnan, 2015; Crépon, Devoto, Duflo, \& Parienté, 2015; Karlan, Savonitto, Thuysbaert, \& Udry, 2017; Ksoll, Lilleør, Lønborg, \& Rasmussen, 2016; Tarozzi, Desai, \& Johnson, 2015). Broadly, access to microfinance leads to large increases in the take-up of credit, but has limited impacts on welfare in the short to medium run on average, with effects varying by the type of household (Banerjee, Karlan, \& Zinman, 2015;

[^3]Meager, 2019). While some evidence points to an increase in women's empowerment (Karlan et al., 2017), other evaluations find no such evidence (Banerjee, Duflo, et al., 2015); and in some cases, households see shifts to self-employment and improvements in business outcomes (Attanasio et al., 2015; Augsburg et al., 2015; Banerjee, Duflo, et al., 2015; Crépon et al., 2015; Karlan et al., 2017). However, household income and overall consumption are not typically affected. This paper focuses on a rural program that specifically targets women from disadvantaged groups, and adds to this body of evidence by demonstrating that access to credit and savings potentially has differential labor market impacts across household types. In addition, the finding that women from privileged households increase participation in self-employment complements similar findings in urban Indian contexts (Banerjee, Duflo, et al., 2015).

Second, this paper contributes to the extensive evidence on the determinants of women's participation in market-based work. Women's work is often linked to social norms, and women's empowerment. In contexts where women's labor force participation is low, existing evidence suggests that social norms dictate men's willingness to let their wives join the labor force (Bernhardt et al., 2018; Bursztyn, González, \& Yanagizawa-Drott, 2018), and when men's beliefs are revised, their willingness increases (Bursztyn et al., 2018). Women also increase their labor supply when they are empowered - either when they are able to exert more control over earned income (Field et al., 2019), unearned income (Heath \& Tan, n.d.) or resources in general (Almas, Armand, Attanasio, \& Carneiro, 2018). They also do so when their generalized self-efficacy increases, or when external constraints decrease (McKelway, 2019). An increase in suitable labor market opportunities also increases women's labor supply, and in the longer run delays marriage and causes women to want fewer children (Jensen, 2012). Here, I focus on the link between access to finance and employment; as well as access to finance and empowerment - though empowerment does not appear to intermediate labor market impacts in the time-span considered.

Finally, this paper contributes to the literature on the relationship between income risk and labor supply in rural households. Rural households in developing countries that face more risk are more likely to participate in labor markets (Ito \& Kurosaki, 2009; Rose, 2001); and use labor supply to smooth consumption when savings or credit alone are unable to do so (Fink, Jack, \& Masiye, 2014; Kochar, 1999). On the one hand, a lack of credit leads to more inelastic labor supply and exacerbates productivity risk (Jayachandran, 2006); and on the other hand reductions in credit
could reduce labor demand and hence employment (Breza \& Kinnan, 2018). Closely related to the analysis in this paper, Fink et al. (2014) find that when households randomly received credit, they sell less off-farm labor, consume more, and local farming wages increase; while Dupas, Robinson, and Saavedra (2019) find that when workers have greater cash needs, they work more. Adding to this, I find that both women and men from disadvantaged households reduce agricultural labor supply when they have improved access to credit and savings, suggesting that labor supply continues to play a role in household coping strategies.

## 2 Background

### 2.1 Setting

Women's labor force participation in India has been on the decline since 2005 (World Bank, 2019a, , Figure 1) despite steady economic growth. For women in India, participation in marketbased work appears to be driven by push factors at lower levels of education, ${ }^{8}$ and pull factors at the higher end (Andres, Dasgupta, Joseph, Abraham, \& Correia, 2017; Klasen \& Pieters, 2012). At the lower end of this spectrum in rural areas, employment is driven by necessity, and is primarily in the farm sector. A collapse in farm jobs, with no suitable alternatives is one factor driving the decline in women's labor force participation (Chatterjee, Murgai, \& Rama, 2015). At the same time, there have also been increases in men's incomes, and in women's education levels, leading women to drop out of market-based work (Agarwal, 2017; Andres et al., 2017; Bhargava, 2018) — possibly due to a rise in more educated women's returns to home production, relative to their returns in the labor market (Afridi, Dinkelman, \& Mahajan, 2016). At the other end of the spectrum, many women not in the labor force would like to work, but have trouble matching with suitable opportunities (Fletcher, Pande, \& Moore, 2017).

At present, India has amongst the lowest female labor force participation rates in the world ${ }^{9}$ lower than all its South Asian neighbors. In 2011-12, ${ }^{10}$ India's rural female labor force participation rate was 28.8 percent (NSS, 2012), but this varied widely across the country - with Bihar having

[^4]a rate of 6 percent. ${ }^{11}$ In addition, while 35.5 percent of rural women belonging to historically disadvantaged scheduled castes or scheduled tribes participated in the labor force, only 25.8 percent of women from other caste groups participated. Women from disadvantaged groups were less educated, more likely to work in agriculture, and their households were less likely to own land. Women from more privileged groups, on the other hand, tended to work in non-farm or salaried jobs if they worked at all (NSS, 2012). Overall, around 22 percent of the Indian population lived below the poverty line and the national literacy rate was 74.04 percent. Bihar fared worse than the national average on both measures, with the lowest literacy rate of all states in India, ${ }^{12}$ and a third of its population - a total of 32 million individuals - living below the poverty line (World Bank, 2017).

### 2.2 SHG Interventions

Self-help group based provision of credit has been part of poverty reduction strategies in Afghanistan, Bangladesh, and Sri Lanka (Hoffmann et al., 2021); and began in India in the early 1990s. This strategy was adopted by India's Ministry of Rural Development, and implemented in various states. In Bihar, this was through the Bihar Rural Livelihoods Mission or 'Jeevika', which was designed to target women in rural poor households, and build their social capital, leverage credit from formal financial institutions, and increase local capacity (World Bank, 2017).

## 3 Experimental Design

### 3.1 Sample and Randomization

In 2006, the first phase of Jeevika was launched in six high poverty districts in Bihar (World Bank, 2017). ${ }^{13}$ Following the success of the first phase, the program was to expand to 60 additional blocks in these and other districts ${ }^{14}$ in the second phase in 2012 (Figure 2), aiming to reach a cumulative total of 150 million women (World Bank, 2017). The roll-out of this phase was

[^5]randomized across 180 panchayats in 16 blocks of the 7 districts, with one or two villages in each study panchayat randomly selected for data collection. Primary impacts of this second phase roll-out are evaluated in Hoffmann et al. (2021).

Sampling of Dalit/Adivasi (SC/ST) and non-Dalit/Adivasi (non-SC/ST) households was stratified, with the sample in each village comprising 70 percent Dalit/Adivasi and 30 percent nonDalit/Adivasi households. ${ }^{15}$ In each sampled village, tolas (or hamlets) where Dalit/Adivasi households formed a majority were identified through focus group discussions, and households were selected following a random walk. If the target for Dalit/Adivasi households was not met in that particular tola, the remaining Dalit/Adivasi households were selected from other tolas. This strategy was employed to mirror Jeevika's strategy "for identifying the target population of poor women for recruitment" (Hoffmann et al., 2021). The baseline survey was conducted between July and October, 2011, and a total of 8988 households were surveyed across 333 villages. Randomization of panchayats into early and late roll-out groups was stratified by block and the mean outstanding high-cost debt ${ }^{16}$ at the panchayat level in 2011.

### 3.2 Jeevika

Once a panchayat had access to Jeevika, women were mobilized to form self-help groups (SHGs) of between 10 and 15 women. SHGs were federated into village organizations (VOs), which were in turn federated into larger cluster-level federations (CLFs). SHGs held weekly meetings, and members were led through a curriculum on women's empowerment, basic literacy and numeracy (Hoffmann et al., 2021). Members were encouraged to save, and had to save a minimum of ₹2 (0.04 USD) per week in a personal savings account held by the group. Once women consistently saved with the SHG for approximately 3 months, SHGs became eligible to borrow up to ₹ 50,000 ( $1,073 \mathrm{USD}$ ) from the VO they were a part of, at 1 percent per month. Members of each SHG were collectively liable for these VO loans. ${ }^{17}$ Individual members of the SHGs could borrow from their

[^6]group's corpus of funds at 2 percent per month. ${ }^{18,19}$ Access to Jeevika was rolled out in treatment panchayats between January and April in 2012, and the endline survey was conducted between July and September, 2014.

### 3.3 Data

Data are from a household level survey, a women's survey administered to one woman in each household, a general village level survey, and a women's village level survey - at the baseline (in 2011) and endline (in 2014). Relevant to this paper, household surveys collected data on participation in self-help groups, household debt, individual member livelihoods, assets and consumption; women's surveys collected data on women's decision making, and aspirations for their daughters; and village surveys collected data on village level casual labor wages. ${ }^{20}$

### 3.4 Baseline Characteristics and Balance

The phase of Jeevika analyzed here targeted some of the poorest parts of Bihar. As seen in Table 8, around a third of households belonged to historically disadvantaged scheduled castes or scheduled tribes (i.e., Dalits or Adivasis). The other two-thirds also include the extremely backward castes, and other backward castes, apart from the most privileged caste groups. Around 45 percent of households owned any land; and Dalit/Adivasi households were less likely to do so (Table 1). Only 17 percent of Dalit/Adivasi households owned any land, as opposed to 58 percent of other households. In an environment of limited overall material prosperity, Dalit/Adivasi households held fewer assets, and consumed less. On average, in 2011, a household belonging to this disadvantaged group had a monthly consumption per adult equivalent of ₹100 less than more privileged households, for whom this was ₹ 830 - this amounted to $\$ 15.5$ for Dalit/Adivasi households, compared to $\$ 17.7$ for other households in 2011. While this region also had a high level of indebtedness in 2011, Dalit / Adivasi households were 4 percentage points more likely to have debt, had more loans per household, and faced higher interest rates ( 65.9 percent per year, as opposed to 58.44 percent per year). These households, however, had lower outstanding debt - $\$ 84.68$ lower than other

[^7]households. ${ }^{21}$
When it comes to women's standing in their households, Table 1 demonstrates that most women in the study sample already participated in decision-making to some extent to begin with - over three-fourths of women had a say in decisions about their labor supply, and over 85 percent of women had a say in decisions dealing with household borrowing. In both cases, this was higher for women from households belonging to scheduled castes or scheduled tribes than for other households. In addition, while over two-thirds of women preferred that their daughters participate in marketbased work, this was lower for women from Dalit/Adivasi households. For women who did want their daughters to work, very few were opposed to their working after marriage.

Table 2 looks at market based work across castes. Since the study sample consists of poorer households, we see that almost 63 percent of women between the ages of 15 and 70 work for some part of a year. This number is much higher than estimates from the National Sample Survey in 2011-12 for these districts in Bihar. ${ }^{22}$ There are two possible reasons for this - first, sample villages have a higher proportion of poor households, since Jeevika targets poor households; second, the definition of labor force participation in the NSS survey requires that an individual be engaged in work for most of the year, while this survey requires that an individual be engaged in work for any part of the year. However, women from scheduled caste or scheduled tribe households are 21 percentage points more likely to participate in the labor force than women from other households.

Very few women ever work outside the village, or in animal husbandry, self-employment, nonagricultural labor, salaried work. But, when compared, women from Dalit/Adivasi households are more likely to work outside the village or participate in non-agricultural labor than their counterparts from other households. Most women work in the farm sector, and of them, more women from Dalit/Adivasi households are engaged in agricultural labor rather than cultivation (60 percent versus 23 percent), while women from other households were more likely to be engaged in cultivation than agricultural labor ( 30 percent versus 23 percent).

Overall, 88 percent of men between the ages of 15 and 70 participate in the labor force. ${ }^{23}$ Men work in all occupations at higher rates than women do; and around half of all men work outside

[^8]the village. While men from Dalit/Adivasi households are more likely than their counterparts from other households to be working outside the village, similar to patterns for women, they are less likely to be engaged in self-employment, salaried work or cultivation.

To make sure that the program's randomization strategy resulted in comparable treatment and control groups, I compute normalized differences (Imbens \& Rubin, 2015) for each variable. ${ }^{24}$ These are presented in Table 8 along with randomization inference p-values ${ }^{25}$ (Fisher, 1935; Rosenbaum, 2002) for all normalized differences. While we do see imbalance at baseline in certain outcomes of interest, reassuringly, none of the normalized differences exceed the 0.25 cut-off, above which linear regression methods are sensitive to specifications (Imbens \& Wooldridge, 2009). To check robustness, I also present results from simple difference and difference-in-differences specifications in Appendix B.3; and unweighted results in Appendix B.4. ${ }^{26}$

## 4 Empirical Strategy

The primary evaluation of the randomized roll-out of Jeevika's second phase is presented in Hoffmann et al. (2021); and I follow the same empirical strategy. ${ }^{27}$ Hoffmann et al. (2021) focus on the impacts of Jeevika on household credit, consumption and asset holdings, on the informal credit market, and on women's empowerment. In this paper, I estimate the following ANCOVA specifications to test the intent-to-treat impact of the program on labor market outcomes:

$$
\begin{align*}
& Y_{h, v, p, 2014}=\beta_{0}+\beta_{1} \mathbb{J} \mathbb{E} \mathbb{V} \mathbb{I} \mathbb{K}_{p}+\beta_{2} Y_{h, v, p, 2011}+\rho X_{h, v, p}+\mu_{s}+\varepsilon_{h, v, p}  \tag{1}\\
& Y_{i, h, v, p, 2014}=\beta_{0}+\beta_{1} \mathbb{J} \mathbb{E} \mathbb{E} \mathbb{V} \mathbb{K} \mathbb{A}_{p}+\beta_{2} Y_{h, v, p, 2011}+\rho X_{h, v, p}+\mu_{s}+\varepsilon_{h, v, p} \tag{2}
\end{align*}
$$

Here, an observation is either at the household level, $h$, or individual-level, $i, h$, in a village $v$, in panchayat, p. $Y_{i, h, v, p, 2014}$ or $Y_{h, v, p, 2014}$ is the outcome of interest for a household or individual,

[^9]while $Y_{i, h, v, p, 2011}$ or $Y_{h, v, p, 2011}$ is the value of the outcome of interest at the baseline; $\mathbb{J E} \mathbb{E} \mathbb{V} \mathbb{K} \mathbb{A}_{p}$ is an indicator for the random assignment of the panchayat to the early-rollout group; $\mu_{s}$ is a vector of strata dummies; and $X_{h, v, p}$ is a set of baseline covariates, specified in the project's pre-analysis plan. ${ }^{28}$

Since sampling of households was stratified by caste, I follow Hoffmann et al. (2021), and use inverse probability of sampling weights for each household within a caste-group, re-weighted to sum to one at the village level in order to re-constitute the caste composition of a village. Analyses on the entire sample are thus weighted to represent the average impact in a village. Sub-sample analyses for each caste-group, on the other hand, are unweighted. Huber-White clustering of standard errors at the panchayat level is employed in all household-level specifications; and two-way clustering (at the household and panchayat levels) is employed for outcomes at the individual-level. ${ }^{29}$

## 5 Effects of Jeevika

### 5.1 Program take-up, savings and credit

I begin by looking at the first-order effects of access to Jeevika on program take up, savings, household debt, and borrowing in Table 3 (and Table 16). As described extensively in Hoffmann et al. (2021), two years after the program rolled-out in treatment areas, treated households were 46 percentage points more likely to have a member in a self-help group than control households, where 8.24 percent of households had SHG members (column 1, panel A, Table 3). This effect was more pronounced for Dalit/Adivasi households (column 1, panel C, Table 3), for whom the treatment effect was 54 percentage points, as opposed to other households, for whom the effect was 44 percentage points (column 1, panel B, Table 3). This demonstrates the success of Jeevika's recruitment process, which targeted poor women, particularly those from Dalit/Adivasi households. Correspondingly, 30 percent of households overall, and 39 percent of Dalit/Adivasi households, in treated areas borrowed from self-help groups (column 2).

With access to Jeevika, more households accumulated savings (column 2, Table 3), with this

[^10]effect, again, being more pronounced for Dalit/Adivasi households. Overall, 73 percent of households in treated sample villages had savings at the endline, as opposed to 47 percent of households in control villages. Increased savings, and loans from self-help groups (column 3, Table 3), helped households reduce borrowing from informal lenders (column 4, Table 3), while increasing the incidence of borrowing overall (column 5, Table 3). Households in treated areas were 5 percentage points less likely to borrow from informal moneylenders (and borrowed ₹ 3,710 less, on average, in real terms), even as 74 percent of households in control areas took informal loans (while borrowing ₹ 21,210 , on average, in real terms). This was in an environment where overall indebtedness increased - with borrowing having increased by 4 percentage points in the control group from 2011 to 2014; and overall debt having gone up by approximately ₹ 10,000 in real terms in both treated and control groups. ${ }^{30}$ The program also reduced the interest burden that households faced overall; and reduced rates that informal lenders charged through a competitive effect (Hoffmann et al., 2021).

### 5.2 Women's empowerment

While one of Jeevika's mandates was to provide women (and through them, their households), with access to finance, another mandate was to empower women - through basic literacy, basic numeracy, and empowerment curricula. Table 3 demonstrated the financial impacts of Jeevika, and Table 4 turns to its empowerment effects (with alternate specifications in Table 17). The training on signature literacy, and reading standard signs/sign posts was moderately successful - 12 percentage points more women in treatment areas could sign their names (compared to 37 percent of women in control areas; column 2, Table 4), and 3 percentage points more women could read signs or sign posts (compared to 19 percent of women in control areas; column 3, Table 4).

Accompanying these impacts on signature literacy and numeracy, was no significant impact on decision-making or views on employment. Women in treated villages were no more likely than women in control villages to have had a say in decisions relating to their labor supply or borrowing, nor did they have differential preferences over their daughters' participation in market-based work (columns 4, 5, 6, Table 4). However, this should be interpreted in a context where a large share of women already had some say to begin with. In 2014, 88 percent of women in control villages had

[^11]a say in decisions relating to their labor supply, and 92 percent of women in control villages had a say in borrowing decisions. In addition, 73 percent of women in control areas were of the opinion that their daughters could work. Hence, Jeevika's ability to move the needle on these measures might have been limited.

### 5.3 Labor supply

With large effects on household finance, and muted effects on women's empowerment, Jeevika could well have impacted the local labor market. In 2014, 52 percent of women and 81 percent of men in the control group participated in the labor force (columns 1, 2; Table 5). ${ }^{31}$ This was lower than in 2011, when 63 percent of women, and 88 percent of men, did so across both groups (Table 8). This decline was driven by a fall in participation in agricultural labor across the board - 60 percent of women from Dalit/Adivasi households, and 23 percent of women from other households participated in agricultural labor in 2011 (Table 8), while 47 percent of women from Dalit/Adivasi households and 12 percent of women from other households did so in 2014 in the control group (column 6, Table 6). Similarly, for men, while 63 percent of men from Dalit/Adivasi households, and 31 percent of men from other households performed agricultural labor in 2011 (Table 8), only 35 percent and 10 percent respectively did so in 2014 in the control group (column 5, Table 6).

In the context of this decline over time, Jeevika had differential impacts on women from Dalit/Adivasi households vis-à-vis those from other households (Table 5, Table 18). Women from treated households were 2.45 percentage points more likely to participate in the labor force (column 2, Table 5, significant at the 90 percent confidence level). This was driven solely by women from nonDalit/Adivasi households (column 2, panel B, Table 5). Women from Dalit/Adivasi households, on the other hand, reduced their labor force participation (column 2, panel C, Table 5). Breaking this down by occupation type (Table 6, Table 19), we see that women from Dalit/Adivasi households in treated villages were 7 percent less likely to be engaged in agricultural labor than in control villages (column 6, panel C, Table 6), while their participation in other occupations remained no different. Women from non-Dalit/Adivasi households, on the other hand, were more likely to participate in self-employment or salaried employment. However, this increase in participation was over a small

[^12]base - only 2 percent and 1 percent of women from non-Dalit/Adivasi households in control villages were self-employed or in salaried employment, as opposed to 3 percent and 2 percent among their counterparts in treated villages (columns 10 and 12, panel B, Table 6). Their participation in other occupations was no different. Interestingly, Jeevika also reduced participation in agricultural labor for men from Dalit/Adivasi households (column 1, Table 5, Table 18; column 5, Table 6, Table 19). ${ }^{32}$

### 5.4 Casual Labor Wages

In the rural Indian context, markets for casual wage labor in agriculture are localized, and there is usually a gender-specific prevailing wage for each task in a village (Bliss \& Stern, 1982; Dréze \& Mukherjee, 1989; Kaur, 2019). Thus, with substantial changes in the labor supply for casual wage agricultural labor, we might expect there to be an impact on wages in this sector. In this section, I look at impacts on casual labor wages. Wage data are from the village-survey, which included a component on the 'going' daily wages in the Kharif, Rabi, and Zaid seasons. ${ }^{33}$

Typically, women's casual labor wages are lower than those for men (Kaur, 2019; Mahajan, 2017; NSS, 2012). This is true for both agricultural and non-agricultural wages in the study sample (Figure 3). On average, wages in both sectors increased in real terms between 2011 and 2014 (Figures 3, 4). At baseline, men's non-agricultural casual labor wages were ₹33 lower than agricultural wages on average, and those of women were ₹ 20 lower.

Table 7 (and Table 20) shows that Jeevika increased agricultural wages for both men and women (columns 1, 2). Accompanying the 12 percent and 7 percent decline in agricultural labor participation for men and women respectively, wages for men across seasons went up by 17 percent and those for women went up by 12 percent (Table 7). These changes also appear to have widened the gender-gap in agricultural labor wages. The increase in agricultural wages could have resulted from the decrease in supply, a change in worker composition or an improvement in productivity due to an increase in consumption and nutrition (Fink et al., 2014). I find no evidence for increased food consumption (Table 11), so this is unlikely to be a channel through which wages increase. However,

[^13]given the data, it is not possible to distinguish between whether the increase in wages comes from the decrease in labor supply alone, or in combination with a change in worker composition. Assuming that the program had no impact on the demand for agricultural labor, these changes imply a labor demand elasticity of -0.71 for men and -0.57 for women. ${ }^{34}$ There appear to be no changes in non-agricultural wages, which might be expected given no changes in the supply of non-agricultural casual wage labor for men or women.

## 6 Discussion and Conclusions

While Jeevika significantly affected the finances of rural households, its impact on women's empowerment was muted. As a result, the program had heterogenous effects on women's labor supply across caste groups. Women from non-Dalit/Adivasi households tend to participate in labor markets at far lower rates than women from Dalit/Adivasi households. This is true across India, and is far starker in regions with stronger patriarchal norms. Bihar is one such state, where status concerns dictate not just women's participation in market-based work, but also the types of work that are deemed appropriate for them to participate in (Eswaran et al., 2013). In this context, it is promising that access to Jeevika increased labor force participation amongst women from more privileged households by 8 percent. This effect, unsurprisingly, was driven by women engaging in self-employment or salaried work - both potentially more conducive to 'preserving status' than casual wage labor, where women might work outside of homes or villages.

Women from Dalit/Adivasi households, on the other hand, decreased labor supply. They participated in the labor force at far higher rates ( 71 percent, as opposed to 45 percent for women from other households in the control group), and did so mainly in agricultural labor. Jeevika resulted in 7 percent fewer women participating in agricultural labor, and in a 3 percent decline in labor force participation amongst women from Dalit/Adivasi households. As a result, women from Dalit/Adivasi households largely dropped out of the labor force, rather than re-allocating their labor elsewhere in market-based work. This change is on the extensive margin, and presumably includes some re-allocation by women on the intensive margin as well. Accompanying this, men from Dalit/Adivasi households also reduced agricultural wage labor, and 1 percent fewer men par-

[^14]ticipated in the labor force at all. The impacts for men and women, taken together, suggest a household level change in the need for market-work - possibly, a reduction in the need for labor supply as a risk-coping mechanism. However, while 4 percentage points fewer men participated in agricultural labor, only 3 percentage points fewer women did so. These changes in labor supply at the household level also led to market level changes, increasing agricultural casual labor wages for both women and men. The larger relative change in labor supply for men led to a larger increases in wages. Men's wages went up by 17 percent as opposed to 12 percent for women's wages. As a result, the gender-wage gap in agricultural labor also increased - and this might imply a reduction in women's relative market bargaining power.

Increasing women's access to financial resources is believed to improve women's empowerment, and provide them with resources for market-activity. Higher women's participation in marketbased work, in turn, is seen as an indicator of women's empowerment, and a means for households to improve their material well-being. As a result, programs such as Jeevika often target women through a mix of household finance, livelihoods and empowerment components as part of poverty reduction strategies. This paper demonstrates that while such programs have beneficial impacts on the household as a unit, they have mixed effects on women's labor supply, as households with different levels of privilege respond differentially. In addition, they also distort local labor markets, impacting wages, wage-gaps and possibly relative market-bargaining power.

## References

Afridi, F., Dinkelman, T., \& Mahajan, K. (2016). Why Are Fewer Married Women Joining the Work Force in India? A Decomposition Analysis over Two Decades. IZA DP No. 9722.

Agarwal, N. (2017). To Work or Not to Work? Male Earnings and Female Labor Force Participation in India. Working Paper.

Almas, I., Armand, A., Attanasio, O., \& Carneiro, P. (2018). Measuring and Changing Control: Women's Empowerment and Targeted Transfers. The Economic Journal, 128, F609 - F639.

Altonji, J. G., \& Blank, R. M. (1999). Race and Gender in the Labor Market. In O. Ashenfelter \& D. Card (Eds.), Handbook of Labor Economics (Vol. 3, p. 3143-3259). Amsterdam, The Netherlands: Elsevier.

Andres, L. A., Dasgupta, B., Joseph, G., Abraham, V., \& Correia, M. (2017). Precarious Drop: Reassessing Patterns of Female Labor Force Participation in India. World Bank Policy Research Working Paper. 8024.

Angelucci, M., Karlan, D., \& Zinman, J. (2015). Microcredit Impacts: Evidence from a Randomized Microcredit Program Placement Experiment by Compartamos Banco. American Economic Journal: Applied Economics, 7(1), 151-182.

Attanasio, O., Augsburg, B., de Haas, R., Fitzsimons, E., \& Harmgart, H. (2015). The Impacts of Microfinance: Evidence from Joint-Liability Lending in Mongolia. American Economic Journal: Applied Economics, 7(1), 90-122.

Augsburg, B., Haas, R. D., Harmgart, H., \& Meghir, C. (2015). The Impacts of Microcredit: Evidence from Bosnia and Herzegovina. American Economic Journal: Applied Economics, 7(1), 183-203.

Banerjee, A., Duflo, E., Glennerster, R., \& Kinnan, C. (2015). The Miracle of Microfinance? Evidence from a Randomized Evaluation. American Economic Journal: Applied Economics, 7(1), 22-53.

Banerjee, A., Karlan, D., \& Zinman, J. (2015). Six Randomized Evaluations of Microcredit: Introduction and Further Steps. American Economic Journal: Applied Economics, 7(1), 1-21.

Bernhardt, A., Field, E., Pande, R., Rigol, N., Schaner, S., \& Moore, C. T. (2018). Male Social

Status and Women's Work. AEA Papers and Proceedings, 108, 363-367.
Bhargava, S. (2018). Why Did Female Labor Force Participation Decline? Evidence from a Model of Household Labor Supply. Working Paper.

Bliss, C., \& Stern, N. (1982). Palanpur: The Economy of an Indian Village. OUP Catalogue.
Boserup, E. (1970). Women's Role in Economic Development. London: George Allen and Universe.
Breza, E., \& Kinnan, C. (2018). Measuring the Equilibrium Impacts of Credit: Evidence from the Indian Microfinance Crisis. NBER Working Paper 24329.

Bursztyn, L., González, A. L., \& Yanagizawa-Drott, D. (2018). Misperceived Social Norms: Female Labor Force Participation in Saudi Arabia. NBER Working Paper No. 24736.

Chatterjee, U., Murgai, R., \& Rama, M. (2015). Job Opportunities along the Rural-Urban Gradation and Female Labor Force Participation in India. World Bank Policy Research Working Paper. 7412.

Correia, S. (2016). Linear Models with High-Dimensional Fixed Effects: An Efficient and Feasible Estimator. (Working Paper)

Crépon, B., Devoto, F., Duflo, E., \& Parienté, W. (2015). Estimating the Impact of Microcredit on Those Who Take It Up: Evidence from a Randomized Experiment in Morocco. American Economic Journal: Applied Economics, 7(1), 123-150.

Datta, U. (2015). Socio-Economic Effects of Jeevika: A Large-Scale Self-Help Group Project in Bihar, India. World Development, 68, 1-18.

Deininger, K., \& Liu, Y. (2013). Economic and Social Impacts of an Innovative Self-Help Group Model in India. World Development, 43, 149-163.

Desai, R. M., \& Joshi, S. (2014). Collective Action and Community Development: Evidence from Self-Help groups in Rural India. World Bank Economic Review, 28(3).

Dréze, J., \& Mukherjee, A. (1989). Labour Contracts in Rural India: Theories and Evidence. In The Balance Between Industry and Agriculture in Economic Development (p. 233-265). UK: Palgrave Macmillan.

Dupas, P. D., Robinson, J., \& Saavedra, S. (2019). The Daily Grind: Cash Needs and Labor Supply. Working Paper.

Durand, J. (1975). The Labor Force in Economic Development. Princeton: Princeton University Press.

Eswaran, M., Ramaswami, B., \& Wadhwa, W. (2013). Status, Caste, and the Time Allocation of Women in Rural India. Economic Development and Cultural Change, 61 (2), 311-333.

Field, E., Pande, R., Rigol, N., Schaner, S., \& Moore, C. T. (2019). On Her Own Account: How Strengthening Women's Financial Control Affects Labor Supply and Gender Norms. NBER Working Paper No. 26294.

Filmer, D., \& Pritchett, L. H. (2001). Estimating Wealth Effects without Expenditure Data - or Tears: An Application to Educational Enrollment in the States of India. Demography, 38(1), 115-132.

Fink, G., Jack, B. K., \& Masiye, F. (2014). Seasonal Credit Constraints and Agricultural Labor Supply: Evidence from Zambia. NBER Working Paper 20218.
Fisher, R. A. (1935). The Design of Experiments. New York: Hafner PRess.
Fletcher, E. K., Pande, R., \& Moore, C. T. (2017). Women and Work in India: Descriptive Evidence and a Review of Potential Policies. CID Faculty Working Paper No. 339.

Frison, L., \& Pocock, S. J. (1992). Repeated Measures in Clinical Trials: Analysis Using Mean Summary Statistics and its Implications for Design. Statistics in Medicine, II, 1685-1704.

Goldin, C. (1995). The U-Shaped Female Labor Force Function in Economic Development and Economic History. In T. P. Schultz (Ed.), Investment in Womens' Human Capital (p. 61-90). Chicago: IL: The University of Chicago Press.

Heath, R., \& Jayachandran, S. (2018). The Causes and Consequences of Increased Female Education and Labor Force Participation in Developing Countries. In L. M. A. Averett Susan L. \& S. D. Hoffman (Eds.), The Oxford Handbook of Women and the Economy. Oxford University Press.

Heath, R., \& Tan, X. (n.d.). Intrahousehold Bargaining, Female Autonomy, and Labor Supply: Theory and Evidence from India. Journal of the European Economic Association, 00(0), 1-41.

Heß, S. (2017). Randomization Inference with Stata: A Guide and Software (Vol. 17) (No. 3).
Hoffmann, V., Rao, V., Surendra, V., \& Datta, U. (2021). Relief from Usury: Impact of a Self-Help Group Lending Program in Rural India. Journal of Development Economics, 148.

Imbens, G. W., \& Rubin, D. B. (2015). Causal Inference in Statistics and the Social Sciences. Cambridge and New York: Cambridge University Press.

Imbens, G. W., \& Wooldridge, J. M. (2009). Recent Developments in the Econometrics of Program Evaluation. Journal of Economic Literature, 47(1), 5-86.

Ito, T., \& Kurosaki, T. (2009). Weather Risk, Wages in Kind, and the Off-Farm Labor Supply of Agricultural Households in a Developing Country. American Journal of Agricultural Economics, 91, 697-710.

Jayachandran, S. (2006). Selling Labor Low: Wage Responses to Productivity Shocks in Developing Countries. Journal of Political Economy, 114(3), 538-575.

Jensen, R. (2012). Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India. The Quarterly Journal of Economics, 127, 753-792.

Karlan, D., Savonitto, B., Thuysbaert, B., \& Udry, C. (2017). Impact of Savings Groups on the Lives of the Poor. Proceedings of the National Academy of Sciences of the United States of America (PNAS), 114(12), 3079-3084.

Kaur, S. (2019). Nominal Wage Rigidity in Village Labor Markets. American Economic Review, 109(10), 3585-3616.

Khanna, M., Kochhar, N., \& Palaniswamy, N. (2015). A Retrospective Impact Evaluation of the Tamil Nadu Empowerment and Poverty Alleviation (Pudhu Vazhvu) Project. Journal of Development Studies, 51 (9), 1210-1223.

Klasen, S., \& Pieters, J. (2012). Push or Pull? Drivers of Female Labor Force Participation during India's Economic Boom. Discussion Paper series, Forschungsinstitut zur Zukunft der Arbeit, No. 6395.

Kochar, A. (1999). Smoothing Consumption by Smoothing Income: Hours-of-work Responses to Idiosyncratic Agricultural Shocks in Rural India. The Review of Economics and Statistics, $81(1), 50-61$.

Ksoll, C., Lilleør, H. B., Lønborg, J. H., \& Rasmussen, O. D. (2016). Impact of Village Savings and Loan Associations: Evidence from a cluster randomized trial. Journal of Development Economics, 120, 70-85.

Mahajan, K. (2017). Rainfall Shocks and the Gender Wage Gap: Evidence from Indian Agriculture. World Development, 91, 156-172.

Mammen, K., \& Paxson, C. (2000). Women's Work and Economic Development. The Journal of

Economic Perspectives, 14 (4), 141-164.
McKelway, M. (2019). Vicious and Virtuous Cycles: Self-Efficacy and Employment of Women in India. Working Paper.

Meager, R. (2019). Understanding the Average Impact of Microcredit Expansions: A Bayesian Hierarchical Analysis of Seven Randomized Experiments. American Economic Journal: Applied Economics, 11 (1), 57-91.

NSS. (2012). (National Sample Survey Organization: Employment and Unemployment Surveys)
Rose, E. (2001). Ex-ante and ex-post Labor Supply Response to Risk in a Low-Income Area. Journal of Development Economics, 64, 371-388.

Rosenbaum, P. (2002). Observational studies. New York: Springer.
Srinivas, M. (1956). A Note on Sanskritization and Westernization. The Far Eastern Quarterly, $15(4), 481-496$.

Tarozzi, A., Desai, J., \& Johnson, K. (2015). The Impacts of Microcredit: Evidence from Ethiopia. American Economic Journal: Applied Economics, 7(1), 24-89.

World Bank. (2017). Implementation Completion and Results Report on a Credit in the Amount of SDR 41.4 million and SDR 64.6 million (US $\$ 63$ million equivalent and US $\$ 100$ million equivalent) to the Republic of India for a Bihar Rural Livelihoods Project -- 'JEEViKA' (Tech. Rep.).

World Bank. (2019a). (data retrieved from World Development Indicators, http://data .worldbank.org/indicator/SL.TLF.CACT.FE.ZS)

World Bank. (2019b). (data retrieved from World Development Indicators, http://data .worldbank.org/indicator/SL.TLF.CACT.MA.ZS)

## A Tables

Table 1: Baseline Characteristics Across Caste Groups

|  | Means |  |  | Difference <br> in Means |
| :---: | :---: | :---: | :---: | :---: |
|  | Obs | Dalit/Adivasi | Non-Dalit/Adivasi |  |
| Household Characteristics |  |  |  |  |
| Owns Land | 8988 | 17\% | 58\% | $-0.40^{* * *}$ |
|  |  |  |  | (0.01) |
| Household size | 8988 | 5.88 | 6.12 | $-0.24^{* * *}$ |
| Female HH Head |  |  |  | (0.07) |
|  | 8988 | 18\% | 11\% | $0.07^{* * *}$ |
|  |  |  |  | (0.01) |
| Productive Assets | 8988 | -0.28 | 0.09 | $-0.37^{* * *}$ |
| (Filmer-Pritchett Index, Normalized ${ }^{35}$ ) |  |  |  | (0.03) |
| Consumption Assets | 8988 | -0.40 | 0.20 | $-0.60^{* * *}$ |
| (Filmer-Pritchett Index, Normalized) |  |  |  | (0.03) |
| Housing | 8988 | -0.10 | 0.04 | -0.13 *** |
| (Filmer-Pritchett Index, Normalized) |  |  |  | (0.04) |
| Monthly Consumption | 8988 | 0.73 | 0.83 | $-0.09^{* * *}$ |
| (Rs 000, per adult equivalent) |  |  |  | (0.01) |
| Any Outstanding Debt | 8988 | 86\% | 82\% | $0.04 * * *$ |
|  |  |  |  | (0.01) |
| No. of Loans | 8988 | 2.03 | 1.90 | $0.12^{* * *}$ |
|  |  |  |  | (0.04) |

[^15]| Outsanding Debt | 8988 | 10.05 | 14.03 | $-3.98 * * *$ |
| :---: | :---: | :---: | :---: | :---: |
| (Rs 000) |  |  |  | (0.53) |
| Informal Interest Rate | 6389 | 5.49 | 4.87 | $0.62^{* * *}$ |
| (\%, HH average) |  |  |  | (0.06) |
| Women's Empowerment |  |  |  |  |
| Any say in labor decisions? | 8899 | 83\% | $71 \%$ | $0.12^{* * *}$ |
|  |  |  |  | (0.02) |
| Any say in borrowing decisions? | 8899 | 88\% | 85\% | $0.03^{* *}$ |
|  |  |  |  | (0.01) |
| Should daughter work? | 5144 | 69\% | $76 \%$ | $-0.07^{* * *}$ |
|  |  |  |  | (0.02) |
| Daughter should not work after marriage | 3638 | 7\% | $5 \%$ | 0.02 |
|  |  |  |  | (0.01) |

[^16]Table 2: Baseline Labor Force Participation Across Caste Groups

|  | Means |  |  | Difference <br> in Means |
| :---: | :---: | :---: | :---: | :---: |
|  | Obs | Dalit/Adivasi | Non-Dalit/Adivasi |  |
| Women |  |  |  |  |
| Labor Force Participation | 13078 | 77\% | $56 \%$ | $0.21 * * *$ |
|  |  |  |  | (0.02) |
| Work outside village | 13078 | $4 \%$ | $3 \%$ | $0.01{ }^{* * *}$ |
|  |  |  |  | (0.00) |
| Self-Employment | 13078 | 1\% | 1\% | -0.00 |
|  |  |  |  | (0.00) |
| Cultivation | 13078 | 20\% | 30\% | $-0.10^{* * *}$ |
|  |  |  |  | (0.01) |
| Agricultural Labor | 13078 | 60\% | 23\% | $0.37 * * *$ |
|  |  |  |  | (0.01) |
| Animal Husbandry | 13078 | $4 \%$ | 7\% | $-0.03^{* * *}$ |
|  |  |  |  | (0.01) |
| Non-Agricultural Labor | 13078 | 5\% | $2 \%$ | $0.03{ }^{* * *}$ |
|  |  |  |  | (0.00) |
| Salaried Work | 13078 | 1\% | 1\% | -0.00 |
|  |  |  |  | (0.00) |
| Men |  |  |  |  |
| Labor Force Participation | 14396 | 90\% | 86\% | $0.04{ }^{* * *}$ |
|  |  |  |  | (0.01) |
| Works outside village | 14396 | 60\% | 44\% | $0.15 * * *$ |
|  |  |  |  | (0.01) |
| Self-Employment | 14396 | $4 \%$ | 8\% | $-0.04 * *$ |


| Cultivation | 14396 | $23 \%$ | $44 \%$ | $-0.21^{* * *}$ |
| :--- | :---: | :---: | :---: | :---: |
| Agricultural Labor | 14396 | $63 \%$ | $31 \%$ | $(0.01)$ |
| Animal Husbandry |  |  |  | $0.32^{* * *}$ |
| Non-Agricultural Labor | 14396 | $1 \%$ | $1 \%$ | $(0.01)$ |
|  |  |  |  | $-0.00^{*}$ |
| Salaried Work | 14396 | $49 \%$ | $30 \%$ | $0.19^{* * *}$ |
|  |  | 14396 | $11 \%$ | $13 \%$ |

[^17]Table 3: Program Take-up and Household Borrowing

|  | SHG <br> Member? | Any Savings? | Any loans taken? <br> (\%) |  |  | Outstanding Debt ('000 Rs.) |  |  | Interest <br> Rate |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (\%) | (\%) | SHG | Informal | All | SHG | Informal | All | (\%) |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| A: Overall Effects |  |  |  |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} 46.59^{* * *} \\ (1.66) \end{gathered}$ | $\begin{gathered} 26.02^{* * *} \\ (1.91) \end{gathered}$ | $\begin{gathered} 28.31^{* * *} \\ (1.27) \end{gathered}$ | $\begin{gathered} -5.11^{* * *} \\ (1.40) \end{gathered}$ | $\begin{gathered} 3.40^{* * *} \\ (1.29) \end{gathered}$ | $\begin{gathered} 1.95^{* * *} \\ (0.10) \end{gathered}$ | $\begin{gathered} -3.71^{* * *} \\ (0.75) \end{gathered}$ | $\begin{gathered} -1.96^{* *} \\ (0.87) \end{gathered}$ | $\begin{gathered} -0.70^{* * *} \\ (0.07) \end{gathered}$ |
| Obs | 8851 | 8987 | 8987 | 8987 | 8987 | 8987 | 8987 | 8987 | 6805 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 8.24 | 46.70 | 1.80 | 74.07 | 75.64 | 0.11 | 21.21 | 24.21 | 5.27 |

## B: Effect on non-Dalit/Adivasi households

| Jeevika | $\begin{gathered} 44.33^{* * *} \\ (1.87) \end{gathered}$ | $\begin{gathered} 23.73^{* * *} \\ (2.42) \end{gathered}$ | $\begin{gathered} 26.29^{* * *} \\ (1.56) \end{gathered}$ | $\begin{gathered} -3.84^{* *} \\ (1.86) \end{gathered}$ | $\begin{aligned} & 3.82^{* *} \\ & (1.85) \end{aligned}$ | $\begin{gathered} 1.98^{* * *} \\ (0.14) \end{gathered}$ | $\begin{gathered} -3.62^{* * *} \\ (0.94) \end{gathered}$ | $\begin{gathered} -2.40^{* *} \\ (1.11) \end{gathered}$ | $\begin{gathered} -0.47^{* * *} \\ (0.07) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Obs | 2487 | 2525 | 2525 | 2525 | 2525 | 2525 | 2525 | 2525 | 1679 |
| Clusters | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 173 |
| Mean | 7.01 | 49.73 | 1.49 | 69.41 | 71.45 | 0.11 | 22.87 | 27.45 | 4.76 |

C: Effect on Dalit/Adivasi households

| Jeevika | $\begin{gathered} 53.80^{* * *} \\ (1.67) \end{gathered}$ | $\begin{gathered} 30.20^{* * *} \\ (1.72) \end{gathered}$ | $\begin{gathered} 36.81^{* * *} \\ (1.33) \end{gathered}$ | $\begin{gathered} -6.20^{* * *} \\ (1.13) \end{gathered}$ | $\begin{gathered} 3.60^{* * *} \\ (0.88) \end{gathered}$ | $\begin{gathered} 2.26^{* * *} \\ (0.11) \end{gathered}$ | $\begin{gathered} -2.97^{* * *} \\ (0.50) \end{gathered}$ | $\begin{aligned} & -0.67 \\ & (0.55) \end{aligned}$ | $\begin{gathered} -1.09^{* * *} \\ (0.08) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Obs | 6364 | 6462 | 6462 | 6462 | 6462 | 6462 | 6462 | 6462 | 5126 |
| Clusters | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 177 |
| Mean | 11.70 | 44.68 | 2.31 | 81.55 | 82.91 | 0.15 | 16.04 | 16.88 | 6.00 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, and an indicator of treatment status. Panel A presents results from full-
sample weighted regressions. Weights are inverse probability of sampling weights that are re-weighted to sum to one at the village level in order to re-constitute the caste composition of the village. Panel B has results on the non-Dalit/Adivasi sub-sample, without sampling weights. Panel C has results on the Dalit/Adivasi sub-sample, without sampling weights.
All specifications control for strata dummies and baseline controls. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 4: Women's Empowerment

|  | Works Outside | Signature | Read Signs | Any Say in Decisions? (\%) |  | Daughter Work |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (\%) | (\%) | (\%) | Labor | Borrow | (\%) |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| A: Overall Impact of Jeevika |  |  |  |  |  |  |
| Jeevika | $\begin{aligned} & 0.47^{*} \\ & (0.26) \end{aligned}$ | $\begin{gathered} 12.37^{* * *} \\ (1.18) \end{gathered}$ | $\begin{gathered} 3.10^{* * *} \\ (0.81) \end{gathered}$ | $\begin{gathered} 0.18 \\ (1.49) \end{gathered}$ | $\begin{gathered} -0.48 \\ (1.75) \end{gathered}$ | $\begin{gathered} -1.53 \\ (2.41) \end{gathered}$ |
| Obs | 13376 | 8671 | 8671 | 8671 | 8671 | 3857 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 1.45 | 37.20 | 19.32 | 88.20 | 92.12 | 73.35 |
| B: Impact of Jeevika on non-Dalit/Adivasi households |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} 0.46 \\ (0.29) \end{gathered}$ | $\begin{gathered} 10.17^{* * *} \\ (1.45) \end{gathered}$ | $\begin{aligned} & 2.64^{* *} \\ & (1.12) \end{aligned}$ | $\begin{gathered} -0.28 \\ (1.75) \end{gathered}$ | $\begin{gathered} -0.31 \\ (2.05) \end{gathered}$ | $\begin{gathered} -0.48 \\ (3.35) \end{gathered}$ |
| Obs | 4048 | 2431 | 2431 | 2431 | 2431 | 890 |
| Clusters | 174 | 174 | 174 | 174 | 174 | 171 |
| Mean | 0.97 | 40.96 | 23.28 | 85.97 | 92.30 | 73.77 |
| C: Impact of Jeevika on Dalit/Adivasi households |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} -0.31 \\ (0.36) \end{gathered}$ | $\begin{gathered} 14.75^{* * *} \\ (0.86) \end{gathered}$ | $\begin{gathered} 2.38^{* * *} \\ (0.60) \end{gathered}$ | $\begin{aligned} & -1.48 \\ & (0.91) \end{aligned}$ | $\begin{aligned} & -0.11 \\ & (1.26) \end{aligned}$ | $\begin{gathered} -3.75^{* *} \\ (1.80) \end{gathered}$ |
| Obs | 9328 | 6240 | 6240 | 6240 | 6240 | 2967 |
| Clusters | 178 | 178 | 178 | 178 | 178 | 178 |
| Mean | 2.78 | 27.31 | 9.60 | 92.11 | 91.91 | 70.50 |
| Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, and an indicator of treatment status. Panel A presents results from full-sample weighted regressions. Weights are inverse probability of sampling weights that are re-weighted to sum to one at the village level in order to re-constitute the caste composition of the village. Panel B has results on the non-Dalit/Adivasi sub-sample, without sampling weights. Panel C has results on the SC-ST sub-sample, without sampling weights. All specifications control for strata dummies and baseline controls. * $p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$ |  |  |  |  |  |  |

Table 5: Labor Force Participation

|  | Labor Force Participation (\%) |  | Agri <br> Participation (\%) |  | Non-Agri <br> Participation (\%) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| A: Overall Impact of Jeevika |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} 0.23 \\ (0.98) \end{gathered}$ | $\begin{gathered} 2.45^{*} \\ (1.34) \end{gathered}$ | $\begin{gathered} -0.61 \\ (1.44) \end{gathered}$ | $\begin{gathered} 1.12 \\ (1.24) \end{gathered}$ | $\begin{gathered} 2.13^{*} \\ (1.28) \end{gathered}$ | $\begin{gathered} 0.85 \\ (0.55) \end{gathered}$ |
| Obs | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 80.76 | 52.03 | 48.30 | 46.83 | 41.58 | 6.18 |
| B: Impact of Jeevika on non-Dalit/Adivasi households |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} 1.40 \\ (1.26) \end{gathered}$ | $\begin{aligned} & 3.66^{*} \\ & (1.87) \end{aligned}$ | $\begin{gathered} 2.03 \\ (1.67) \end{gathered}$ | $\begin{gathered} 2.22 \\ (1.75) \end{gathered}$ | $\begin{gathered} 1.17 \\ (1.45) \end{gathered}$ | $\begin{gathered} 1.22^{*} \\ (0.69) \end{gathered}$ |
| Obs | 4410 | 4048 | 4410 | 4048 | 4410 | 4048 |
| Clusters | 174 | 174 | 174 | 174 | 174 | 174 |
| Mean | 79.01 | 44.93 | 45.79 | 40.17 | 40.08 | 5.09 |
| C: Impact of Jeevika on Dalit/Adivasi households |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} -1.33^{* *} \\ (0.65) \end{gathered}$ | $\begin{gathered} -2.07^{* *} \\ (0.90) \end{gathered}$ | $\begin{gathered} -3.66^{* *} \\ (1.69) \end{gathered}$ | $\begin{gathered} -2.36^{* *} \\ (1.04) \end{gathered}$ | $\begin{gathered} 1.59 \\ (1.28) \end{gathered}$ | $\begin{gathered} -0.15 \\ (0.69) \end{gathered}$ |
| Obs | 10069 | 9328 | 10069 | 9328 | 10069 | 9328 |
| Clusters | 178 | 178 | 178 | 178 | 178 | 178 |
| Mean | 85.44 | 71.26 | 53.22 | 65.59 | 45.42 | 7.85 |
| Standard errors clustered at the panchayat and household level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, and an indicator of treatment status. Panel A presents results from full-sample weighted regressions. Weights are inverse probability of sampling weights that are re-weighted to sum to one at the village level in order to re-constitute the caste composition of the village. Panel B has results on the non-Dalit/Adivasi sub-sample, without sampling weights. Panel C has results on the SC-ST sub-sample, without sampling weights. All specifications control for strata dummies and baseline controls. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$ |  |  |  |  |  |  |

Table 6: Participation by Occupation Type

| Cultivation |  | Animal <br> Husbandry |  | Agri <br> Labor |  | Non-Agri <br> Labor |  | Self <br> Employment |  | Salaried <br> Employment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |

A: Overall Impact of Jeevika

| Jeevika | $\begin{gathered} 1.49 \\ (1.26) \end{gathered}$ | $\begin{gathered} 1.11 \\ (1.21) \end{gathered}$ | $\begin{gathered} -0.39^{* * *} \\ (0.11) \end{gathered}$ | $\begin{gathered} -0.60^{* *} \\ (0.30) \end{gathered}$ | $\begin{gathered} -2.32^{* *} \\ (1.17) \end{gathered}$ | $\begin{aligned} & -0.11 \\ & (0.85) \end{aligned}$ | $\begin{gathered} 1.31 \\ (1.06) \end{gathered}$ | $\begin{gathered} 0.37 \\ (0.35) \end{gathered}$ | $\begin{gathered} -0.47 \\ (0.56) \end{gathered}$ | $\begin{aligned} & 0.68^{* *} \\ & (0.33) \end{aligned}$ | $\begin{aligned} & 1.70^{*} \\ & (0.99) \end{aligned}$ | $\begin{aligned} & 0.51^{* *} \\ & (0.25) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Obs | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 |
| Number of clusters | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 31.18 | 25.43 | 0.58 | 1.12 | 18.14 | 21.84 | 25.27 | 1.93 | 6.94 | 1.79 | 10.06 | 1.35 |

B: Impact of Jeevika on non-Dalit/Adivasi households

| Jeevika | $\begin{gathered} 1.38 \\ (1.64) \end{gathered}$ | $\begin{gathered} 0.63 \\ (1.72) \end{gathered}$ | $\begin{gathered} -0.32^{* *} \\ (0.14) \end{gathered}$ | $\begin{aligned} & -0.40 \\ & (0.34) \end{aligned}$ | $\begin{gathered} 0.59 \\ (1.31) \end{gathered}$ | $\begin{gathered} 1.48 \\ (0.96) \end{gathered}$ | $\begin{gathered} 0.21 \\ (1.21) \end{gathered}$ | $\begin{gathered} 0.01 \\ (0.33) \end{gathered}$ | $\begin{aligned} & -0.17 \\ & (0.79) \end{aligned}$ | $\begin{aligned} & 0.85^{* *} \\ & (0.40) \end{aligned}$ | $\begin{gathered} 1.99^{*} \\ (1.13) \end{gathered}$ | $\begin{gathered} 0.93^{* * *} \\ (0.30) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Obs | 4410 | 4048 | 4410 | 4048 | 4410 | 4048 | 4410 | 4048 | 4410 | 4048 | 4410 | 4048 |
| Number of clusters | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 |
| Mean | 36.76 | 29.02 | 0.49 | 1.16 | 9.92 | 11.60 | 22.01 | 0.87 | 8.64 | 1.84 | 9.61 | 1.21 |
| C: Impact of Jeevika on Dalit/Adivasi households |  |  |  |  |  |  |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} 0.66 \\ (0.92) \end{gathered}$ | $\begin{gathered} 0.86 \\ (0.91) \end{gathered}$ | $\begin{gathered} -0.19^{*} \\ (0.11) \end{gathered}$ | $\begin{gathered} -0.24 \\ (0.21) \end{gathered}$ | $\begin{gathered} -4.31^{* * *} \\ (1.61) \end{gathered}$ | $\begin{gathered} -3.22^{* * *} \\ (1.02) \end{gathered}$ | $\begin{gathered} 0.69 \\ (1.21) \end{gathered}$ | $\begin{gathered} 0.25 \\ (0.57) \end{gathered}$ | $\begin{gathered} 0.07 \\ (0.39) \end{gathered}$ | $\begin{gathered} -0.23 \\ (0.22) \end{gathered}$ | $\begin{gathered} 0.69 \\ (1.01) \end{gathered}$ | $\begin{gathered} 0.01 \\ (0.24) \end{gathered}$ |
| Obs | 10069 | 9328 | 10069 | 9328 | 10069 | 9328 | 10069 | 9328 | 10069 | 9328 | 10069 | 9328 |
| Number of clusters | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 178 |
| Mean | 19.18 | 19.40 | 0.50 | 0.77 | 35.04 | 46.79 | 33.09 | 4.15 | 3.44 | 1.60 | 10.31 | 1.37 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, and an indicator of treatment status. Panel A presents results from full-sample weighted regressions. Weights are inverse probability of sampling weights
that are re-weighted to sum to one at the village level in order to re-constitute the caste composition of the village. Panel B has results on the non-Dalit/Adivasi sub-sample, without sampling weights. Panel C has results on the SC-ST sub-sample, without sampling weights. All specifications control for strata dummies and baseline controls.
${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 7: Casual Labor Wages

|  | Agricultural <br> $\ln$ (real ₹) |  |  | Non-Agricultural $\ln$ (real ₹) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Pooled | Men | Women | Pooled |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Jeevika | $\begin{gathered} 0.17^{* * *} \\ (0.05) \end{gathered}$ | $\begin{aligned} & 0.12^{* *} \\ & (0.05) \end{aligned}$ | $\begin{gathered} 0.20^{* * *} \\ (0.05) \end{gathered}$ | $\begin{gathered} 0.02 \\ (0.03) \end{gathered}$ | $\begin{gathered} 0.10 \\ (0.10) \end{gathered}$ | $\begin{gathered} 0.04 \\ (0.03) \end{gathered}$ |
| Female |  |  | $\begin{gathered} -0.15^{* * *} \\ (0.05) \end{gathered}$ |  |  | $\begin{gathered} -0.13^{*} \\ (0.07) \end{gathered}$ |
| Jeevika $\times$ Female |  |  | $\begin{gathered} -0.09^{*} \\ (0.06) \end{gathered}$ |  |  | $\begin{gathered} 0.12 \\ (0.09) \end{gathered}$ |
| Obs | 618 | 598 | 1216 | 991 | 331 | 1322 |
| Clusters | 166 | 161 | 166 | 179 | 90 | 179 |
| Mean | ₹ 105.04 | ₹ 80.67 | ₹ 105.04 | ₹157.13 | ₹112.79 | ₹157.13 |
| Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, and an indicator of treatment status. Regressions in columns 3 and 6 , in addition, include a dummy for female wages, and the interaction between a female indicator and treatment status ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$ |  |  |  |  |  |  |

## B Figures

Figure 1: Labor Force Participation in India


Data: NSS Employment-Unemployment Survey, 2011-2012

Figure 2: Study Districts in Bihar


District FLFP computed from NSS data for 2011-2012

Figure 3: Wages at Baseline


Figure 4: Wages at Endline


Agricultural

Non-Agricultural

## C Additional Tables

Table 8: Summary Statistics and Randomization Balance at Baseline

|  | Means |  |  | Normalized <br> Differences |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Obs | Control | Treatment |  |  |
| Household Characteristics |  |  |  |  |  |
| Dalit/Adivasi. | 8988 | $32 \%$ | $32 \%$ | -0.01 | [0.877] |
| Land | 8988 | 45\% | $44 \%$ | -0.02 | [0.648] |
| HH Size | 8988 | 6.05 | 6.00 | -0.03 | [0.311] |
| Female HH Head | 8988 | 14\% | 13\% | -0.04 | [0.296] |
| SHG Member? | 8988 | $4 \%$ | $6 \%$ | 0.10 | [0.035] |
| Any Savings? | 8988 | $38 \%$ | 42\% | 0.08 | [0.153] |
| Real Outstanding Debt | 8988 | 13.39 | 12.16 | -0.04 | [0.207] |
| Productive Assets | 8988 | 0.00 | -0.05 | -0.05 | [0.184] |
| Consumption Assets | 8988 | 0.00 | 0.02 | 0.03 | [0.575] |
| Housing | 8988 | 0.00 | -0.02 | -0.00 | [0.955] |
| Consumption | 8988 | 0.80 | 0.80 | 0.00 | [0.967] |
| Attrition | 8988 | $3 \%$ | $3 \%$ | 0.01 | [0.763] |
| Men |  |  |  |  |  |
| Labor Force Participation | 14396 | 87\% | 89\% | 0.02 | [0.498] |
| Self-Employment | 14396 | $6 \%$ | 7\% | -0.04 | [0.485] |
| Cultivation | 14396 | 30\% | 27\% | -0.04 | [0.452] |
| Animal Husbandry | 14396 | $2 \%$ | 1\% | -0.03 | [0.474] |
| Agricultural Labor | 14396 | 24\% | $26 \%$ | 0.06 | [0.249] |
| Non-Agricultural Labor | 14396 | 27\% | 29\% | 0.05 | [0.398] |
| Salaried Work | 14396 | 12\% | 11\% | -0.04 | [0.469] |
| Works Outside Village | 14396 | 48\% | $51 \%$ | 0.03 | [0.482] |

## Women

| Labor Force Participation | 13078 | 63\% | 63\% | -0.02 | [0.794] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Self-Employment | 13078 | $2 \%$ | 1\% | 0.00 | [0.960] |
| Cultivation | 13078 | $24 \%$ | 23\% | -0.02 | [0.707] |
| Animal Husbandry | 13078 | 7\% | $6 \%$ | -0.02 | [0.658] |
| Agricultural Labor | 13078 | 29\% | $32 \%$ | 0.03 | [0.627] |
| Non-Agricultural Labor | 13078 | $3 \%$ | $2 \%$ | -0.04 | [0.311] |
| Salaried Work | 13078 | 1\% | 1\% | 0.00 | [0.959] |
| Works Outside Village | 13078 | $3 \%$ | $3 \%$ | -0.02 | [0.495] |
| Labor Say | 8899 | $76 \%$ | $74 \%$ | -0.03 | [0.657] |
| Borrow Say | 8899 | 87\% | 84\% | -0.08 | [0.360] |
| Daughter Work | 5144 | $74 \%$ | 73\% | -0.01 | [0.859] |
| Daughter Not Work <br> After Marriage | 3638 | 5\% | 7\% | 0.09 | [0.334] |
| Non-Agricultural Wages |  |  |  |  |  |
| Men |  |  |  |  |  |
| Kharif | 324 | ₹ 135.00 | ₹ 141.18 | 0.20 | [0.135] |
| Rabi | 321 | ₹ 134.88 | ₹ 141.75 | 0.22 | [0.112] |
| Zaid | 317 | ₹134.88 | ₹141.15 | 0.19 | [0.170] |
| Women |  |  |  |  |  |
| Kharif | 159 | ₹ 103.89 | ₹ 112.36 | 0.24 | [0.203] |
| Rabi | 158 | ₹ 104.75 | ₹ 112.73 | 0.22 | [0.216] |
| Zaid | 155 | ₹104.26 | ₹ 113.31 | 0.25 | [0.173] |

## Agricultural Wages

| Men |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Kharif | 244 | $₹ 103.66$ | $₹ 103.69$ | -0.16 | $[0.285]$ |
| Rabi | 292 | $₹ 104.90$ | $₹ 101.40$ | -0.14 | $[0.197]$ |
| Zaid | 219 | $₹ 103.23$ | $₹ 96.70$ | -0.12 | $[0.459]$ |
| Women |  |  |  |  |  |
| Kharif | 240 | $₹ 84.30$ | $₹ 82.86$ | -0.16 | $[0.258]$ |
| Rabi | 283 | $₹ 85.69$ | $₹ 87.31$ | -0.01 | $[0.906]$ |
| Zaid | 218 | $₹ 83.60$ | $₹ 80.56$ | -0.11 | $[0.497]$ |

${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 9: Change in Work Participation and Borrowing from SHGs

|  | Cultivation |  | Animal <br> Husbandry |  | Agri <br> Labor |  | Non-Agri <br> Labor |  | Self <br> Employment |  | Salaried <br> Employment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| A: Overall Effects |  |  |  |  |  |  |  |  |  |  |  |  |
| Time | $\begin{gathered} 2.51 \\ (1.83) \end{gathered}$ | $\begin{gathered} 0.29 \\ (1.60) \end{gathered}$ | $\begin{gathered} -1.01^{* * *} \\ (0.26) \end{gathered}$ | $\begin{gathered} -5.24^{* * *} \\ (0.79) \end{gathered}$ | $\begin{gathered} -7.95^{* * *} \\ (1.58) \end{gathered}$ | $\begin{gathered} -8.72^{* * *} \\ (1.32) \end{gathered}$ | $\begin{gathered} -1.22 \\ (2.00) \end{gathered}$ | $\begin{gathered} 0.38 \\ (0.48) \end{gathered}$ | $\begin{gathered} -0.23 \\ (0.79) \end{gathered}$ | $\begin{gathered} 0.72 \\ (0.54) \end{gathered}$ | $\begin{gathered} 0.89 \\ (1.79) \end{gathered}$ | $\begin{gathered} 0.47 \\ (0.59) \end{gathered}$ |
| SHG Loan | $\begin{gathered} -7.13^{* * *} \\ (2.30) \end{gathered}$ | $\begin{gathered} -1.26 \\ (1.74) \end{gathered}$ | $\begin{gathered} -0.16 \\ (0.45) \end{gathered}$ | $\begin{gathered} 0.02 \\ (1.04) \end{gathered}$ | $\begin{aligned} & 3.27^{*} \\ & (1.83) \end{aligned}$ | $\begin{gathered} 8.08^{* * *} \\ (2.33) \end{gathered}$ | $\begin{gathered} 8.03^{* * *} \\ (2.16) \end{gathered}$ | $\begin{gathered} -0.48 \\ (0.49) \end{gathered}$ | $\begin{gathered} -1.08 \\ (1.03) \end{gathered}$ | $\begin{gathered} -0.63 \\ (0.50) \end{gathered}$ | $\begin{gathered} -2.75^{* *} \\ (1.31) \end{gathered}$ | $\begin{aligned} & -0.96^{*} \\ & (0.52) \end{aligned}$ |
| Time $\times$ <br> SHG Loan | $\begin{aligned} & 4.75^{*} \\ & (2.53) \end{aligned}$ | $\begin{gathered} 6.77^{* * *} \\ (2.27) \end{gathered}$ | $\begin{aligned} & -0.15 \\ & (0.49) \end{aligned}$ | $\begin{gathered} -0.47 \\ (1.10) \end{gathered}$ | $\begin{aligned} & -1.62 \\ & (2.31) \end{aligned}$ | $\begin{aligned} & -0.52 \\ & (2.13) \end{aligned}$ | $\begin{aligned} & -3.18 \\ & (3.01) \end{aligned}$ | $\begin{gathered} 1.05 \\ (0.82) \end{gathered}$ | $\begin{gathered} 1.36 \\ (1.34) \end{gathered}$ | $\begin{gathered} 1.20 \\ (0.97) \end{gathered}$ | $\begin{gathered} 1.05 \\ (1.86) \end{gathered}$ | $\begin{gathered} 0.17 \\ (0.66) \end{gathered}$ |
| Obs <br> Clusters | $\begin{gathered} 14307 \\ 89 \end{gathered}$ | $\begin{gathered} 13132 \\ 89 \end{gathered}$ | $\begin{gathered} 14307 \\ 89 \end{gathered}$ | $\begin{gathered} 13132 \\ 89 \end{gathered}$ | $\begin{gathered} 14307 \\ 89 \end{gathered}$ | $\begin{gathered} 13132 \\ 89 \end{gathered}$ | $\begin{gathered} 14307 \\ 89 \end{gathered}$ | $\begin{gathered} 13132 \\ 89 \end{gathered}$ | $\begin{gathered} 14307 \\ 89 \end{gathered}$ | $\begin{gathered} 13132 \\ 89 \end{gathered}$ | $\begin{gathered} 14307 \\ 89 \end{gathered}$ | $\begin{gathered} 13132 \\ 89 \end{gathered}$ |
| Mean | 27.28 | 22.89 | 1.25 | 5.95 | 25.68 | 32.18 | 28.88 | 1.81 | 6.75 | 1.44 | 10.86 | 1.29 |
| B: Effect on non-Dalit/Adivasi households |  |  |  |  |  |  |  |  |  |  |  |  |
| Time | $\begin{gathered} 2.35 \\ (1.99) \end{gathered}$ | $\begin{gathered} -1.01 \\ (1.88) \end{gathered}$ | $\begin{gathered} -0.91^{* * *} \\ (0.28) \end{gathered}$ | $\begin{gathered} -5.28^{* * *} \\ (0.88) \end{gathered}$ | $\begin{gathered} -7.18^{* * *} \\ (2.26) \end{gathered}$ | $\begin{gathered} -7.17^{* * *} \\ (1.61) \end{gathered}$ | $\begin{gathered} -1.91 \\ (1.69) \end{gathered}$ | $\begin{gathered} -0.51 \\ (0.48) \end{gathered}$ | $\begin{gathered} -0.28 \\ (1.03) \end{gathered}$ | $\begin{gathered} 0.23 \\ (0.45) \end{gathered}$ | $\begin{gathered} 0.48 \\ (1.78) \end{gathered}$ | $\begin{gathered} 0.95^{*} \\ (0.48) \end{gathered}$ |
| SHG Loan | $\begin{gathered} -6.87^{* *} \\ (3.14) \end{gathered}$ | $\begin{gathered} -0.55 \\ (2.72) \end{gathered}$ | $\begin{gathered} -0.08 \\ (0.53) \end{gathered}$ | $\begin{gathered} 1.97 \\ (1.49) \end{gathered}$ | $\begin{gathered} 0.79 \\ (2.42) \end{gathered}$ | $\begin{gathered} 3.76 \\ (2.66) \end{gathered}$ | $\begin{gathered} 7.72^{* * *} \\ (2.44) \end{gathered}$ | $\begin{gathered} 0.03 \\ (0.91) \end{gathered}$ | $\begin{gathered} 0.04 \\ (1.62) \end{gathered}$ | $\begin{gathered} -0.31 \\ (0.80) \end{gathered}$ | $\begin{gathered} -1.50 \\ (1.79) \end{gathered}$ | $\begin{array}{r} -0.75 \\ (0.48) \end{array}$ |
| Time $\times$ SHG Loan | $\begin{gathered} 5.00 \\ (3.33) \end{gathered}$ | $\begin{aligned} & 7.64^{* *} \\ & (3.12) \end{aligned}$ | $\begin{gathered} -0.21 \\ (0.57) \end{gathered}$ | $\begin{aligned} & -2.31 \\ & (1.55) \end{aligned}$ | $\begin{aligned} & -0.24 \\ & (3.37) \end{aligned}$ | $\begin{aligned} & -0.15 \\ & (2.38) \end{aligned}$ | -3.73 <br> (3.20) | $\begin{gathered} 0.10 \\ (1.01) \end{gathered}$ | $\begin{gathered} 1.74 \\ (2.19) \end{gathered}$ | $\begin{aligned} & 2.44^{*} \\ & (1.32) \end{aligned}$ | $\begin{gathered} 0.42 \\ (2.25) \end{gathered}$ | $\begin{aligned} & -0.34 \\ & (0.75) \end{aligned}$ |
| Obs <br> Clusters | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ |
| Mean | 32.32 | 25.66 | 1.21 | 6.44 | 18.96 | 20.61 | 25.38 | 1.60 | 8.48 | 1.75 | 11.32 | 0.98 |
| C: Effect on Dalit/Adivasi households |  |  |  |  |  |  |  |  |  |  |  |  |
| Time | $\begin{gathered} \hline 3.92^{* * *} \\ (1.28) \end{gathered}$ | $\begin{aligned} & \hline 3.23^{* *} \\ & (1.27) \end{aligned}$ | $\begin{gathered} -0.57^{* *} \\ (0.24) \end{gathered}$ | $\begin{gathered} \hline-3.05^{* * *} \\ (0.56) \end{gathered}$ | $\begin{gathered} -9.99^{* * *} \\ (1.70) \end{gathered}$ | $\begin{gathered} \hline-10.38^{* * *} \\ (1.54) \end{gathered}$ | $\begin{aligned} & -1.32 \\ & (1.93) \end{aligned}$ | $\begin{gathered} 1.30 \\ (0.88) \end{gathered}$ | $\begin{gathered} 0.16 \\ (0.48) \end{gathered}$ | $\begin{gathered} 0.12 \\ (0.29) \end{gathered}$ | $\begin{gathered} -0.38 \\ (1.45) \end{gathered}$ | $\begin{gathered} 0.07 \\ (0.28) \end{gathered}$ |
| SHG Loan | $\begin{gathered} -2.84^{* *} \\ (1.16) \end{gathered}$ | $\begin{gathered} -1.44 \\ (1.12) \end{gathered}$ | $\begin{gathered} -0.05 \\ (0.27) \end{gathered}$ | $\begin{gathered} -0.36 \\ (0.64) \end{gathered}$ | $\begin{gathered} 1.39 \\ (1.80) \end{gathered}$ | $\begin{aligned} & 3.71^{*} \\ & (1.95) \end{aligned}$ | $\begin{aligned} & 3.43^{* *} \\ & (1.66) \end{aligned}$ | $\begin{gathered} -1.24^{* *} \\ (0.52) \end{gathered}$ | $\begin{aligned} & -1.06^{*} \\ & (0.60) \end{aligned}$ | $\begin{gathered} -1.19^{* * *} \\ (0.39) \end{gathered}$ | $\begin{gathered} -2.91^{* *} \\ (1.11) \end{gathered}$ | $\begin{gathered} -0.43 \\ (0.39) \end{gathered}$ |
| Time $\times$ SHG Loan | $\begin{gathered} 2.09 \\ (1.62) \end{gathered}$ | $\begin{gathered} 2.86^{*} \\ (1.61) \end{gathered}$ | $\begin{gathered} -0.03 \\ (0.34) \end{gathered}$ | $\begin{aligned} & -0.06 \\ & (0.67) \end{aligned}$ | $\begin{aligned} & -2.42 \\ & (2.38) \end{aligned}$ | $\begin{aligned} & -0.95 \\ & (1.99) \end{aligned}$ | $\begin{gathered} 0.24 \\ (2.42) \end{gathered}$ | $\begin{gathered} 1.00 \\ (1.11) \end{gathered}$ | $\begin{aligned} & -0.32 \\ & (0.67) \end{aligned}$ | $\begin{gathered} 0.22 \\ (0.36) \end{gathered}$ | $\begin{aligned} & 3.51^{* *} \\ & (1.53) \end{aligned}$ | $\begin{gathered} 0.72^{*} \\ (0.43) \end{gathered}$ |
| Obs <br> Clusters | $\begin{gathered} 10004 \\ 89 \end{gathered}$ | $\begin{gathered} 9204 \\ 89 \end{gathered}$ | $\begin{gathered} 10004 \\ 89 \end{gathered}$ | $\begin{gathered} 9204 \\ 89 \end{gathered}$ | $\begin{gathered} 10004 \\ 89 \end{gathered}$ | $\begin{gathered} 9204 \\ 89 \end{gathered}$ | $\begin{gathered} 10004 \\ 89 \end{gathered}$ | $\begin{gathered} 9204 \\ 89 \end{gathered}$ | $\begin{gathered} 10004 \\ 89 \end{gathered}$ | $\begin{gathered} 9204 \\ 89 \end{gathered}$ | $\begin{gathered} 10004 \\ 89 \end{gathered}$ | $\begin{gathered} 9204 \\ 89 \end{gathered}$ |
| Mean | 14.60 | 15.52 | 0.87 | 3.63 | 41.17 | 55.29 | 36.14 | 2.68 | 3.56 | 1.14 | 10.50 | 1.23 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from a linear regression of each outcome on an indicator for post-period,
an indicator having borrowed from a SHG, and the interaction of the two - using the pooled treated sample. Panel A presents results from full-sample weighted regressions. Weights are inverse probability of sampling weights that are re-weighted to sum to one at the village level in order to re-constitute the caste
composition of the village. Panel B has results on the non-Dalit/Adivasi sub-sample, without sampling weights. Panel C has results on the SC-ST sub-sample, without sampling weights. All specifications control for strata dummies and baseline controls. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 10: Change in Work Participation and Savings though SHGs

|  | Cultivation |  | Animal <br> Husbandry |  | Agri <br> Labor |  | Non-Agri <br> Labor |  | Self <br> Employment |  | Salaried <br> Employment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| A: Overall Effects |  |  |  |  |  |  |  |  |  |  |  |  |
| Time | $\begin{gathered} 0.80 \\ (2.03) \end{gathered}$ | $\begin{gathered} -2.92 \\ (1.92) \end{gathered}$ | $\begin{gathered} -1.04^{* * *} \\ (0.31) \end{gathered}$ | $\begin{gathered} -4.74^{* * *} \\ (0.84) \end{gathered}$ | $\begin{gathered} -5.23^{* * *} \\ (1.78) \end{gathered}$ | $\begin{gathered} -7.30^{* * *} \\ (1.58) \end{gathered}$ | $\begin{gathered} -1.06 \\ (2.67) \end{gathered}$ | $\begin{gathered} 0.48 \\ (0.55) \end{gathered}$ | $\begin{gathered} -0.47 \\ (0.89) \end{gathered}$ | $\begin{gathered} 1.00 \\ (0.74) \end{gathered}$ | $\begin{gathered} 0.74 \\ (2.20) \end{gathered}$ | $\begin{gathered} 0.26 \\ (0.80) \end{gathered}$ |
| Any Savings? | $\begin{gathered} -7.28^{* * *} \\ (2.12) \end{gathered}$ | $\begin{aligned} & -3.24^{*} \\ & (1.87) \end{aligned}$ | $\begin{gathered} -0.02 \\ (0.39) \end{gathered}$ | $\begin{gathered} 1.12 \\ (1.03) \end{gathered}$ | $\begin{gathered} 7.77^{* * *} \\ (2.02) \end{gathered}$ | $\begin{gathered} 10.65^{* * *} \\ (2.28) \end{gathered}$ | $\begin{gathered} 7.84^{* * *} \\ (2.21) \end{gathered}$ | $\begin{gathered} 0.39 \\ (0.50) \end{gathered}$ | $\begin{gathered} -1.13 \\ (1.10) \end{gathered}$ | $\begin{gathered} 0.20 \\ (0.49) \end{gathered}$ | $\begin{gathered} -2.48 \\ (1.52) \end{gathered}$ | $\begin{aligned} & -1.13^{*} \\ & (0.59) \end{aligned}$ |
| Time $\times$ Any Savings? | $\begin{aligned} & 5.95^{* *} \\ & (2.53) \end{aligned}$ | $\begin{gathered} 9.91^{* * *} \\ (2.25) \end{gathered}$ | $\begin{gathered} -0.03 \\ (0.45) \end{gathered}$ | $\begin{aligned} & -1.24 \\ & (1.08) \end{aligned}$ | $\begin{gathered} -6.30^{* * *} \\ (2.14) \end{gathered}$ | $\begin{aligned} & -3.14 \\ & (2.03) \end{aligned}$ | $\begin{aligned} & -2.11 \\ & (3.39) \end{aligned}$ | $\begin{gathered} 0.35 \\ (0.80) \end{gathered}$ | $\begin{gathered} 1.20 \\ (1.24) \end{gathered}$ | $\begin{gathered} 0.10 \\ (0.91) \end{gathered}$ | $\begin{gathered} 0.88 \\ (2.27) \end{gathered}$ | $\begin{gathered} 0.51 \\ (0.83) \end{gathered}$ |
| Obs <br> Clusters | $\begin{gathered} 14309 \\ 89 \end{gathered}$ | $\begin{gathered} 13133 \\ 89 \end{gathered}$ | $\begin{gathered} 14309 \\ 89 \end{gathered}$ | $\begin{gathered} 13133 \\ 89 \end{gathered}$ | $\begin{gathered} 14309 \\ 89 \end{gathered}$ | $\begin{gathered} 13133 \\ 89 \end{gathered}$ | $\begin{gathered} 14309 \\ 89 \end{gathered}$ | $\begin{gathered} 13133 \\ 89 \end{gathered}$ | $\begin{gathered} 14309 \\ 89 \end{gathered}$ | $\begin{gathered} 13133 \\ 89 \end{gathered}$ | $\begin{gathered} 14309 \\ 89 \end{gathered}$ | $\begin{gathered} 13133 \\ 89 \end{gathered}$ |
| Mean | 27.29 | 22.89 | 1.26 | 5.95 | 25.68 | 32.18 | 28.88 | 1.81 | 6.75 | 1.44 | 10.86 | 1.29 |
| B: Effect on non-Dalit/Adivasi households |  |  |  |  |  |  |  |  |  |  |  |  |
| Time | $\begin{gathered} -0.30 \\ (2.08) \end{gathered}$ | $\begin{aligned} & -4.21^{*} \\ & (2.25) \end{aligned}$ | $\begin{gathered} -0.86^{* * *} \\ (0.30) \end{gathered}$ | $\begin{gathered} -4.48^{* * *} \\ (0.93) \end{gathered}$ | $\begin{gathered} -5.47^{* *} \\ (2.46) \end{gathered}$ | $\begin{gathered} -6.38^{* * *} \\ (1.90) \end{gathered}$ | $\begin{gathered} -1.18 \\ (1.99) \end{gathered}$ | $\begin{gathered} -0.34 \\ (0.54) \end{gathered}$ | $\begin{gathered} -0.27 \\ (1.18) \end{gathered}$ | $\begin{gathered} 0.45 \\ (0.50) \end{gathered}$ | $\begin{gathered} 0.36 \\ (1.99) \end{gathered}$ | $\begin{array}{r} 0.63 \\ (0.50) \end{array}$ |
| Any Savings? | $\begin{gathered} -6.83^{* * *} \\ (2.56) \end{gathered}$ | $\begin{gathered} -3.18 \\ (2.38) \end{gathered}$ | $\begin{gathered} 0.25 \\ (0.46) \end{gathered}$ | $\begin{gathered} 2.60^{*} \\ (1.34) \end{gathered}$ | $\begin{aligned} & 4.74^{* *} \\ & (2.32) \end{aligned}$ | $\begin{gathered} 7.10^{* * *} \\ (2.24) \end{gathered}$ | $\begin{gathered} 6.96^{* * *} \\ (2.26) \end{gathered}$ | $\begin{gathered} 0.77 \\ (0.60) \end{gathered}$ | $\begin{gathered} -0.16 \\ (1.35) \end{gathered}$ | $\begin{gathered} 0.54 \\ (0.66) \end{gathered}$ | $\begin{gathered} -0.88 \\ (1.72) \end{gathered}$ | $\begin{aligned} & -0.87^{*} \\ & (0.46) \end{aligned}$ |
| Time $\times$ Any Savings? | $\begin{gathered} 8.45^{* * *} \\ (2.93) \end{gathered}$ | $\begin{gathered} 10.96^{* * *} \\ (2.82) \end{gathered}$ | $\begin{aligned} & -0.23 \\ & (0.54) \end{aligned}$ | $\begin{gathered} -2.93^{* *} \\ (1.32) \end{gathered}$ | $\begin{aligned} & -3.89 \\ & (2.86) \end{aligned}$ | $\begin{aligned} & -1.83 \\ & (2.24) \end{aligned}$ | $\begin{gathered} -3.59 \\ (3.07) \end{gathered}$ | $\begin{aligned} & -0.33 \\ & (0.74) \end{aligned}$ | $\begin{gathered} 0.91 \\ (1.68) \end{gathered}$ | $\begin{gathered} 0.80 \\ (0.94) \end{gathered}$ | $\begin{gathered} 0.48 \\ (2.19) \end{gathered}$ | $\begin{gathered} 0.53 \\ (0.60) \end{gathered}$ |
| Obs <br> Clusters | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ | $\begin{gathered} 4303 \\ 86 \end{gathered}$ | $\begin{gathered} 3928 \\ 86 \end{gathered}$ |
| Mean | 32.32 | 25.66 | 1.21 | 6.44 | 18.96 | 20.61 | 25.38 | 1.60 | 8.48 | 1.75 | 11.32 | 0.98 |
| C: Effect on Dalit/Adivasi households |  |  |  |  |  |  |  |  |  |  |  |  |
| Time | $\begin{gathered} 1.72 \\ (1.48) \end{gathered}$ | $\begin{gathered} -0.05 \\ (1.31) \end{gathered}$ | $\begin{gathered} -0.48 \\ (0.32) \end{gathered}$ | $\begin{gathered} -3.00^{* * *} \\ (0.55) \end{gathered}$ | $\begin{gathered} -7.54^{* * *} \\ (1.96) \end{gathered}$ | $\begin{gathered} -7.37^{* * *} \\ (1.84) \end{gathered}$ | $\begin{gathered} -0.70 \\ (2.35) \end{gathered}$ | $\begin{gathered} 1.96 \\ (1.26) \end{gathered}$ | $\begin{gathered} -0.32 \\ (0.64) \end{gathered}$ | $\begin{gathered} 0.19 \\ (0.36) \end{gathered}$ | $\begin{gathered} -0.52 \\ (1.67) \end{gathered}$ | $\begin{array}{r} 0.49 \\ (0.39) \end{array}$ |
| Any Savings? | $\begin{gathered} -3.76^{* * *} \\ (1.41) \end{gathered}$ | $\begin{gathered} -3.44^{* * *} \\ (1.23) \end{gathered}$ | $\begin{gathered} 0.14 \\ (0.32) \end{gathered}$ | $\begin{gathered} 0.08 \\ (0.55) \end{gathered}$ | $\begin{gathered} 2.91 \\ (1.87) \end{gathered}$ | $\begin{gathered} 6.92^{* * *} \\ (2.15) \end{gathered}$ | $\begin{gathered} 5.02^{* * *} \\ (1.88) \end{gathered}$ | $\begin{gathered} -0.45 \\ (0.65) \end{gathered}$ | $\begin{gathered} -1.51^{* *} \\ (0.70) \end{gathered}$ | $\begin{gathered} -1.09^{* *} \\ (0.49) \end{gathered}$ | $\begin{gathered} -2.82^{* *} \\ (1.34) \end{gathered}$ | $\begin{aligned} & -0.76^{*} \\ & (0.40) \end{aligned}$ |
| Time $\times$ Any Savings? | $\begin{gathered} 4.76^{* * *} \\ (1.78) \end{gathered}$ | $\begin{gathered} 6.92^{* * *} \\ (1.62) \end{gathered}$ | $\begin{aligned} & -0.19 \\ & (0.37) \end{aligned}$ | $\begin{gathered} -0.13 \\ (0.57) \end{gathered}$ | $\begin{gathered} -5.35^{* *} \\ (2.12) \end{gathered}$ | $\begin{gathered} -5.44^{* *} \\ (2.14) \end{gathered}$ | $\begin{aligned} & -0.90 \\ & (2.54) \end{aligned}$ | $\begin{aligned} & -0.49 \\ & (1.37) \end{aligned}$ | $\begin{gathered} 0.60 \\ (0.82) \end{gathered}$ | $\begin{gathered} 0.02 \\ (0.38) \end{gathered}$ | $\begin{gathered} 2.24 \\ (1.66) \end{gathered}$ | $\begin{aligned} & -0.24 \\ & (0.45) \end{aligned}$ |
| Obs | 10006 | 9205 | 10006 | 9205 | 10006 | 9205 | 10006 | 9205 | 10006 | 9205 | 10006 | 9205 |
| Clusters | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Mean | 14.61 | 15.54 | 0.89 | 3.63 | 41.16 | 55.27 | 36.14 | 2.68 | 3.56 | 1.14 | 10.49 | 1.23 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from a linear regression of each outcome on an indicator for post-period,
an indicator having saved with a SHG, and the interaction of the two - using the pooled treated sample. Panel A presents results from full-sample weighted
regressions. Weights are inverse probability of sampling weights that are re-weighted to sum to one at the village level in order to re-constitute the caste
composition of the village. Panel B has results on the non-Dalit/Adivasi sub-sample, without sampling weights. Panel C has results on the SC-ST sub-sample, without sampling weights. All specifications control for strata dummies and baseline controls. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 11: Consumption and Assets

|  | Assets |  |  | Consumption Expenditure '000 ₹ per Adult Equivalent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cons | Prod | House | Total | Food | Nutritious Food |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| A: Overall Impact of Jeevika |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} 0.04 \\ (0.03) \end{gathered}$ | $\begin{aligned} & -0.02 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & -0.01 \\ & (0.02) \end{aligned}$ | $\begin{gathered} 0.00 \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.00 \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.00 \\ (0.00) \end{gathered}$ |
| Obs | 8987 | 8987 | 8987 | 8987 | 8987 | 8987 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 0.00 | -0.00 | -0.00 | 1.12 | 0.72 | 0.19 |

B: Impact of Jeevika on non-Dalit/Adivasi households

| Jeevika | 0.01 <br> $(0.04)$ | $-0.06^{*}$ | -0.03 | -0.01 | -0.01 | -0.00 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(0.03)$ | $(0.03)$ | $(0.03)$ | $(0.02)$ | $(0.01)$ |  |
| Obs | 2525 | 2525 | 2525 | 2525 | 2525 | 2525 |
| Clusters | 174 | 174 | 174 | 174 | 174 | 174 |
| Mean | 0.22 | 0.12 | 0.10 | 1.20 | 0.75 | 0.20 |

C: Impact of Jeevika on Dalit/Adivasi households

| Jeevika | $\begin{gathered} 0.08^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.01 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.02 \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.01 \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.01 \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.00 \\ (0.00) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Obs | 6462 | 6462 | 6462 | 6462 | 6462 | 6462 |
| Clusters | 178 | 178 | 178 | 178 | 178 | 178 |
| Mean | -0.38 | -0.21 | -0.21 | 1.00 | 0.68 | 0.18 |

[^18]
## D Heterogeneous Treatment Effects, by Caste

Table 12: Program Take-up and Household Borrowing

|  | SHG <br> Member? | Any <br> Savings? | Any loans taken? <br> (\%) |  |  | Outstanding Debt ('000 Rs.) |  |  | Interest <br> Rate |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (\%) | (\%) | SHG | Informal | All | SHG | Informal | All | (\%) |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Jeevika | $\begin{gathered} 43.71^{* * *} \\ (2.32) \end{gathered}$ | $\begin{gathered} 23.38^{* * *} \\ (2.77) \end{gathered}$ | $\begin{gathered} 25.09^{* * *} \\ (1.90) \end{gathered}$ | $\begin{aligned} & -3.83^{*} \\ & (2.17) \end{aligned}$ | $\begin{gathered} 3.33 \\ (2.23) \end{gathered}$ | $\begin{gathered} 1.92^{* * *} \\ (0.17) \end{gathered}$ | $\begin{gathered} -3.26^{* * *} \\ (1.14) \end{gathered}$ | $\begin{aligned} & -2.31^{*} \\ & (1.30) \end{aligned}$ | $\begin{gathered} -0.53^{* * *} \\ (0.10) \end{gathered}$ |
| Dalit/Adivasi | $\begin{gathered} 0.82 \\ (1.51) \end{gathered}$ | $\begin{gathered} 0.57 \\ (2.44) \end{gathered}$ | $\begin{gathered} -1.33 \\ (0.96) \end{gathered}$ | $\begin{aligned} & 4.27^{* *} \\ & (1.90) \end{aligned}$ | $\begin{aligned} & 4.02^{* *} \\ & (1.90) \end{aligned}$ | $\begin{gathered} -0.01 \\ (0.08) \end{gathered}$ | $\begin{gathered} -4.14^{* * *} \\ (1.14) \end{gathered}$ | $\begin{gathered} -5.30^{* * *} \\ (1.30) \end{gathered}$ | $\begin{aligned} & 0.74^{* * *} \\ & (0.10) \end{aligned}$ |
| Jeevika $\times$ Dalit/Adivasi | $\begin{gathered} 9.95^{* * *} \\ (2.52) \end{gathered}$ | $\begin{aligned} & 6.78^{* *} \\ & (2.88) \end{aligned}$ | $\begin{gathered} 11.53^{* * *} \\ (2.11) \end{gathered}$ | $\begin{aligned} & -2.50 \\ & (2.48) \end{aligned}$ | $\begin{gathered} 0.04 \\ (2.50) \end{gathered}$ | $\begin{gathered} 0.34 \\ (0.20) \end{gathered}$ | $\begin{gathered} 0.37 \\ (1.44) \end{gathered}$ | $\begin{gathered} 1.79 \\ (1.62) \end{gathered}$ | $\begin{gathered} -0.56^{* * *} \\ (0.13) \end{gathered}$ |
| Obs | 8851 | 8987 | 8987 | 8987 | 8987 | 8987 | 8987 | 8987 | 6805 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 7.01 | 49.73 | 1.49 | 69.41 | 71.45 | 0.11 | 22.87 | 27.45 | 4.76 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, an indicator of treatment status, an indicator of caste status and the interaction between the two - with inverse probability of sampling weights. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 13: Women's Empowerment

|  | Works <br> Outside | Signature | Read Signs | Any Say in <br> Decisions? (\%) |  | Daughter <br> Work |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(\%)$ | $(\%)$ | $(\%)$ | Labor | Borrow | $(\%)$ |
|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ |
| Jeevika | 0.58 | $10.53^{* * *}$ | $3.05^{* *}$ | 3.08 | 2.93 | 0.80 |
|  | $(0.41)$ | $(1.68)$ | $(1.38)$ | $(2.65)$ | $(2.90)$ | $(3.51)$ |
| Dalit/Adivasi | $1.20^{* * *}$ | $-3.28^{* *}$ | -0.49 | $6.20^{* * *}$ | 2.79 | 0.33 |
|  | $(0.40)$ | $(1.49)$ | $(1.29)$ | $(2.14)$ | $(2.15)$ | $(2.66)$ |
| Jeevika $\times$ Dalit/Adivasi | -0.84 | $4.47^{* *}$ | -0.58 | $-5.01^{*}$ | -3.86 | -4.53 |
|  | $(0.61)$ | $(1.98)$ | $(1.69)$ | $(2.99)$ | $(2.92)$ | $(3.83)$ |
| Obs | 13376 | 8671 | 8671 | 8671 | 8671 | 3857 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 1.45 | 37.20 | 19.32 | 88.20 | 92.12 | 73.35 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, an indicator of treatment status, an indicator of caste status and the interaction between the two - with inverse probability of sampling weights. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 14: Labor Force Participation

|  | Labor Force <br> Participation (\%) |  | Agri <br> Participation (\%) |  | Non-Agri <br> Participation (\%) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Jeevika | $\begin{gathered} 2.70 \\ (1.71) \end{gathered}$ | $\begin{gathered} 3.05 \\ (2.42) \end{gathered}$ | $\begin{gathered} 2.65 \\ (2.03) \end{gathered}$ | $\begin{gathered} 1.37 \\ (2.27) \end{gathered}$ | $\begin{gathered} 3.05 \\ (2.02) \end{gathered}$ | $\begin{gathered} 1.70^{*} \\ (0.91) \end{gathered}$ |
| Dalit/Adivasi | $\begin{gathered} 4.75^{* * *} \\ (1.47) \end{gathered}$ | $\begin{gathered} 16.47^{* * *} \\ (1.75) \end{gathered}$ | $\begin{gathered} 7.97^{* * *} \\ (1.68) \end{gathered}$ | $\begin{gathered} 14.31^{* * *} \\ (1.72) \end{gathered}$ | $\begin{gathered} 1.24 \\ (1.78) \end{gathered}$ | $\begin{aligned} & 3.19^{* * *} \\ & (0.93) \end{aligned}$ |
| Jeevika $\times$ Dalit/Adivasi | $\begin{gathered} -4.32^{* *} \\ (1.85) \end{gathered}$ | $\begin{gathered} -5.74^{* *} \\ (2.63) \end{gathered}$ | $\begin{gathered} -6.48^{* * *} \\ (2.34) \end{gathered}$ | $\begin{aligned} & -4.11 \\ & (2.62) \end{aligned}$ | $\begin{gathered} -1.65 \\ (2.44) \end{gathered}$ | $\begin{gathered} -2.08^{*} \\ (1.23) \end{gathered}$ |
| Obs | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 80.76 | 52.03 | 48.30 | 46.83 | 41.58 | 6.18 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, an indicator of treatment status, an indicator of caste status and the interaction between the two - with inverse probability of sampling weights. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 15: Participation by Occupation Type

|  | Cultivation |  | Animal <br> Husbandry |  | Agri <br> Labor |  | Non-Agri <br> Labor |  | Self <br> Employment |  | Salaried <br> Employment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Jeevika | $\begin{gathered} 1.67 \\ (1.96) \end{gathered}$ | $\begin{gathered} 0.74 \\ (2.12) \end{gathered}$ | $\begin{gathered} -0.26 \\ (0.17) \end{gathered}$ | $\begin{gathered} -0.30 \\ (0.36) \end{gathered}$ | $\begin{gathered} 0.67 \\ (1.65) \end{gathered}$ | $\begin{gathered} 0.42 \\ (1.41) \end{gathered}$ | $\begin{gathered} 1.02 \\ (1.73) \end{gathered}$ | $\begin{gathered} 0.13 \\ (0.59) \end{gathered}$ | $\begin{gathered} 0.30 \\ (0.96) \end{gathered}$ | $\begin{aligned} & 0.78^{*} \\ & (0.47) \end{aligned}$ | $\begin{aligned} & 2.64^{* *} \\ & (1.23) \end{aligned}$ | $\begin{aligned} & 1.00^{* * *} \\ & (0.36) \end{aligned}$ |
| Dalit/Adivasi | $\begin{gathered} -2.81^{* *} \\ (1.42) \end{gathered}$ | $\begin{gathered} -1.45 \\ (1.74) \end{gathered}$ | $\begin{gathered} -0.09 \\ (0.24) \end{gathered}$ | $\begin{gathered} -0.18 \\ (0.32) \end{gathered}$ | $\begin{gathered} 11.54^{* * *} \\ (1.36) \end{gathered}$ | $\begin{gathered} 15.50^{* * *} \\ (1.50) \end{gathered}$ | $\begin{gathered} 3.24^{*} \\ (1.78) \end{gathered}$ | $\begin{gathered} 2.31^{* * *} \\ (0.61) \end{gathered}$ | $\begin{gathered} -3.84^{* * *} \\ (0.81) \end{gathered}$ | $\begin{gathered} 0.04 \\ (0.40) \end{gathered}$ | $\begin{aligned} & 2.82^{* *} \\ & (1.22) \end{aligned}$ | $\begin{gathered} 0.74^{*} \\ (0.39) \end{gathered}$ |
| Jeevika $\times$ Dalit/Adivasi | $\begin{gathered} -1.12 \\ (2.12) \end{gathered}$ | $\begin{gathered} -0.27 \\ (2.41) \end{gathered}$ | $\begin{gathered} 0.07 \\ (0.22) \end{gathered}$ | $\begin{gathered} 0.01 \\ (0.41) \end{gathered}$ | $\begin{gathered} -5.07^{* *} \\ (2.13) \end{gathered}$ | $\begin{aligned} & -3.62^{*} \\ & (2.01) \end{aligned}$ | $\begin{gathered} -0.19 \\ (2.29) \end{gathered}$ | $\begin{gathered} 0.03 \\ (0.84) \end{gathered}$ | $\begin{gathered} -0.45 \\ (1.11) \end{gathered}$ | $\begin{gathered} -1.10^{*} \\ (0.59) \end{gathered}$ | $\begin{gathered} -1.97 \\ (1.56) \end{gathered}$ | $\begin{gathered} -0.98^{*} \\ (0.53) \end{gathered}$ |
| Obs | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 31.18 | 25.43 | 0.58 | 1.12 | 18.14 | 21.84 | 25.27 | 1.93 | 6.94 | 1.79 | 10.06 | 1.35 |

[^19]
## E Alternative Estimators: Simple Differences, Difference-inDifferences

Table 16: Program Take-up and Household Borrowing


Standard errors clustered at the panchayat level shown in parentheses. Coefficients in Panel A are from a simple difference specification, with baseline controls and strata dummies. Coefficients in Panel B are from a difference-in-differences specification with household fixed effects. Pooled overall regressions are weighted using inverse probability of sampling weights. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 17: Women's Empowerment

|  | Works <br> Outside | Signature | Read Signs | Any Say in <br> Decisions? (\%) | Daughter <br> Work |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(\%)$ | $(\%)$ | $(\%)$ | Labor | Borrow | $(\%)$ |
|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ |
|  |  | A: Simple Differences |  |  |  |  |
| Overall Impact | -0.08 | $14.11^{* * *}$ | $3.12^{* * *}$ | -0.47 | 0.17 | -2.53 |
| Impact on | $(0.27)$ | $(0.98)$ | $(0.69)$ | $(1.24)$ | $(1.64)$ | $(1.73)$ |
| non-Dalit/Adivasi HHs | $(0.28)$ | $(1.80)$ | $(1.36)$ | $(1.77)$ | $(2.06)$ | $(3.31)$ |
| Impact on | 0.46 | $10.58^{* * *}$ | $3.08^{* *}$ | -0.28 | -0.55 | -0.56 |
| Dalit/Adivasi HHs | $(0.38)$ | $(0.99)$ | $(0.67)$ | $(0.92)$ | $(1.26)$ | $(1.76)$ |

Panel B: Difference-in-Differences

| Overall Impact | 0.88 | $13.00^{* * *}$ | $1.79^{*}$ | -0.87 | 0.32 | -0.62 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(0.54)$ | $(1.38)$ | $(0.92)$ | $(1.97)$ | $(2.41)$ | $(3.47))$ |
| Impact on | 0.19 | $10.06^{* * *}$ | 1.90 | -1.95 | 2.78 | 7.20 |
| non-Dalit/Adivasi HHs | $(0.67)$ | $(1.94)$ | $(1.66)$ | $(3.61)$ | $(3.50)$ | $(5.66)$ |
| Impact on | $1.18^{*}$ | $14.06^{* * *}$ | 1.65 | -0.44 | -0.72 | -2.91 |
| Dalit/Adivasi HHs | $(0.70)$ | $(1.57)$ | $(1.07)$ | $(1.98)$ | $(2.43)$ | $(3.78)$ |

[^20]Table 18: Labor Force Participation

|  | Labor Force Participation (\%) |  | $\begin{gathered} \text { Agri } \\ \text { Participation (\%) } \end{gathered}$ |  | Non-Agri <br> Participation (\%) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Panel A: Simple Differences |  |  |  |  |  |  |
| Overall Impact | $\begin{gathered} 0.92 \\ (1.29) \end{gathered}$ | $\begin{gathered} 2.43^{*} \\ (1.35) \end{gathered}$ | $\begin{aligned} & -0.25 \\ & (1.48) \end{aligned}$ | $\begin{gathered} 1.45 \\ (1.26) \end{gathered}$ | $\begin{gathered} 2.09 \\ (1.37) \end{gathered}$ | $\begin{array}{r} 0.63 \\ (0.56) \end{array}$ |
| Impact on non-Dalit/Adivasi HHs | $\begin{gathered} 2.38 \\ (1.50) \end{gathered}$ | $\begin{gathered} 3.67^{*} \\ (1.89) \end{gathered}$ | $\begin{gathered} 2.67 \\ (1.69) \end{gathered}$ | $\begin{gathered} 2.56 \\ (1.79) \end{gathered}$ | $\begin{gathered} 1.21 \\ (1.56) \end{gathered}$ | $\begin{gathered} 1.08 \\ (0.68) \end{gathered}$ |
| Impact on Dalit/Adivasi HHs | $\begin{gathered} -1.43^{* *} \\ (0.64) \end{gathered}$ | $\begin{gathered} -2.14^{* *} \\ (0.91) \end{gathered}$ | $\begin{gathered} -3.55^{* *} \\ (1.73) \end{gathered}$ | $\begin{gathered} -2.11^{* *} \\ (1.04) \end{gathered}$ | $\begin{gathered} 1.63 \\ (1.31) \end{gathered}$ | $\begin{gathered} -0.53 \\ (0.74) \end{gathered}$ |

## Panel B: Difference-in-Differences

| Overall Impact | -0.50 | 1.89 | -1.40 | -1.30 | 2.71 | $3.05^{* *}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(1.18)$ | $(2.25)$ | $(2.47)$ | $(2.18)$ | $(2.20)$ | $(1.37)$ |
| Impact on | -0.75 | 3.12 | -0.52 | -0.76 | 1.74 | $3.75^{* *}$ |
| non-Dalit/Adivasi HHs | $(1.58)$ | $(2.83)$ | $(2.77)$ | $(2.71)$ | $(2.38)$ | $(1.55)$ |
| Impact on | -0.06 | -0.45 | -3.11 | -2.14 | 1.84 | 1.70 |
| Dalit/Adivasi HHs | $(0.98)$ | $(1.59)$ | $(2.61)$ | $(1.78)$ | $(2.24)$ | $(1.20)$ |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients in Panel A are from a simple difference specification, with baseline controls and strata dummies.
Coefficients in Panel B are from a difference-in-differences specification with household fixed effects. Pooled overall regressions are weighted using inverse probability of sampling weights. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 19: Participation by Occupation Type

|  | Cultivation |  | Animal <br> Husbandry |  | Agri <br> Labor |  | Non-Agri <br> Labor |  | Self <br> Employment |  | Salaried <br> Employment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| A: Simple Differences |  |  |  |  |  |  |  |  |  |  |  |  |
| Overall Impact | $\begin{gathered} 1.41 \\ (1.29) \end{gathered}$ | $\begin{gathered} 1.01 \\ (1.21) \end{gathered}$ | $\begin{gathered} -0.39^{* * *} \\ (0.11) \end{gathered}$ | $\begin{gathered} -0.61^{* *} \\ (0.30) \end{gathered}$ | $\begin{gathered} -2.08^{*} \\ (1.18) \end{gathered}$ | $\begin{gathered} 0.26 \\ (0.87) \end{gathered}$ | $\begin{gathered} 1.48 \\ (1.08) \end{gathered}$ | $\begin{gathered} 0.30 \\ (0.37) \end{gathered}$ | $\begin{gathered} -0.61 \\ (0.58) \end{gathered}$ | $\begin{gathered} 0.55 \\ (0.33) \end{gathered}$ | $\begin{aligned} & 1.65^{*} \\ & (1.00) \end{aligned}$ | $\begin{aligned} & 0.50^{* *} \\ & (0.23) \end{aligned}$ |
| Impact on non-Dalit/Adivasi HHs | $\begin{gathered} 1.38 \\ (1.67) \end{gathered}$ | $\begin{gathered} 0.75 \\ (1.75) \end{gathered}$ | $\begin{gathered} -0.32^{* *} \\ (0.14) \end{gathered}$ | $\begin{gathered} -0.41 \\ (0.33) \end{gathered}$ | $\begin{gathered} 0.84 \\ (1.31) \end{gathered}$ | $\begin{aligned} & 1.64^{*} \\ & (0.97) \end{aligned}$ | $\begin{gathered} 0.55 \\ (1.25) \end{gathered}$ | $\begin{gathered} 0.01 \\ (0.32) \end{gathered}$ | $\begin{gathered} -0.29 \\ (0.83) \end{gathered}$ | $\begin{aligned} & 0.79^{*} \\ & (0.41) \end{aligned}$ | $\begin{gathered} 1.84 \\ (1.14) \end{gathered}$ | $\begin{aligned} & 0.77^{* *} \\ & (0.30) \end{aligned}$ |
| Impact on Dalit/Adivasi HHs | $\begin{gathered} 0.98 \\ (0.99) \end{gathered}$ | $\begin{gathered} 1.15 \\ (0.97) \end{gathered}$ | $\begin{gathered} -0.20^{*} \\ (0.11) \end{gathered}$ | $\begin{gathered} -0.23 \\ (0.21) \end{gathered}$ | $\begin{gathered} -4.17^{* *} \\ (1.67) \end{gathered}$ | $\begin{gathered} -2.89^{* *} \\ (1.12) \end{gathered}$ | $\begin{gathered} 1.15 \\ (1.28) \end{gathered}$ | $\begin{gathered} 0.15 \\ (0.63) \end{gathered}$ | $\begin{gathered} -0.04 \\ (0.40) \end{gathered}$ | $\begin{gathered} -0.38 \\ (0.25) \end{gathered}$ | $\begin{gathered} 0.82 \\ (1.03) \end{gathered}$ | $\begin{gathered} 0.09 \\ (0.24) \end{gathered}$ |

Panel B: Difference-in-Differences

| Overall Impact | 1.82 | 0.85 | 0.09 | 0.39 | -3.11 | -2.03 | -0.87 | $1.29^{* *}$ | -0.31 | $1.14^{*}$ | $3.95^{* *}$ | 0.36 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(2.01)$ | $(2.02)$ | $(0.42)$ | $(1.04)$ | $(1.94)$ | $(1.61)$ | $(2.32)$ | $(0.61)$ | $(0.97)$ | $(0.61)$ | $(1.94)$ | $(0.56)$ |
| Impact on | 0.72 | -0.74 | 0.20 | 1.42 | -1.01 | 0.06 | -2.23 | 0.24 | -0.51 | 1.00 | $5.06^{* * *}$ | $1.06^{* *}$ |
| non-Dalit/Adivasi HHs | $(2.46)$ | $(2.69)$ | $(0.47)$ | $(1.22)$ | $(2.42)$ | $(2.00)$ | $(2.24)$ | $(0.62)$ | $(1.25)$ | $(0.69)$ | $(1.91)$ | $(0.50)$ |
| Impact on | 1.13 | 1.20 | 0.16 | 0.13 | $-4.03^{*}$ | $-3.06^{*}$ | -0.74 | $1.66^{*}$ | 0.84 | -0.07 | 1.03 | -0.07 |
| Dalit/Adivasi HHs | $(1.60)$ | $(1.59)$ | $(0.29)$ | $(0.70)$ | $(2.25)$ | $(1.82)$ | $(2.46)$ | $(0.93)$ | $(0.61)$ | $(0.33)$ | $(1.85)$ | $(0.38)$ |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients in Panel A are from a simple difference specification, with baseline controls and strata dummies. Coefficients in Panel B are from a difference-in-differences specification with household fixed effects. Pooled overall regressions are weighted using inverse probability of sampling weights. * $p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 20: Casual Labor Wages

|  | Agricultural $\ln$ (real ₹) |  |  | Non-Agricultural $\ln$ (real ₹) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Pooled | Men | Women | Pooled |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| A: Simple Differences |  |  |  |  |  |  |
| Jeevika | $\begin{gathered} 0.18^{* * *} \\ (0.06) \end{gathered}$ | $\begin{aligned} & 0.12^{* *} \\ & (0.06) \end{aligned}$ | $\begin{gathered} 0.21^{* * *} \\ (0.06) \end{gathered}$ | $\begin{aligned} & 0.07^{*} \\ & (0.04) \end{aligned}$ | $\begin{aligned} & 0.22^{* *} \\ & (0.10) \end{aligned}$ | $\begin{aligned} & 0.10^{* *} \\ & (0.04) \end{aligned}$ |
| Female |  |  | $\begin{gathered} -0.20^{* * *} \\ (0.04) \end{gathered}$ |  |  | $\begin{gathered} -0.34^{* * *} \\ (0.07) \end{gathered}$ |
| Jeevika $\times$ Female |  |  | $\begin{gathered} -0.12^{* *} \\ (0.06) \end{gathered}$ |  |  | $\begin{gathered} 0.08 \\ (0.09) \end{gathered}$ |
| Panel B: Difference-in-Differences |  |  |  |  |  |  |
| Jeevika | $\begin{aligned} & 0.15^{*} \\ & (0.08) \end{aligned}$ | $\begin{gathered} 0.06 \\ (0.08) \end{gathered}$ | $\begin{aligned} & 0.15^{*} \\ & (0.08) \end{aligned}$ | $\begin{gathered} -0.01 \\ (0.04) \end{gathered}$ | $\begin{gathered} -0.03 \\ (0.10) \end{gathered}$ | $\begin{gathered} -0.01 \\ (0.04) \end{gathered}$ |
| Female |  |  | $\begin{gathered} -0.26^{* * *} \\ (0.04) \end{gathered}$ |  |  | $\begin{gathered} -0.37^{* * *} \\ (0.06) \end{gathered}$ |
| Jeevika $\times$ Female |  |  | $\begin{gathered} -0.07 \\ (0.07) \end{gathered}$ |  |  | $\begin{gathered} -0.03 \\ (0.08) \end{gathered}$ |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients in Panel A are from a simple difference specification, with baseline controls and strata dummies; while coefficients in Panel B are from a difference-in-differences specification with panchayat fixed effects. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

## F Main Results, unweighted

Table 21: Program Take-up and Household Borrowing

|  | SHG <br> Member? | Any <br> Savings? | Any loans taken? <br> (\%) |  |  | Outstanding Debt ('000 Rs.) |  |  | Interest Rate |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (\%) | (\%) | SHG | Informal | All | SHG | Informal | All | (\%) |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Jeevika | $\begin{gathered} 50.81^{* * *} \\ (1.55) \end{gathered}$ | $\begin{gathered} 28.22^{* * *} \\ (1.67) \end{gathered}$ | $\begin{gathered} 33.33^{* * *} \\ (1.22) \end{gathered}$ | $\begin{gathered} -5.65^{* * *} \\ (1.05) \end{gathered}$ | $\begin{gathered} 3.33^{* * *} \\ (0.91) \end{gathered}$ | $\begin{gathered} 2.16^{* * *} \\ (0.10) \end{gathered}$ | $\begin{gathered} -2.96^{* * *} \\ (0.43) \end{gathered}$ | $\begin{gathered} -0.99^{* *} \\ (0.48) \end{gathered}$ | $\begin{gathered} -0.95^{* * *} \\ (0.07) \end{gathered}$ |
| Obs | 8851 | 8987 | 8987 | 8987 | 8987 | 8987 | 8987 | 8987 | 6805 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 7.01 | 49.73 | 1.49 | 69.41 | 71.45 | 0.11 | 22.87 | 27.45 | 4.76 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an unweighted ANCOVA specification. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 22: Women's Empowerment

|  | Works <br> Outside | Signature | Read Signs | Any Say in <br> Decisions? (\%) | Daughter <br> Work |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(\%)$ | $(\%)$ | $(\%)$ | Labor | Borrow | $(\%)$ |
|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ |
| Jeevika | -0.01 | $13.73^{* * *}$ | $2.63^{* * *}$ | -0.50 | 0.17 | -2.63 |
|  | $(0.26)$ | $(0.80)$ | $(0.54)$ | $(1.21)$ | $(1.59)$ | $(1.75)$ |
| Obs | 13376 | 8671 | 8671 | 8671 | 8671 | 3857 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 1.45 | 37.20 | 19.32 | 88.20 | 92.12 | 73.35 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an unweighted ANCOVA specification. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 23: Labor Force Participation

|  | Labor Force Participation (\%) |  | Agri <br> Participation (\%) |  | Non-Agri <br> Participation (\%) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Jeevika | $\begin{gathered} -0.29 \\ (0.84) \end{gathered}$ | $\begin{gathered} -0.93 \\ (1.08) \end{gathered}$ | $\begin{gathered} -1.84 \\ (1.47) \end{gathered}$ | $\begin{aligned} & -1.48 \\ & (1.06) \end{aligned}$ | $\begin{aligned} & 1.91^{*} \\ & (1.15) \end{aligned}$ | $\begin{gathered} 0.25 \\ (0.54) \end{gathered}$ |
| Obs | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 80.76 | 52.03 | 48.30 | 46.83 | 41.58 | 6.18 |

Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an unweighted ANCOVA specification. * $p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 24: Participation by Occupation Type

|  | Cultivation |  | Animal <br> Husbandry |  | Agri <br> Labor |  | Non-Agri <br> Labor |  | Self <br> Employment |  | Salaried <br> Employment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Jeevika | $\begin{gathered} 0.90 \\ (0.97) \end{gathered}$ | $\begin{gathered} 0.55 \\ (0.94) \end{gathered}$ | $\begin{gathered} -0.21^{* *} \\ (0.09) \end{gathered}$ | $\begin{aligned} & -0.30 \\ & (0.20) \end{aligned}$ | $\begin{gathered} -2.84^{* *} \\ (1.33) \end{gathered}$ | $\begin{gathered} -2.09^{* * *} \\ (0.80) \end{gathered}$ | $\begin{gathered} 0.88 \\ (1.00) \end{gathered}$ | $\begin{gathered} 0.15 \\ (0.43) \end{gathered}$ | $\begin{aligned} & -0.01 \\ & (0.41) \end{aligned}$ | $\begin{gathered} 0.02 \\ (0.20) \end{gathered}$ | $\begin{gathered} 1.28 \\ (0.83) \end{gathered}$ | $\begin{gathered} 0.32^{* *} \\ (0.16) \end{gathered}$ |
| Obs | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 | 14479 | 13376 |
| Clusters | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Mean | 31.18 | 25.43 | 0.58 | 1.12 | 18.14 | 21.84 | 25.27 | 1.93 | 6.94 | 1.79 | 10.06 | 1.35 |

[^21]
## G Additional Figures



Figure 5: Labor Force Participation by Age


[^0]:    *Postdoctoral Researcher, Precision Development (PxD), Email: vaishnavi.s@gmail.com
    I'm grateful to Vivian Hoffmann and Biju Rao for encouragement and useful conversations; and to Aprajit Mahajan, Ethan Ligon, and seminar participants at the Center for Food Security and the Environment, Stanford University, PxD, NEUDC 2021, SEA 2021, WeFiDev, ASSA 2022, PacDev 2022 for valuable feedback and comments.

[^1]:    ${ }^{1}$ World Bank - World Development Indicators data. Accessed on May 16th, 2020. https://data.worldbank.org/indicator/SL.TLF.CACT.MA.ZS https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS
    ${ }^{2}$ This relationship holds both across countries and over time within countries.

[^2]:    ${ }^{3}$ A panchayat is a unit of local government, comprising 2-4 villages.
    ${ }^{4}$ Loans through Jeevika accrue interest at 2 percent per month, while modal informal market interest rates at baseline were 5 percent per month.
    ${ }^{5}$ This is a 3.66 percentage points increase in labor force participation, when 45 percent of women in the control group participated in the labor force.

[^3]:    ${ }^{6}$ This is a 4.31 percentage point decline in participation in agricultural labor for men, where 35 percent of men in the control group participated in agricultural labor; and a 3.22 percentage point decline in participation in agricultural labor for women, where 46.79 percent of women in the control group participated in agricultural labor
    ${ }^{7}$ In this paper, marginalized households are those belonging to historically marginalized and oppressed caste groups (Dalit) or indigenous tribes (Adivasi). As designated in the Constitution of India, official parlance categorizes these caste groups as scheduled castes (SC), and tribes as scheduled tribes (ST). Privileged households refer to those not belonging to these groups.

[^4]:    ${ }^{8}$ Education is correlated with income, landholding and caste.
    ${ }^{9}$ India's female labor force participation rate was 23 percent overall in 2019 according to the World Bank's World Development Indicators data.
    ${ }^{10}$ This is start year of this study.

[^5]:    ${ }^{11}$ The NSS records principal activity status based on the activity a majority of time in the preceding was spent on. This differs from the definition employed in the Jeevika survey - which asks if an individual works in any productive activity or earns income in cash/kind from outside.
    ${ }^{12}$ This is according to the Indian Census, 2011.
    ${ }^{13}$ Gaya, Khagaria, Madhubani, Muzaffarpur, Nalanda and Purnia out of 38 total districts in Bihar
    ${ }^{14}$ Gaya, Nalanda, Madhubani, Muzaffarpur, Saharsa, Supaul, Madhepura

[^6]:    ${ }^{15}$ Dalits are individuals from historically marginalized communities (jatis) officially designated as Scheduled Castes (SC) in the Constitution of India, while Adivasis are individuals who belong to indigenous tribes, officially designated as Scheduled Tribes (ST) in the Constitution of India
    ${ }^{16}$ Debt costing 4 percent per month or over.
    ${ }^{17}$ Since it is a loan the SHG as a whole has taken from the VO.

[^7]:    ${ }^{18} 24$ percent per year
    19 "Over the longer term, Jeevika is also meant to deliver other development interventions and livelihoods training to SHG members, however these activities were not implemented in the study area during the period spanned by this study." (Hoffmann et al., 2021)
    ${ }^{20}$ Wage rates do not vary within a village

[^8]:    ${ }^{21}$ Dalit/Adivasi households had $\$ 213.83$ or $₹ 10,050$ of outstanding debt; while other households had $\$ 298.51$ or ₹ 14,030 of outstanding debt.
    ${ }^{22}$ LFP for women in these seven districts is 10 percent as per the NSS definition.
    ${ }^{23} 93$ percent of men in these districts participate in the labor force in the NSS data.

[^9]:    ${ }^{24}$ Following Imbens and Rubin (2015), normalized differences are defined as $\hat{\Delta}_{c t}=\frac{\bar{x}_{t}-\bar{x}_{c}}{\sqrt{\left(s_{t}^{2}+s_{c}^{2}\right) / 2}}$, where $\bar{x}_{i}$ is the sub-sample mean and $s_{i}^{2}$ is the sub-sample standard deviation, for the treatment or control group. This is a scale-free measure of differences in covariate values, and the difference in means is estimated through a linear regression with controls for stratification variables.
    ${ }^{25}$ I implement Heß (2017) in Stata.
    ${ }^{26}$ As specified in Hoffmann et al. (2021) - the difference-in-differences specification over-corrects for baseline differences, and the simple difference model under-corrects for baseline differences, and these results might be considered bounds on true treatment effects (Frison \& Pocock, 1992).
    ${ }^{27}$ This is also laid out in the project's Pre-Analysis Plan, https://www.socialscienceregistry.org/trials/570

[^10]:    ${ }^{28}$ Baseline controls are: self-help group participation, outstanding high-cost debt, average interest rate on household loans, productive asset index, consumption asset index, housing index, real monthly consumption per adult equivalent, access to entitlements, proportion of women in household who work, women's decision making index, women's collective action index, aspirations for daughter's education, women's mobility index, landlessness.
    ${ }^{29}$ I use the reghdfe package in Stata (Correia, 2016)

[^11]:    ${ }^{30}$ All real ₹ values are in 2011 INR and ₹ 10,000 is $\$ 212$ in 2011 USD.

[^12]:    ${ }^{31}$ Among men and women between 15 and 70 years of age.

[^13]:    ${ }^{32}$ Men reduce their participation in animal husbandry as well. However, fewer than 1 percent of men participate in animal husbandry in the control group at endline.
    ${ }^{33}$ Kharif is the autumn harvest, Rabi is the spring harvest, and Zaid is the summer harvest. Kharif and Rabi are the main growing seasons, with Rabi enjoying the highest acreage in Bihar.

[^14]:    ${ }^{34}$ There is no significant impact on either men's or women's participation in cultivation; and it is unlikely that productivity (for instance, due to rainfall shocks) are differential across treatment and control villages.

[^15]:    ${ }^{35}$ The construction of this index follows Filmer and Pritchett (2001). Here, the first principal component from a principal components analysis of a set of assets is normalized to have a mean of zero and a variance of one.

[^16]:    ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

[^17]:    * $p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

[^18]:    Standard errors clustered at the panchayat and household level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value at baseline, and an indicator of treatment status. Panel A presents results from full-sample weighted regressions. Weights are inverse probability of sampling weights that are re-weighted to sum to one at the village level in order to re-constitute the caste composition of the village. Panel B has results on the non-Dalit/Adivasi sub-sample, without sampling weights. Panel C has results on the Dalit/Adivasi sub-sample, without sampling weights. All specifications control for strata dummies and baseline controls. ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

[^19]:    Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an ANCOVA specification - linear regressions of each outcome on its value
    at baseline, an indicator of treatment status, an indicator of caste status and the interaction between the two - with inverse probability of sampling weights.
    ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

[^20]:    Standard errors clustered at the panchayat level shown in parentheses. Coefficients in Panel A are from a simple difference specification, with baseline controls and strata dummies. Coefficients in Panel B are from a difference-in-differences specification with household fixed effects. Pooled overall regressions are weighted using inverse probability of sampling weights. * $p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

[^21]:    Standard errors clustered at the panchayat level shown in parentheses. Coefficients are from an unweighted ANCOVA specification.
    ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

