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# **Employment Outcomes for Women across Social Groups in India**

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### **Abstract**

*The paper focuses on examining the trend and pattern of women's employment across the social groups at the all-India level during 1983 to 2011-12. The low caste women of the rural and urban areas has been experiencing continuous fall in their rates of labour force and work force participation over the years. Notably, engagement in domestic duties appeared as the most important activity for the out of labour force women in urban India. It can be concluded from the econometrical exercise that the income effect played a deterministic role behind greater labour force and work force participation for the SC/ST females compared to the non-SC/ST ones. Further, the sectoral composition (up to 2 digit level of NIC) and the issues concerning the employment quality for the ST/SC women has also been looked into. Owing to the methodological discrepancies arising in the context of employment data for the year 2017-18, the paper has cited out the employment highlights for the social groups citing the data available in the published report separately.*

**Key words: Employment, Women, Social Groups, Workforce and Quality aspects.**

**I. Introduction:** The developments which can be traced from 1990 onwards, more specifically, the secular resurgence of caste in the public sphere, the implementation of the Mandal Commission report (1979), the renewed assertion of the *dalit* feminism at the national and the regional level, the address of caste at the UN conference against racism in Durban (2001), all these posed serious challenges to the theory of gender in India as it draws the disjuncture between the academic knowledge and the social practise of caste. Among all the major social groups, namely, the Scheduled Caste (SC), the Scheduled Tribes (ST) and the Others (OTH), it has been concluded by many researchers (Raju, 2013; Majumder, 2012; Sundaram & Tendulkar, 1990; GOI Reports; Mohanty, 2001; Gulati, 1978; Meenakshi, Ray and Gupta, 2000) that the SC/ST women exhibit greater tendencies to work compared to the non-SC/STs. As mentioned by these scholars, the interplay of culture, poverty, landholding position, hunger, disease and indebtedness is responsible for high work participation among the women of these groups.

Further, the nature of jobs which absorb the low caste women in non-farm sectors needs a scrutiny (Nayak and Prasad, 1984). Owing to their poor educational status, majority of the low caste women are found to perform the most hazardous and informal tasks which are demeaning but regular and arduous (Rayappa and Grooner, 1979; Gopal, 2013). Although,

the reservation of jobs in the organised public sector used to be one mechanism through which the SCs and the STs could aspire to high quality regular waged organised sector jobs; however with the public sector shrinking and the private sector producing all new net jobs in the organised sector over the years (which in turn demands high skilled workers), even this limited access route towards better quality jobs has been closed for these low skilled women work force (Mohanty, 2001).

Against this backdrop, the main agenda of the paper is to:

- Study the trend and pattern of female employment among the various social groups in rural and urban India.
- Identify the determinants of work participation for SC/ST women and examine their status of employment.

In what follows, Section II describes the data used here. The results with regard to women's employment across the social groups have been enumerated in Section III. Section IV concludes.

**II. Data Source and Methods:** The study is based upon the unit level information as obtained from the employment-unemployment surveys of NSSO for four years: 1983, 1993-94, 1999-00 and 2011-12. In addition to this, information regarding the year 2017-18 as available in the recently published periodic labour force survey report of NSSO has been considered. The extraction and processing of the unit level data has been done using the STATA 12 software package. In order to identify the determinants of female work participation across the social groups multi nomial logit model has been estimated.

### III. Results and Discussions:

**1. Female Labour Force and Work Force Participation Rates (LPR & WPR):** As seen from the table (Table 1A and 1B), the rate of labour force and work force participation for the low caste women (ST & SC) has declined continuously, both in rural and urban India, during the period 1983 to 2017-18. However, among the upper caste women, the trend with regard to LPR and WPR has varied between the rural and urban areas.

**Table 1A The Rates of Labour Force Participation across the Social Groups by Sex and Sector: All India**

Year	Rural									Urban								
	Male			Female			Person			Male			Female			Person		
	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH
1983	591	557	549	479	383	312	536	473	433	555	516	542	259	211	148	421	372	354
1993-94	595	560	556	483	356	300	540	462	432	545	529	545	238	208	156	398	378	360
1999-00	564	542	537	441	326	282	503	437	412	501	531	545	209	193	140	358	371	351
2011-12	565	550	552	369	265	231	469	411	395	538	563	564	202	181	148	380	377	365

*Source: Computed using Unit Level Information of NSSO*

Table 1B The Rates of Work Force Participation across the Social Groups by Sex and Sector: All India

Year	Rural									Urban								
	Male			Female			Person			Male			Female			Person		
	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH
1983	588	551	541	478	381	310	534	468	427	531	490	515	255	205	140	406	356	336
1993-94	591	554	547	482	355	297	537	458	426	520	505	523	234	199	145	382	361	344
1999-00	559	531	528	439	324	279	500	431	406	480	505	521	203	188	131	345	354	334
2011-12	557	539	543	364	262	226	463	404	388	520	545	548	192	172	140	366	364	353

Source: Same as for table 1A

Also, clearly it can be stated that the female LPR and WPR, both in the rural and urban areas, has been the least in the year 2017-18 across all the social groups. During 2017-18, the LPR and WPR for the females was the highest for STs (27 per cent) in the rural areas and SCs (19.2 per cent and 17.2 per cent respectively) in the urban areas while the lowest in this regard was recorded for the females of the social group 'Others' both in rural and urban India. In addition to this, the male-female differences in LPR and WPR are observed to be quite prominent for all the social groups with LPR and WPR for females lagging behind their male counterparts all through the years of study.

The fact that there has been a continuous fall in the LPR/WPR for the women belonging to the socially disadvantaged groups – ST/SC has been repeatedly mentioned in the existing literatures. However, there lies no explanation to this decline in the LPR and WPR for the ST/SC women. Thus, to arrive at firm conclusion in this regard we have examined the activities in which the out of labour force females of the socially disadvantaged groups in the rural and urban areas were engaged. According to NSSO classification, there are six different activities in which they would be engaged, which include: (i) enrolment in educational institutions (Activity Code 91); (ii) engaged in various forms of domestic duties (Codes 92 and 93); (iii) recipient of some type of remittance (Code 94); (iv) disabled (Code 95); and (v) others (Codes 96 and 97).

Table 2 presents information regarding the percentage distribution of out of labour force ST/SC females into these activities in rural and urban India for four years. In case of the out of labour force (OLF) females in rural India, the most important activity has been engagement in domestic duties among ST/SCs in the year 1983. Additionally, these OLF SC women are involved in increasing percentage in the free collection of goods and services (like firewood, drinking water) for household uses during 1983. However, women from these socially backward groups started enrolling themselves in educational institutions in increasing numbers since the year 1993-94 and consequently, the highest percentage of these OLF women were engaged in educational institutions during the period 1999-00 to 2011-12. It has also been seen that such a percentage has increased continuously overtime only among SCs (from 11.35 per cent in 1983 to 18.27 per cent in 1993-94 to 24.70 per cent in 1999-00 to 25.30 per cent in 2011-12).

**Table 2: Percentage of Low Caste women Engaged in different activities that kept Them Out of the Labour Force : All India**

Year	Description	ST		SC	
		Rural	Urban	Rural	Urban
1983	Enrolled in educational institutions	10.95	22.51	11.35	20.57
	Engaged in domestic duties	16.75	38.15	19.24	36.46
	Recipient of remittances	0.23	0.68	0.29	0.30
	Disabled	6.41	3.52	6.00	4.22
	Others	1.71	1.15	1.97	0.96
1993-94	Enrolled in educational institutions	20.53	29.72	18.27	25.97
	Engaged in domestic duties	13.94	33.49	18.42	34.34
	Recipient of remittances	0.27	0.65	0.39	0.52
	Disabled	0.92	0.61	0.94	0.81
	Others	25.86	11.79	19.89	12.08
1999-00	Enrolled in educational institutions	27.32	5.26	24.70	29.23
	Engaged in domestic duties	15.95	6.41	21.23	37.24
	Recipient of remittances	0.37	0.09	0.48	0.44
	Disabled	0.98	0.07	0.93	0.79
	Others	19.02	10.39	14.99	8.88
2011-12	Enrolled in educational institutions	23.49	28.49	25.30	25.91
	Engaged in domestic duties	9.03	27.66	13.85	31.10
	Recipient of remittances	0.64	0.73	0.92	1.19
	Disabled	0.96	1.05	1.12	1.19
	Others	3.27	2.80	3.54	2.67

*Source: Same as for Table 1A*

However, in 2017-18, a major percentage of the SC women in the rural areas (27.6 per cent) reported engagement in household duties as their most important OLF activity. On the other hand, the ST women in urban India were not present in the labour force due to their engagement in educational institutions during 1983-2012. However, for both the ST/SC women, in the urban areas, engagement in domestic duties appeared as the most important OLF activity in the recent years. During 2017-18, 36 to 38 per cent of these OLF women from the backward groups were observed performing domestic duties.

***Reasons behind high work force participation for the females of the socially backward groups:*** As observed from the previous tables, among the various social groups, the female LPR and WPR has been the highest for the SC/STs and the lowest for 'Others' in all the years of study. It has been an issue of debate among the scholars when they have tried to provide an explanation behind such higher participation rates by the females of the SC/ST households in the labour force and the work force of the economy. Few scholars have linked this increasing work participation among the ST/SC women with their cultural/traditional

norms (Majumdar, 2012). On the other hand, another group (Sundaram and Tendulkar, working paper no 118; Mohanty, 2006; Gulati, 2001; Meenakshi, Ray and Gupta, 2000) have repeatedly harped upon the fact that as the prevalence, depth and severity of poverty remains accentuated for the SC and ST households so the army of reserved workers (children, women and elderly persons) are drawn into the work force to supplement the income of the family (*income effect*). Thus, to shed some light in this context, we employ the technique of multinomial logit regression (mentioned in appendix 1) for empirical verification of one of the leading hypothesis stating- “*The work force participation among the SC/ST females is distress driven*” at the All-India level for the female workers of the rural and urban areas across the various social groups during the year 2011-12.

It is observed (from tables 3a and 3b) that the estimated coefficients of the model which are statistically significant have their expected signs. Clearly, it can be seen, both in rural and urban India, the female employees of the lower caste households (SC and ST) have higher odds of participation in the work force than the upper caste female workers if she comes from a family where the incidence of poverty is high. Thus, unanimously it can be concluded that the lower caste women workers of the rural and urban areas are participating in the work force in greater numbers so as to augment the average income of their family such that they could fulfil the basic needs of life (*income effect*). In addition to this, it can also be stated that the odds of work force participation is higher for an illiterate and young SC/ST women than the women workers belonging to the category *others* both in rural and urban India.

**2. Distribution of Women Workers across the different sectors of the economy:** In rural areas, tabulated below (Tables 4 and 5), primary sector (agriculture and allied activities) employed the highest proportion of usual status female workers (UPSS) across all the social groups throughout the period 1983 to 2017-18. Further, compared to the SCs, the rural tribal women are seen performing agricultural operations in greater percentage during the different years of study. However, the female employment share in activities related to the primary sector across all the social groups has declined continuously during the period 1999-00 to 2011-12. Thus, the issue of defeminisation of Indian agriculture remains valid for the various caste groups in the rural areas as well. However, unlike the rural areas, the dependence on agricultural activities, as a means of livelihood, is less among the female workers in the urban areas across all the social groups in all the years. It is seen that in the urban areas only 3.4 per cent of the ST women, 1.5 per cent of the SC women and 0.6 per cent of the women belonging to the social group ‘Others’ are working in the farm sector during 2017-18.

**Table 4: Sectoral Composition of Workers across the Social Groups in 2011-12: Rural India**

Sectors	Male			Female			Persons		
	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH
Agriculture	72.65	53.18	59.05	81.85	73.34	73.74	76.19	59.56	63.24
Community & Personal Services	3.40	4.02	5.44	2.81	5.35	5.49	3.17	4.44	5.46
Construction	13.19	21.65	10.38	9.14	8.92	5.13	11.63	17.62	8.88
Electricity, Gas and Water Supply	0.13	0.24	0.29	0.00	0.00	0.02	0.08	0.17	0.21
Financial Services	0.17	0.86	1.25	0.09	0.14	0.29	0.14	0.63	0.98
Manufacturing	4.21	8.32	8.71	4.02	9.72	11.29	4.14	8.76	9.45
Mining	0.57	0.81	0.46	0.31	0.44	0.24	0.47	0.69	0.39
Trade	3.77	6.07	10.09	1.64	1.84	3.75	2.95	4.73	8.28
Transportation	1.92	4.85	4.33	0.15	0.24	0.07	1.24	3.39	3.11

Source: Same as for table 1A

Considering, the sub-sectors within the secondary sector, manufacturing has absorbed the highest proportion of women workers across all the social groups in the rural and urban areas throughout the period 1983 to 2011-12. Nevertheless, during the period post-1993-94, the tribal women of the rural areas are seen concentrated in construction related activities (e.g. construction of buildings, roads, railways and other utility projects) in greater percentage. On the other hand, disaggregating the data up to 2-digit level of NIC, it is seen that the SC women of the rural and urban areas remain employed in highest proportion in manufacturing units producing tobacco products, textiles and wearing apparels all through the period of study. However, the female employment share among ST, SC and OTH in the remaining sub-sectors within the secondary sector, namely, electricity, gas and water supply and mining has been negligible in the rural areas; whereas in the urban areas, a good percentage of tribal women are found engaged in quarrying of stone, sand and clay within the mining industry. Also, in the context of the recent year 2017-18, it could be concluded that the secondary sector has absorbed the women from the SC communities in higher percentage than the tribal groups.

**Table 5: Sectoral Composition of Workers across the Social Groups in 2011-12: Urban India**

Sectors	Male			Female			Persons		
	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH
Agriculture	8.84	6.03	5.45	22.52	10.89	10.28	1.22	1.81	2.82
Community & Personal Services	25.68	17.24	12.94	32.10	46.41	33.70	2.73	6.08	7.48
Construction	16.46	19.37	8.93	12.62	5.26	3.19	1.55	4.09	3.47
Electricity, Gas and Water Supply	1.11	0.75	0.81	0.12	0.52	0.40	0.09	0.18	0.32
Financial Services	4.63	6.81	8.92	1.75	3.34	6.61	0.39	1.53	3.75
Manufacturing	14.19	18.65	23.33	16.05	20.05	31.28	1.47	4.81	10.99
Mining	1.86	1.25	0.75	1.28	0.46	0.20	0.17	0.27	0.29
Trade	15.57	18.95	29.32	12.18	11.93	13.26	1.48	4.40	11.62
Transportation	11.66	10.96	9.56	1.39	1.14	1.08	0.91	2.21	3.51

Source: Same as for table 1A

Parallel to this, tertiary sector employed the highest proportion of usual status urban female workers across all the social groups throughout 1983 to 2011-12. The female workers within the service sector were seen employed in highest per cent in community, personal and social activities (CPSS) whereas for them the lowest employment share was recorded in banking and financial services. In fact, the nature of work performed by these urban women within community, personal and social services has varied across the social groups; the tribal women are mainly associated with education services; the SCs are performing activities in households as employers of domestic personnel; among *others*, 33.70 per cent among females are mainly working in public administration, defence, compulsory social security activities and education in the year 2011-12. On the other hand, the major absorber for the rural female workforce within the service sector have been the sector of education within community, social and personal services along with trade and transportation activities across all the social groups since the year 1983.

The emerging sectors for the females of the various social groups, in rural and urban areas, have been computed by considering the shares of different sectors in incremental workers during the periods – 1983 to 1993-94 and 1993-94 to 2011-12. As tabulated below (Table 6 and 7), it is seen that an additional 14,28,754 female workers in the rural areas and 9,59,053 female workers in the urban areas have been absorbed by the non-agricultural sectors in the period 1993-94 to 2011-12 compared to 4,24,008 and 80,710 workers in the rural and urban areas during the period 1983 to 1993-94 among STs. On the other hand, among the women of the SC communities, an additional 29,34,029 rural workers and 37,73,507 urban workers have been added to the army of non-farm sector during 1993-94 to 2011-12. The most important sector within the non-agricultural sectors for these ST and SC women is Construction and Community, Personal and Social Services in the rural and urban areas respectively; while the additional female workers of the social group – OTH have been absorbed by the manufacturing units in the urban areas during the period 1993-94 to 2011-12.

**Table 6: Share of Different Sub-Sectors in Incremental Workers across Social Groups during 1993-94 to 2011-12: Female Workers**

<i>Rural Females</i>							
	ST	SC	OTHERS		ST	SC	OTHERS
Agriculture	-6,10,420	-26,36,592	-63,00,562		-74.59	-886.44	-4657.73
Community & Personal Services	2,54,451	4,17,320	10,26,776		17.81	14.22	15.95
Construction	11,61,115	16,46,096	26,71,159		81.27	56.10	41.50
Electricity, Gas and Water Supply	-3,159	-11,895	-642		-0.22	-0.41	-0.01
Financial Services	9,639	10,079	1,29,212		0.67	0.34	2.01

Manufacturing	-13,648	7,23,302	19,16,508		-0.96	24.65	29.78
Mining	-83,799	7,974	-8,756		-5.87	0.27	-0.14
Trade	86,935	99,174	6,99,454		6.08	3.38	10.87
Transportation	17,220	41,979	2,122		1.21	1.43	0.03
Non-agriculture	14,28,754	29,34,029	64,35,833		174.59	986.44	4757.73

**Urban Females**

	ST	SC	OTHERS		ST	SC	OTHERS
Agriculture	-8,824	-3,76,894	-7,34,286		-2.61	-25.83	-11.95
Community & Personal Services	1,29,913	11,07,328	20,64,992		37.52	60.31	30.01
Construction	87,580	-29,940	2,48,333		25.29	-1.63	3.61
Electricity, Gas and Water Supply	-1,529	17,073	40,764		-0.44	0.93	0.59
Financial Services	16,493	1,18,248	8,90,435		4.76	6.44	12.94
Manufacturing	62,180	3,65,083	24,83,943		17.96	19.88	36.10
Mining	-815	-4,537	-15,313		-0.24	-0.25	-0.22
Trade	47,245	2,54,722	11,11,173		13.64	13.87	16.15
Transportation	5,200	8,103	55,554		1.50	0.44	0.81
Non-agriculture	3,46,267	18,36,080	68,79,881		102.61	125.83	111.95

*Same as table 1A***Table 7: Share of Different Sub-Sectors in Incremental Workers across Social Groups during 1983 to 1993-94: Female Workers****Rural Females**

	ST	SC	OTHERS		ST	SC	OTHERS
Agriculture	13,52,285	21,73,528	3,54,898		76.13	90.25	19.45
Community & Personal Services	14,426	-28,663	6,18,790		3.40	-12.20	42.11
Construction	61,284	17,555	22,688		14.45	7.47	1.54
Electricity, Gas and Water Supply	3,378	8,896	8,220		0.80	3.79	0.56
Financial Services	1,280	19,411	21,917		0.30	8.26	1.49
Manufacturing	3,00,088	1,60,588	5,92,252		70.77	68.35	40.30
Mining	47,741	5,294	23,702		11.26	2.25	1.61



Trade	-4,946	52,018	1,75,092		-1.17	22.14	11.91
Transportation	757	-156	6,939		0.18	-0.07	0.47
Non-agriculture	4,24,008	2,34,943	14,69,600		23.87	9.75	80.55

**Urban Females**

	ST	SC	OTHERS		ST	SC	OTHERS
Agriculture	-61,712	2,32,166	-2,59,223		-324.83	60.85	-12.19
Community & Personal Services	68,028	51,629	14,74,973		84.29	34.56	61.81
Construction	-8,436	1,22,022	84,944		-10.45	81.69	3.56
Electricity, Gas and Water Supply	2,689	888	6,825		3.33	0.59	0.29
Financial Services	-2,254	1,383	1,69,165		-2.79	0.93	7.09
Manufacturing	5,445	-45,667	3,47,640		6.75	-30.57	14.57
Mining	-9,037	2,498	13,822		-11.20	1.67	0.58
Trade	23,448	19,202	2,87,937		29.05	12.85	12.07
Transportation	827	-2,581	997		1.02	-1.73	0.04
Non-agriculture	80,710	1,49,374	23,86,303		424.83	39.15	112.19

*Same as table 1A*

### 3. Quality of Employment:

#### i. Subsidiary Status Workers:

Table 8 presents information about the percentage of subsidiary status female workers to total female workers in rural and urban India across the various social groups during different years of study. Clearly, the percentage of females in subsidiary activities has remained above 45 per cent across all the social groups in the rural areas all through the period 1983 to 2011-12; whereas in the urban areas, it has remained below 30 per cent. Also, in the year 2011-12, greater percentage (approximately 50 per cent) of the SC/ST women are subsidiary workers compared to the women of the social group – OTH in rural India. This is a clear sign of poor quality of employment in which these SC/ST women of the rural areas are engaged.

**Table 8: Percentage Distribution of Subsidiary Status Female Workers to Total Workers: Rural and Urban India**

ST	Rural	Urban
<b>1983</b>	43.75	24.17
<b>1993-94</b>	54.66	29.34
<b>1999-00</b>	46.14	14.49
<b>2011-12</b>	48.10	19.35
SC		
<b>1983</b>	47.81	25.66
<b>1993-94</b>	52.21	27.01
<b>1999-00</b>	44.26	24.04
<b>2011-12</b>	49.50	16.46
OTHERS		
<b>1983</b>	49.00	25.89
<b>1993-94</b>	52.60	26.47
<b>1999-00</b>	45.56	19.75
<b>2011-12</b>	44.68	18.22

*Source: Same as Table 1A*

## ii. Status of Employment

It appeared that the rural and urban female workers belonging to the social groups- ST and SC are associated with poor remunerative unskilled casual jobs in greater proportion compared to the non-SC/STs in all the years at the all-India level. During 2017-18, the proportion of casual workers among the females of the backward groups ranged between 8 to 9 per cent in the rural areas and 3 to 4 per cent in the urban areas.

**Table 9: Percentage Distribution of Workers in Different Modes of Employment by Sex and Sector in 2017-18: Rural India**

	M			F			P		
	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH
Self-Employed	32.20	22.00	33.90	15.50	7.10	9.60	24.10	14.70	22.10
Regular Employed	5.20	6.60	9.10	2.10	1.80	2.00	3.70	4.20	5.70
Casual Employed	16.40	23.80	9.30	9.40	8.50	2.50	13.00	16.30	6.00

*Source: Same as for table 1A*

**Table 10: Percentage Distribution of Workers in Different Modes of Employment by Sex and Sector in 2017-18: Urban India**

	M			F			P		
	ST	SC	OTH	ST	SC	OTH	ST	SC	OTH
Self-Employed	14.00	15.80	22.20	3.50	4.70	4.40	8.90	10.30	13.50
Regular Employed	24.60	23.50	26.40	8.60	9.50	7.30	16.90	16.60	17.10
Casual Employed	11.20	13.30	4.50	4.90	3.00	0.90	8.20	8.20	2.80

Source: Same as for table 1A

**Table 11: Proportion of Females in Casual Jobs in 2011-12**

Education Levels		Rural	Urban
ST	Primary	15.88	11.83
	Secondary	7.29	5.26
	Higher Secondary	6.76	0.00
	Graduate & above	4.55	0.00
SC	Primary	31.56	25.47
	Secondary	27.43	17.11
	Higher Secondary	28.38	27.59
	Graduate & above	18.18	8.33

Same as table 1A

Clearly, from the tabulated figures (table 11) it can be inferred that casual jobs have absorbed illiterate SC/ST women in greater proportion compared to the educated ones in the year 2011-12. Also, access to regular jobs and self-employed jobs has been poor for these SC/ST women in all the years of study. In fact, the closure of the sick public sector units at a rapid rate and owing to the production of new jobs by the private sector within the domains of the public sector (as the Indian Government adopted the disinvestment policy late 1990s) might have resulted in poor presence of the low caste people in regular jobs (Meenakshi, Ray and Gupta, 2000; Mohanty, 2001). However, the proportion of SC women (48.84 per cent) for the first time was seen to be the highest in regular employment in the urban areas during 2011-17.

**IV. Conclusion:** Thus, in the rural and urban areas, the rates of female labour force and work force participation among the STs and SCs have declined continuously during 1983 to 2011-12. 'Engagement in educational institutions' is mainly responsible behind the decline in the LPR and WPR for the women of the socially backward groups in the rural and urban areas for the period 1999-00 to 2011-12. It is only for the SC women in the urban areas, the major out of labour force activity is performing domestic duties in all the years. Also, the

women of these lower castes exhibit greater tendencies of labour force and work force participation compared to the upper castes, at the all-India level, throughout the period of study. Further, it can be concluded from the econometrical exercise that the income effect played a deterministic role behind greater labour force and work force participation for the SC/ST females compared to the non-SC/ST ones. Further, the sector which has absorbed the incremental female workers in maximum per cent is construction in the rural areas and Community, Personal and Social services in the urban areas during the period 1993-94 to 2011-12. Other emerging sectors in this regard were Manufacturing and Trade. In terms of the quality of employment, it is seen that the ST/SC women have greater access to casual job sowing to their low levels of education. Further, in the urban areas, the men and women of the backward classes were seen getting absorbed in regular jobs in highest percent for the first time in the year 2011-12. Also, the incidence of casual employment was seen declining for these backward groups over the years. However the same is not true for the female employees of rural India.

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### Appendix-1:

The categorical dependent variable of the model is 'swf' which assumes the value 1 if a ST person participates in the workforce; 2 for a SC person and 3 for a person belonging to the social group 'Others' (taken as the base). We have considered 22 independent variables in the model; the details of which are mentioned below:

1. age1: it is the age group dummy; takes the value 1 for children aged below 15 years.
2. age2: it is the age group dummy; takes the value 1 for the young persons aged 15 to 34 years and 0 otherwise.
3. age3: it is the age group dummy; takes the value 1 for the middle aged persons aged 35 to 59 years and 0 otherwise.
4. povstat: it represents the poverty status of a person; takes the value 1 for the non-poor and 0 otherwise.
5. m2: it is the marital status dummy; takes the value 1 for the married persons and 0 otherwise.
6. m3: it is the marital status dummy; takes the value 1 for the widowed persons and 0 otherwise.
7. m4: it is the marital status dummy; takes the value 1 for the divorced persons and 0 otherwise.
8. e5: it is the education dummy; assumes the value 1 for persons studying in below primary standards.
9. e6: it is the education dummy; assumes the value 1 for persons completing primary education and 0 otherwise.
10. e7: it is the education dummy; assumes the value 1 for persons studying in middle standards.
11. e8: it is the education dummy; assumes the value 1 for persons completing secondary education and 0 otherwise
12. e9: it is the education dummy; assumes the value 1 for persons completing higher secondary education and 0 otherwise
13. e10: it is the education dummy; assumes the value 1 for persons who have completed diploma courses and 0 otherwise
14. e11: it is the education dummy; assumes the value 1 for persons who have completed graduation and 0 otherwise
15. e12: it is the education dummy; assumes the value 1 for persons who are post-graduates and above and 0 otherwise.
16. hsize: it denotes the number of members present in the family.
17. relh1: it assumes the value 1 for the family head and 0 otherwise.

- 18. relh2: it assumes the value 1 if the head of the family is the spouse of the head and 0 otherwise.
- 19. relh3: it assumes the value 1 if the head of the family is the married son/daughter and 0 otherwise.
- 20. relh4: it assumes the value 1 if the head of the family is the spouse of the married son/daughter and 0 otherwise.
- 21. relh5: it assumes the value 1 if the head of the family is the unmarried son/daughter and 0 otherwise.
- 22. relh7: it assumes the value 1 if the head of the family is the father/mother/father-in-law/mother-in-law and 0 otherwise.

**Table 3a: Multinomial Logit Regression of the determinants of workforce participation : Rural Females**

*(Dependent variable: swf=1 for ST; 2 if SC and 3 if OTHERS)*

<i>Base category: Others</i>			
Explanatory Variables	RRR	Z statistic	Sig
<i>ST</i>			
hsize	0.94	-7.19	0.00
povstat	0.39	-24.29	0.00
relh1	0.83	-1.23	0.22
relh2	1.20	1.31	0.19
relh3	0.79	-1.10	0.27
relh4	1.22	1.39	0.17
relh5	0.79	-1.57	0.12
relh7	0.87	-0.81	0.42
m2	0.55	-3.28	0.00
m3	0.85	-0.86	0.39
m4	0.68	-1.52	0.13
e5	0.75	-4.69	0.00
e6	0.49	-11.51	0.00
e7	0.44	-13.03	0.00
e8	0.37	-12.37	0.00
e9	0.45	-8.05	0.00
e10	0.37	-4.27	0.00
e11	0.35	-7.47	0.00
e12	0.19	-6.13	0.00

age1	1.76	2.80	0.01
age2	2.34	9.82	0.00
age3	1.41	4.30	0.00
_cons	0.70	-2.01	0.05

SC

hsize	0.96	-6.22	0.00
povstat	0.62	-13.32	0.00
relh1	1.20	1.33	0.19
relh2	1.37	2.50	0.01
relh3	1.24	1.19	0.23
relh4	1.04	0.30	0.77
relh5	1.40	2.08	0.04
relh7	1.01	0.05	0.96
m2	0.91	-0.52	0.60
m3	1.20	0.98	0.33
m4	0.76	-1.08	0.28
e5	0.69	-6.50	0.00
e6	0.68	-7.63	0.00
e7	0.51	-12.64	0.00
e8	0.48	-11.05	0.00
e9	0.49	-8.31	0.00
e10	0.36	-5.01	0.00
e11	0.37	-8.31	0.00
e12	0.23	-6.73	0.00
age1	1.25	1.19	0.23
age2	1.71	7.55	0.00
age3	1.22	3.05	0.00
_cons	0.42	-4.82	0.00

Pseudo R2=0.03

LR-statistic=1901.42(df = 44) [sig 0.00]

No. of observations = 28875

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**Source: As in table 1A**

**Table 3b: Multinomial Logit Regression of the determinants of workforce participation : Urban Females***(Dependent variable: swf=1 for ST; 2 if SC and 3 if OTHERS)*

<i>Base category: Others</i>			
Explanatory Variables	RRR	Z statistic	Sig
<i>ST</i>			
hsize	1.00	-0.03	0.97
povstat	0.51	-6.30	0.00
relh1	2.87	2.93	0.00
relh2	3.22	3.02	0.00
relh3	1.73	1.14	0.26
relh4	2.62	2.39	0.02
relh5	0.93	-0.21	0.83
relh7	2.39	1.84	0.07
m2	0.45	-2.26	0.02
m3	0.54	-1.88	0.06
m4	0.41	-1.84	0.07
e5	0.76	-1.61	0.11
e6	0.55	-3.55	0.00
e7	0.57	-3.45	0.00
e8	0.54	-3.32	0.00
e9	0.49	-3.20	0.00
e10	0.31	-2.75	0.01
e11	0.41	-4.61	0.00
e12	0.45	-3.61	0.00
age1	2.10	1.36	0.18
age2	2.27	3.30	0.00
age3	1.50	1.72	0.09
_cons	0.07	-6.49	0.00
<i>SC</i>			
hsize	0.98	-1.21	0.23
povstat	0.78	-3.89	0.00
relh1	1.16	0.81	0.42
relh2	1.33	1.47	0.14
relh3	0.90	-0.42	0.67
relh4	1.06	0.26	0.80
relh5	1.35	1.63	0.10



relh7	0.95	-0.22	0.82
m2	0.94	-0.30	0.76
m3	1.31	1.28	0.20
m4	0.98	-0.06	0.95
e5	0.71	-3.49	0.00
e6	0.79	-2.72	0.01
e7	0.67	-4.48	0.00
e8	0.38	-8.30	0.00
e9	0.41	-6.96	0.00
e10	0.46	-4.07	0.00
e11	0.27	-11.11	0.00
e12	0.22	-9.98	0.00
age1	1.07	0.21	0.84
age2	1.71	3.92	0.00
age3	1.41	2.71	0.01
_cons	0.24	-5.93	0.00

Pseudo R2=0.04

LR-statistic=537.04(df = 44) [sig 0.00]

No. of observations = 10354

*Source: As in table 1A*