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ABSTRACT

We examine the impact of conditional fiscal transfers on public employment across gender in India taking the case of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGN-REGS). The MGNREGS, as an "employer of last resort" fiscal policy, is a direct employment transfer, which guarantees to provide 100 days of paid work opportunities at a predetermined wage for public works in India through a self-selection criterion. Using unit record data of the latest 68th round of NSS Employment-Unemployment survey, we examined gender differential impacts of MGNREGS on labour force participation rates across States in India. The unit of analysis in our paper is not 'household', but is one step ahead to capture the intra-household level of participating behaviour in the economic activity. The results, based on the survey enumerating 2,80,763 individuals in rural areas, revealed that there is a striking heterogeneity in the gender impacts of job guarantee programme across States of India. The probit estimates showed that MGNREGS job card holder's labour force participation rates were higher than the non-card holders and the result was more pronounced for women. The analysis of the time-use patterns and the unpaid care economy statistics of job guarantee card holders obtained from the unit records also shows that augmenting public investment in care economy infrastructure is significant for the job guarantee programme to function at its full potential in India.

JEL classification codes: C15, C67, D33, E24, J48

Keywords: job guarantee, fiscal policy, gender, care economy, labour force participation rate

CONTENTS

1. INTRODUCTION

Globally, a direct employment transfer by Government - a job guarantee programme is an "employer of last resort" fiscal policy that envisions the government bearing a guarantee to provide paid work opportunities of predictable duration at a predetermined wage for public works. Many job guarantee programmes have been introduced over the years across countries, the most popular and largest in scale are the US New Deal programs, ex-post to 1929 Great Depression; the Jefes programme in Argentina and the Expanded Public Works Programme (EPWP 2004-05) in South Africa, other than the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in India. These programmes are targeted at labour-intensive work in the field of environmental interventions and in providing public benefits in asset-creating public works. [2]

The National Rural Employment Guarantee Act (NREGA) of India was enacted by the Indian Parliament on September 5, 2005. This Act guaranteed 100 days of employment per year for individual households willing to do manual unskilled work at the statutory minimum wage. It was later renamed as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) on 2nd February, 2006. MGNREGS is based on the principle of self-selection, and it is a step towards legal enforcement of the right to work, as an aspect of the fundamental right to live with dignity. This is one of the biggest centrally sponsored schemes (CSSs) of the Government of India in the form of direct fiscal transfers to rural local governments - routed through the State governments - for creation of public employment. This programme aims to redress the seasonal, cyclical and structural unemployment in the country by providing low-skilled poor work entitlement, thereby ensuring that when all else fails, the government acts as 'employer of last resort'.

It is important to highlight that the policy design of MGNREGS is not gender-blind. We will discuss these specific gender elements in the next section. Existing studies on MGNREGS highlighted that the involvement of women in wage employment has helped in breaking barriers for women by providing them with local employment, minimum wages and, safe and decent working conditions (Khera and Nayak 2009; Hazarika, 2009; Panda et al. 2010; Panda and Umdor, 2011, Narayan and Das, 2014a, 2014b). Specifically, the wage employment policy is one of the most crucial policies in empowering women as it strengthens intra-household bargaining power of women and also ensures better education and health entitlements for children (Agarwal, 1997; and Charusheela, 2003). Also, it was noted in these studies that though MGNREGS has improved, women's participation at the aggregate level in India, its impact varied when one analyses data across States. However, the existing studies on MGNREGS do not analyse the impact of time-use patterns and the burden of care economy on the participation of women in public employment programmes. Against this backdrop, this paper examines the gender differential impact of MGNREGS on labour force participation across Indian States, incorporating the care economy variables.

It is important to note that MGNREGS is funded through a "direct fiscal transfer" from the Union Government to individual States of India.[3] The total allocation under MGNREGS in 2017-18

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2) For details, refer Antonopoulos, Rania and Kijong Kim, 2011

3) India has a three-tier federal structure comprising Union Government, State Governments and the local governments. Local governments are sub-State entities in both rural and urban areas.

(Budget Estimate) is Rs. 48,000 crores, the highest allocation ever for the programme to manage the pending dues and to tackle delayed payments to the workers. It is also to be noted that regardless of the Budget Estimate, as per the MGNREGS legislation, the Government needs to provide supplementary budgetary allocation for work to be provided on demand.

The paper is organised in six sections. Section 2 reviews the related literature of determinants of labour force participation. Section 3 analyses the stylised facts related to MGNREGS including its financing pattern. Section 4 presents a descriptive analysis of State-wise MGNREGS and labour force participation rates. Section 4.1 introduces the care economy dynamics of the scheme along with the gender differentials in time-use. Section 5 deals with the econometric estimation of the effect of MGNREGS on female labour force participation, controlling for care economy variables using probit models. Section 6 presents the results. Section 7 concludes.

2. RELATED LITERATURE

The empirical analysis of determinants of female labour force participation rates (FLFP) can be traced back to Goldin (1995) where he explored the U-shaped relationship between female labor supply and the level of economic development across countries. He interpreted the U-shape of the labour force participation as: when incomes rise, women's labor force participation often falls initially, only to rise again when female education levels improve and consequently the value of women's time in the labor market increases (Das, et al. 2015). Gaddis and Klasen (2014) also found a U-shape when they explored the effect of structural change on FLFP using sector-specific growth rates. The literature also examined the impact of female labour force participation on economic growth. Here is the growing literature on the economic implications of gender participation gaps (IMF, 2013, Teignier and Cuberes, 2012, 2014; Esteve-Volart, 2004; Bagues and Esteve-Volart, 2010; and Hsieh et al., 2013; Fontana and Wood, 2000; Aguiar, M. and Gopinath, G. 2007; Dollar, D. and Gatti, R.1999; Acemoglu, D., Autor, D. H. and Lyle, D.S. 2004; Hendy and Zaki, 2010; Klasen and Lamanna 2008; Khera, 2016). The policy prescriptions of such studies including Agenor et al. (2015) was the effect of public policies (including public investment in infrastructure and efficiency of spending on health and education) on women's labour force participation choices and economic growth. Their findings also highlighted that such policies raise female labor force participation rates, and depending on the relevant policies, economic growth could increase by between 1.5 and 2.4 percentage points per annum (Das et al., 2015).

The theoretical framework often used in these models were Becker's (1965) time allocation model, where women's labour supply decision is based on the trade-off between leisure and labour, and also based on substitution between market-time and non-market activities. These studies highlighted the significance of public policies in increasing female labour force participation on their productivity and in turn economic growth, as these policies increase the mobility of women from non-market to market economy. These studies also highlighted the significance of public policies like access to public infrastructure, care economy infrastructure, female education and reduction in gender wage gap in enhancing female labour force participation. However, there is no comprehensive study in the Indian context analysing the link between a public employment policy (job guarantee programme), time use in care economy and the female labour force participation in the market economy.

Khera (2016) has succinctly presented the literature review on determinants of female labor force participation. She highlighted that lower education (skill) level of female relative to male workers;

lower bargaining power in the wage bargaining process firm-based gender bias against females in formal employment, lower preference for working outside home in paid market-good production relative to staying at home, which corresponds to concerns regarding female safety and mobility in developing countries and higher preference for working in home-production relative to leisure, which is related to social norms and the lack of public provisions, including childcare support are the plausible factors which affect female labour force participation. It is against this backdrop that we try to examine whether MGNREGS designed to integrate gender concerns in the employment has translated into tangible outcome across Indian States.

What we have attempted in this paper is not an empirical investigation of female labor participation rate as a function of logged per capita output, by Indian States, to examine whether a U-shape curve exists or not in the context of India. What we have attempted is to analyse the impact of a public employment guarantee policy - MGNREGS - in enhancing FLFP. A significant contribution of our work is that it examines the impacts of MGNREGS on female labour force participation, incorporating the care economy variables in the context of Indian States. Yet another significant departure from earlier studies on care economy is that the study uses a meticulously large Indian household survey dataset conducted by the National Sample Survey Organization (NSSO).

3. DATA AND THE STYLISED FACTS OF MGNREGS

The unit record data on MGNREGS related statistics is organized from the National Sample Survey (NSS) 68th round on Employment and Unemployment for the period of July 2011-June 2012 - the latest employment data available in India.[4] The survey was spread over 7,469 villages and 5,268 urban blocks covering 1,01,724 households (59,700 in rural areas and 42,024 in urban areas) and enumerating 4,56,999 persons (2,80,763 in rural areas and 1,76,236 in urban areas). As per this survey, about 69 per cent of the households in India belonged to rural areas and accounted for about 71 per cent of total population. About 38 per cent of the rural households in India had MGNREG job card. Among rural persons of age 18 years and above registered in MGNREG job card, about 51 per cent worked and about 19 per cent sought but did not get MGNREG work. We will examine the State-wise patterns of MGNREGS in the next section.

3.1 The Details of Unit Record Data

As per the National Sample Survey definitions, individuals are classified into various activity categories on the basis of economic activities that they pursue during specific reference periods. Three reference periods are used in NSS surveys: (i) one year; (ii) one week; and (iii) each day of the reference week. The activity status determined on the basis of the reference period of one year is known as the usual activity status (US) of a person; that determined on the basis of a reference period of one week is known as the current weekly status (CWS) of the person; and the activity status determined on the basis of the engagement on each day during the reference week is known as the current daily status (CDS) of the person (Ministry of Statistics and Programme Implementation, 2014).

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4) For details, refer to Ministry of Statistics & Programme Implementation, India - Employment and Unemployment, July 2011- June 2012, NSS 68th Round, http://mail.mospi.gov.in/index.php/catalog/143

A person under the usual activity status is classified as belonging to the labor force if he or she had been either working or looking for work during the longer part of the reference year. For a person already identified as belonging to the labor force, the usual activity status is further divided into usual principal activity status (UPS) and usual secondary activity status (UPSS). The activity status on which a person spent relatively longer time during the 365 days preceding the date of the survey is considered the usual principal activity status of the person. A person whose principal usual status is calculated on the basis of the major time criterion may have pursued some economic activity for 30 days or more during the reference period of 365 days preceding the date of survey (Das et al., 2015). The status in which such economic activity is pursued during the reference period of 365 days preceding the date of survey is the subsidiary economic activity status of the person. In case of multiple subsidiary economic activities, the major activity and status based on the relatively longer time spent criterion will be considered.[5]

We have also utilized the MGNREGS portal of the Ministry of Rural Development, Government of India for relevant gender differential data. To understand the working of the MGNREGS, NSS asked scheme-related questions at the household level and at the individual level. At the household level, it was asked whether the household obtained MGNREGS job cards. In case the answer to the above question was affirmative then the household was asked regarding the number of job cards issued to the household. The rationale behind asking these questions was to enquire about the inclusiveness of the scheme. The discrepancy between the number of adult members and the number of job cards issued to the household was to provide an estimate of the level of participation in the scheme. It should also be noted that holding of job card does not guarantee that the household/individual has benefitted from the scheme. Therefore, the NSS asks additional questions to the household individual members - a) whether the individual was registered for the MGNREGS work? If yes, whether they worked under MGNREGS during the last 365 days? Three options for the question were: (i) worked, (ii) sought but did not get work and (iii) did not seek work. The following section interprets these data and arrive at the gender differential patterns of employment under MGNREGS across States in India.

3.2. Interpreting data

India's female labour force participation rate (FLFP) of 33 per cent is well below the global average of around 50 percent and East Asia average of around 63 percent. An IMF paper published in 2015 noted that India is the second-most populous country in the world with an estimated 1.26 billion persons at the end of 2014, however a FLFP rate of 33 percent implies that only 125 million of the roughly 380 million working-age Indian females are seeking work or are currently employed (Census of India 2011). IMF paper also noted that India's' gender gap in participation (between males and females) is one of the widest among G-20 economies at 50 percent. Furthermore, female labor force participation has been on a declining trend in India, in contrast to most other regions, particularly since 2004-05 (Das et al., 2015).

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5) The key ratios used by the employment and unemployment surveys of the quinquennial rounds of NSSO are the following: (i) Labour force participation rate (LFPR): LFPR is defined as the number of persons/ person-days in the labour force (which includes both the employed and unemployed) per 1000 persons /person-days. (ii) Unemployment Rate (UR): UR is defined as the number of persons/ person-days unemployed per 1000 persons/person-days in the labour force.

3.3. Public Financing of Job Guarantee Programme MGNREGS

MGNREGS is fully funded by the Government of India in the form of directed specific-purpose transfers to the States. This scheme is implemented by the rural local governments in India. It is a demand-driven scheme.[6] As specified in the Act, for the purpose of funding and implementation of MGNREGS, the Union's obligation would be to make payments of wages for unskilled manual workers under the scheme, upto three-fourths of the material costs of the scheme including wages to skilled and semi- skilled workers and a certain percentage of the total cost of the schemes determined by the Union. The State government shall have to make payments of the cost of unemployment allowance. Apart from the mandatory provision of resources required for the implementation of the MGNREGS, its success in enhancing the "livelihood security" of rural households would critically depend on the effective implementation of the scheme.

At the policy formulation stage itself, the Act was gender focused.[7] The Act mandates that one-third of the job guarantee programme's beneficiaries should be women. Two, it envisages a distance criteria that the work has to be done within the stipulated 5 kms from the residence of the job seeker, with preference to women and the aged. Three, it prescribes equal wages for men and women in public works programmes. Four, it envisages a 'labour entitlement' of 100 days to the members of the household (not one person in the 'household'). This gives further space for women to participate in the programme. Five, a gender-aware financial inclusion practice was emphasized in its operational guidelines, which recommended the local governments to facilitate opening of individual bank accounts for men and women instead of joint bank accounts for the wage payments. Six, it prescribed provisioning of care economy infrastructure at the worksites such as child care to enhance the work force participation of women.

4. MGNREGS AND LABOUR FORCE PARTICIPATION RATE: A DESCRIPTIVE ANALYSIS

Against this backdrop, the analysis in this section begins with the State-specific patterns in the MGNREGS participation rates across gender. This data is obtained from MGNREGS portal. Subsequently, we use unit record data provided by the NSS to examine the reasons behind such differentials across States in India. If we consider State-wise female labour force participation rate for the year 2016 in MGNREGS, it was more than 60 per cent only in Kerala, Tamil Nadu, Goa and Rajasthan. In many States, the female labour participation rate could not even cross the minimum threshold of 33 per cent as mandated in the Act. The States with female labour force participation rate in MGNREGS lower than 33 per cent were Jammu & Kashmir (25 per cent), Uttar Pradesh (29 per cent), Arunachal Pradesh (31 per cent) and Nagaland (31 per cent).

There was no one-to-one correspondence between women's participation in MGNREGS and the person days of employment as per household data on the MGNREGS portal for the same year. As evident from MGNREGS portal, the percentage of households completing 100 days of employment was

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6) For details, refer http://nrega.nic.in/netnrega/writereaddata/Circulars/2058Notification_ wage_rate_2017-2018.pdf

7) Available at https://blogs.commons.georgetown.edu/economicsofpoverty/files/2015/12/Right-to-work.pdf

less than 20 per cent in all States except Tripura where it was 50 per cent. Further, the States which had higher person days per household had also higher percentage of households completing 100 days of employment. This showed that the scheme was working below its potential.

Given the macro-picture from the MGNREGS portal, we use unit record data from the NSS's 68th round on "Employment and Unemployment for the period of July 2011 - June 2012" - the latest employment data available for further analysis. The percentage of population having MGNREGS job card for males and females obtained from NSS data showed that at an all-India level, 71 per cent of men were registered with MGNREGS card whereas, registration was only 50 per cent for women. Lower registration of women for MGNREGS job card implies exclusion of a significant share of women in the first step itself. Registration of women was as low as 30 in States of Jharkhand, Meghalaya, Odisha, Bihar, Uttar Pradesh, Assam and Jammu Kashmir.

It should also be noted that holding MGNREGS job card per se does not guarantee work under the scheme. An individual having the job-card might not have sought work under the scheme, or, an individual with the MGNREGS job card who sought work might not have been provided the work. The 68th rounds of NSS unit record data reveals that only 51 percent of those who had registered in MGN-REGS had actually received MGNREGS works. The State-specific differentials showed that States such as Madhya Pradesh, Maharashtra, Jammu and Kashmir and Bihar were at the bottom in terms of providing female employment under MGNREGS.

The NSS unit record data also shows that the percentage of MGNREGS job card holders 'sought work, but did not get' the job. This data is indicative of exclusion after registration in the scheme. At all India level, while 17 per cent of women registered under MGNREGS job card sought work but did not get, the corresponding figure for males was 20 per cent. It implies that exclusion of females was relatively less at this stage as compared to their male counterpart. However, as evident, there were State-wise variations. It has to be noted that States such as Goa, Manipur, Kerala, Meghalaya and Nagaland performed well on this front. Finally, at all India level, 33 per cent women did not seek any work whereas this figure was 29 per cent for males. However, the State-wise analysis showed that women with job card who did not seek work were strikingly higher in Madhya Pradesh (68 per cent), Jammu and Kashmir (55 per cent), Odisha (40 per cent) and Gujarat (38 per cent).

The unit record data analysis shows that LFPR is higher for MGNREGS job card holders than the non-card holders. While LFPR for men for MGNREGS card holders is 961 per 1000, it is 749 per 1000 for non-card holders. The LFPR for MGNREGA card holders was 697 per 1000 women, which was more than twice that of non-card holders (292). Furthermore, the unit record data revealed stark differences in unemployment rate between card holders and non-card holders; unemployment rate among non-card holders (39.92 per 1000 males) was roughly eight times higher than that of MGNREGS card holders (4.59), its impact is more pronounced in the case of women, with unemployment rate of card holders at 2.89 per 1000 women compared to 30.85 for non-card holders. Thus, prima facie, MGNREGS can be an effective tool for improving employment status of rural women.

4.1. Unpaid Care Economy Dynamics of MGNREGS and the Gender Differentials in Time Use

The recent NSS 68th round on "employment and unemployment" has also incorporated codes on care economy activities (unpaid "economic activities" at the household and community levels)[7] and asked questions related to willingness of women to go for regular employment under MGNREGS. The

unit record data reveal that at the aggregate level, the time-use pattern of women in the care economy is not distinctly different among the three categories - women who worked (91.9 percent), women who sought but did not get work (93.2 per cent), and women who did not seek work (90.6 per cent). The NSS data also recorded the qualitative aspects of time budgets; for instance, when asked about the reasons for spending most of the time in care economy, majority of the rural women stated that "other members of the family were either not willing or not capable of carrying out household chores". This, as a reason for being involved in domestic duties, is cited more by the women who worked (69.5 per cent) or sought to work (73.4 per cent) than by those who did not seek work (64.6 per cent). This emphasizes the need for care economy infrastructure to ease the dual work burden on women and to strengthen their participation in the market economy.

The recent NSS survey also explored the reasons for why female MGNREGS job card holders pursued care economy activities intensively. The statistics showed that the percent was high for women who replied "it is by preference" under the category 'sought but did not get work' (52.1 per cent) when compared to women who 'worked' (43.7 per cent) and women who 'did not seek' job (50.0 per cent). Yet another reason cited by them for intensively pursuing care economic activities was "non-availability of wage employment". However, it was mostly cited by women who 'worked' under MGNREGA (27.4 per cent) than by women who 'sought but did not get' job (18.2 per cent) and by women who 'did not seek' job (14.3 per cent).

The employment guarantee programmes not only directly influence the work status of women, but also impacts their 'perception' towards work. The unit records provided by the NSS reveal that the percentage of women who are 'willing to work in spite of their domestic duties' is the highest for women who 'sought but did not get' work (43.5 per cent) compared to the women who 'worked' (42.4 per cent) and women who 'did not seek' work (33.2 per cent).

The unit records also reveal the nature of work that is acceptable to women. The nature of work is categorized by the NSS into four categories, namely, a) regular full time, b) regular part time, c) occasional full time, and d) occasional part time. The unit record data analysis revealed that relatively larger proportion of women who have worked demand regular full-time work (26.7 per cent) compared to the other two categories. This finding highlights the fact that women "between the groups" who have worked under MGNREGA demand more dignified jobs compared to other groups. However, overall 67.6 percent of women "within the group" of women who worked revealed that they prefer 'regular part time' jobs.

The NSS unit record data also provide wage statistics for men and women under MGNREGA and other public works. A large gender gap in wages can be easily observed for MGNREGA and non-MGNREGA workers. The daily wage/salary earnings of a regular waged/salaried employee of age 15-59 years was Rs. 298.96 in the rural areas and Rs. 449.65 in the urban areas. This was Rs. 322.28 for rural males, Rs. 201.56 for rural females, Rs. 469.87 for urban males and Rs. 366.15 for urban females. The daily wage rate of casual labour of age 15-59 years, engaged in public works other than MGNREGS public works was Rs. 127.39 for rural males and Rs. 110.62 for rural females. Among the casual labourers of age 15-59 years engaged in MGNREGS public works, the daily wage rate was Rs. 112.46 for rural males and Rs. 101.97 for rural females. The daily wage rate of casual labour of age 15-59 years engaged in works other than public works was Rs. 149.32 for rural males, Rs. 103.28 for rural females, Rs. 182.04 for urban males and Rs. 110.62 for urban females.

5. ECONOMETRIC ESTIMATION: DETERMINANTS OF LFPR WITH MGNREGS

Using the NSS 68th round data on Employment and Unemployment, we estimate the impact of participation in employment guarantee programme on women's empowerment nebulously proxied by women labour force participation. In the empirical investigation, we ask the following questions:

1. What are the determinants of female labor force participation in rural India?
2. Is female labour force participation higher across Indian States with MGNREGS, the direct fiscal transfer?
3. Do care economy variables matter for female labour force participation?

Econometrically, we examine the determinants of labour force participation rate (LFPR) using the probit model. Probit model is used because the dependent variable of our study is a binary variable. It is to be noted that the estimates of the study are confined to rural unit record data of national sample survey as MGNREGA is relevant for rural employment only. We used probit model as we have binary variable as dependent variable.

The probit modeling is usually carried out in two steps. Heckman (1979) proposed a two-stage estimation procedure using the inverse Mills ratio to correct for the selection bias. In the first step, a regression for observing a positive outcome of the dependent variable is modeled with a probit model. Heckman (1979) procedure can be approached when there is a selection bias in the dependent variable. An estimate of the omitted variable would solve this problem. The inverse Mills ratio must be generated from the estimation of a probit model. The probit model assumes that the error term follows a standard normal distribution. The estimated parameters are used to calculate the inverse Mills ratio, which is then included as an additional explanatory variable in the OLS estimation. However, as we have not used wage data in the model, the Mills ratio transformation of the basic probit model is not undertaken.

The basic probit model is as follows.

$Pr\{L = 1\} = \alpha + \beta_1 MGNREGS + \beta_2 X_i + v_i + e_i$
Incorporating the care economy variables, the model would further expand as follows:

$Pr\{L = 1\} = \alpha + \beta_1 MGNREGS + \beta_2 CE + \beta_3 X_i + v_i + e_i$

The expanded probit incorporating the control variables including religion, social group, marital status, level of education and MGNREGS job card is as follows.

$Pr\{L = 1\} = \alpha + \beta_1 REL + \beta_2 SOC + \beta_3 MAR + \beta_4 EDU + \beta_5 MGNREG + \beta_6 CE + v_i + e_i$

where, {L=1} if individual i is in the labor force,

REL = Religion,
SOC = Social group,
MAR = Marital status,
EDU = level of Education and,

CE = Care Economy

6. RESULTS

Our findings suggest that MGNREGS has a positive impact on LFPR. LFPR is likely to be lower for those who are not registered in any MGNREGS job, for both females and males. Nonetheless, the result is more pronounced for females as indicated by the margin (it is -0.3266 for females whereas it is -0.1164 for males). It can be therefore deciphered that though MGNREGS provides employment opportunities for both men and women, women gain more than men from the job guarantee scheme. The result thus supports the hypothesis that MGNREGS engenders higher labour force participation.

Further, we observe a negative association between the level of education and LFPR for females. LFPR is found to be lower for educated women compared to illiterate. There could be two possible reasons for the lower LFPR among educated women. Most of the work in the rural areas are available in either agriculture or under MGNREGS, and since work under both the categories are unskilled in nature, educated women do not prefer to work due to the nature of work. Therefore, the level of education has a negative impact on LFPR in the rural areas for females.

The control variables that relate to religion and social group are also found to be major determinants of LFPR. While LFPR among Muslim women is likely to be lower than among Hindu women, LFPR is likely to be low for men of both Muslim, Hindu and other religions. Regarding marital status, we find contrasting results for males and females. While married men were more likely to be the part of labor force as compared to unmarried men, the same was not true for women (the probability of married men joining the labor force was 0.1629 higher than the unmarried men). Further, we also observe from Table 9.1 that the widowed (both men and women) are less likely to be in the labor force than the unmarried. However, LFPR for divorced/separated men and women is higher than that for the unmarried. It is also interesting to notice that the margin is much higher for females than the males (0.2262 for females against 0.0608 for males).

Table 1: Regression Results for Determinants of LFPR (Probit Estimates)

	Coefficients			
	Women	**Men**	**Women**	**Men**
Religion				
Islam	-0.3041*** (0.0270)	-0.0658* (0.0362)	-0.1200 (0.0104)	-0.0086 (0.0049)
Others	0.0392 (0.0250)	-0.1277*** (0.0337)	0.0156 (0.0100)	-0.0175 (0.0049)
Social group				
SC	-0.1285*** (0.0244)	-0.0490 (0.0357)	-0.0512 (0.0097)	-0.0061 (0.0045)
OBC	-0.0982*** (0.0221)	-0.0643** (0.0322)	-0.0391 (0.0088)	-0.0081 (0.0040)
Others	-0.1502*** (0.0258)	-0.0920** (0.0374)	-0.0598 (0.0103)	-0.0118 (0.0048)

Marital status				
Currently married	0.0130 (0.0253)	0.9200*** (0.0225)	0.0052 (0.0101)	0.1629 (0.0051)
Widowed	-0.2180*** (0.0331)	-0.3280*** (0.0474)	-0.0865 (0.0131)	-0.1045 (0.0162)
Divorced/separated	0.6054*** (0.0993)	0.2398*** (0.1456)	0.2262 (0.0330)	0.0608 (0.0329)
Level of education				
Below primary to Secondary	-0.1093*** (0.0161)	0.4738*** (0.0275)	-0.0436 (0.0064)	0.0679 (0.0045)
Higher secondary or diploma/ certificate course	-0.3057*** (0.0356)	-0.1229*** (0.0340)	-0.1211 (0.0139)	-0.0256 (0.0072)
Higher education	0.0694 (0.0539)	0.4551*** (0.0502)	0.0275 (0.0213)	0.0661 (0.0062)
Registered in MGNREGA job card				
No	-0.8430*** (0.0149)	-0.7515*** (0.0222)	-0.3266 (0.0054)	-0.1164 (0.0038)
Constant	0.6236	0.8771		
N	32821	33336		

Source: Authors' Computations. (Basic Data) Centre for Statistical Organization (2013), NSS's 68th round on "Employment and Unemployment for the period of July 2011-June 2012".

In Table 2, we have re-estimated the probit model of LFPR incorporating the care economy variables. We estimate separate regressions for men and women to capture gender differential determinants of LFPR. We have analysed the impact of MGNREGA on LFPR and, as expected, there is a positive association between MGNREGA and LFPR. The estimates revealed that the LFPR was likely to be lower for women who did not have MGNREGA job card. While for men, the probability of getting into labour force for non-job card holders of MGNREGA was lower by the margin of 0.1915 than the MGNREGA job card holders, the margin was 0.123 for men. It should also be kept in mind that the result is highly significant for women (at 1 per cent level of significance), it is not the case with men (at 10 per cent level of significance). As expected, the care economy variables have larger implications for women than the men. We can decipher from Table 2 that women who spend more time on care economy are less likely to be included in the labour force. It can also be noted from Table 2 that while controlling for care economy variables (codes 1-10 refer to time spent on domestic duties, kitchen garden, household poultry, collection of fruit and fish, collection of fuel wood, husking paddy, preservation of meat and fish, preparing cow dung fuel, swinging, weaving and tailoring and tutoring), the variables related to religion become insignificant for women; however, it matters for men. Under the social group category, while controlling for care economy variables, the probability of getting into labour force for SC category is higher by 0.156 than the ST category for men. On the other hand, social group does not affect the LFPR among men. Apart from religion and social group, marital status also has an effect on LFPR. Like the earlier model, the level of education and LFPR are negatively related for women in this scenario as well after incorporating care economy variables.

Table 2: Regression Results for Determinants of LFPR incorporating the Care Economy Variables (Probit estimates)

	Coefficients		Marginal effects	
	Women	Men	Women	Men
Religion				
Islam	-0.0362 (0.0355)	0.000 (0.000)	-0.0110 (0.0107)	
Others	0.0490 (0.0396)	1.2469** (0.5523)	0.0154 (0.0126)	0.2589 (0.1170)
Social group				
SC	0.1793*** (0.0370)	0.6995 (0.6062)	0.0545 (0.0111)	0.1558 (0.1483)
OBC	0.1580*** (0.0346)	0.7016 (0.5463)	0.0476 (0.0102)	0.1564 (0.1301)
Others	0.0825 (0.0384)	-0.0015 (0.7355)	0.0242 (0.0112)	-0.0002 (0.1050)
Marital status				
Currently married	0.1874*** (0.0509)	0.6656* (0.3710)	0.0552 (0.0140)	0.1363 (0.0688)
Widowed	-0.1412** (0.0701)	-0.2232 (0.5761)	-0.0361 (0.0180)	-0.0247 (0.0606)
Divorced/ separated	0.0549 (0.1997)	0.0000 (0.000)	0.0153 (0.0569)	.
Level of education Below primary to secondary	-0.1945*** (0.0237)	0.0480 (0.3473)	-0.0607 (0.0074)	0.0102 (0.0736)
Higher secondary or diploma/ certificate course	-0.3015*** (0.0621)	-0.5181 (0.5609)	-0.0904 (0.0169)	-0.0783 (0.0756)
Higher education	-0.3457*** (0.1031)	0.0000 (0.000)	-0.1019 (0.0265)	.
Registered in MGNREGA job card				
No	-0.6039*** (0.0221)	-0.6220* (0.3252)	-0.1915 (0.0070)	-0.1233 (0.0649)
care economy code 1				
No	0.3098*** (0.0328)	0.5001 (0.3646)	0.1033 (0.0117)	0.1155 (0.0948)
care economy code 2				
No	0.0246 (0.0268)	-0.0638 (0.3746)	0.0076 (0.0082)	-0.0126 (0.0737)
care economy code 3				
No	-0.4112*** (0.0266)	-0.2141 (0.3202)	-0.1327 (0.0089)	-0.0430 (0.0656)
care economy code 4				

No	0.0912*** (0.0279)	1.0567** (0.4495)	0.0278 (0.0084)	0.1933 (0.0777)
care economy code 5				
No	-0.2643*** (0.0256)	-0.7090* (0.3638)	-0.0808 (0.0077)	-0.1281 (0.0591)
care economy code 6				
Yes: commodities acquired Otherwise	-0.0588 (0.0622)	-0.0410 (0.8672)	-0.0167 (0.0175)	-0.0024 (0.0497)
No	0.0986*** (0.0385)	1.0261* (0.5398)	0.0298 (0.0113)	0.1536 (0.0564)
care economy code 7				
Yes: commodities acquired Otherwise	0.0525 (0.0818)	-0.0472 (0.8551)	0.0146 (0.0226)	-0.0102 (0.1822)
No	0.1726** (0.0704)	-0.1302 (0.4789)	0.0504 (0.0192)	-0.0268 (0.1035)
care economy code 8				
No	0.0332 (0.0243)	-0.3927 (0.4289)	0.0102 (0.0075)	-0.0904 (0.1117)
care economy code 9				
No	0.0344 (0.0251)	-1.0824** (0.4266)	0.0106 (0.0077)	-0.2906 (0.1367)
care economy code 10				
No	-0.0365 (0.0405)	-0.0903 (0.5660)	-0.0114 (0.0128)	-0.0186 (0.1217)
Constant	-0.4923	-1.6681		
N	17645	159	17645	159

Source: Authors' Computations. (Basic Data) Centre for Statistical Organization (2013), NSS's 68th round on "Employment and Unemployment for the period of July 2011-June 2012".

7. CONCLUSION

The female labor force participation in India is lower than G20 countries. It declined between 1993-94 and 2011-12 as per the NSS unit record data. The gender differentials in labour force participation are also very prominent in India. The paper analysed whether MGNREGS has helped to reduce the gender gaps in labour force participation in India.

Using unit record data from the NSS employment and unemployment survey, we analysed the impact of MGNREGS - the job guarantee programme - on women's labour force participation across States of India. The data on State-wise women's participation rate revealed that gender differentials are strikingly different across States. While women's participation rate in MGNREGS was more than 60 per cent in States like Kerala, Tamil Nadu, Goa and Rajasthan, in States like Jammu & Kashmir, Uttar Pradesh, Arunachal Pradesh and Nagaland, the women's participation rate did not even cross the mini-

mum threshold of 33 per cent as mandated by the MGNREGS.

The analysis also revealed that work force participation of MGNREGS job card holders were much higher than the non-card holders for both males and females. Moreover, the gap between the two was much more pronounced for females. Our findings also showed that the unemployment rate was much higher for the non-card holders than the MGNREGS job card holders. While the unemployment rate among the males for non-card holders was 8 times higher than the MGNREGS job card holders, it was more than 10 times for females.

We also examined the determinants of labour force participation rate incorporating MGNREGS. The probit analysis showed that MGNREGS had a positive impact on LFPR for both males and females and the result was found to be more pronounced for women. However, gender differential impacts are strikingly different across States.

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