

**Female Employment in India  
What Determines the Choice of Sector of Activity ?**

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# **Female Employment in India : What Determines the Choice of Sector of Activity?**

## **Abstract**

Despite accelerated economic growth coupled with the rise in educational attainment and closing gender gap in education, less than one-fourth of women in India are in labour force which is lower than many South Asian countries. Further, share of women labour is disproportionately higher in informal employment. This scenario appears contradictory to the development that the economy witnessed in the recent past. The question thus arises whether it is the structural condition of employment or the preference for reconciling work with family responsibilities decides the sector of employment for women. Against this backdrop, the present paper examines the determinants of the choice of the sector of employment among women. The paper shows that, despite an increase in the level of education, concentration of women in informal employment is high due to slow growth of formal employment. This poses a major challenge to accommodate skilled women in productive employment. State intervention, therefore, is needed for the creation of formal employment opportunities than emphasising more on the skill development programmes.

**Key words:** Education, Employment, Formal, Informal, Female

## **I. Introduction**

Economic reform of more than two decade has transformed the country into an open economy, brought major changes in the trade policies and employment patterns. Together with these changes, the country has been experiencing accelerated GDP growth which is expected to have a positive influence on the labour market of the country. Nevertheless, the labour market condition of the country represents a gloomy picture as the majority of livelihoods depend on informal employment and the burden is much higher among women. Though the gender gap in education is narrowing down and the social status of women is improving but the condition of women in labour market is impoverished in terms of low labour force participation rate along with a higher concentration in informal employment and high unemployment as well. In comparison to the male labour force (89%), the participation of women in informal employment (93%) is higher (NSS, 2011-12). This shows despite socio-economic advancement, the labour market of the country is not able to integrate women into formal employment. At the same time, the choice of employment sector for women in Indian society is also guided by the prescribed traditional domestic roles and gender norms. This raises a question whether it is the change in the employment structure or the preferences of women that decides the sectors of employment activity for them.

Empirical evidences on sectoral participation of women show that the low absorbing capacity of formal sector forcing women in choosing informal employment (Kevane and Wydick, 2001, Naryana, 2015) while higher wage, education and economic status are the significant determinants of women's participation in formal employment (Fapohunda, 1999; Mwabu and Evenson, 1997; Krishnan, Sellasie and Dercon, 1998). In South Asian countries, however, the decision of women to participate in the labour market and the choice of the sector of employment is contingent on the socially ascribed roles and other non-monetary factors. It has been pointed out in studies that the employment activities which provide women the freedom to accommodate their household chores along with their professional work play an important role in determining the choice of sector of employment (Pradhan & Soest, 1995; Das, 2006; Cunningham 2001; Jaeger, 2010; Maloney, 2004; Raustgi, 2010). The sector of economic activity women choose is thus confounded by many socioeconomic and demographic factors and these are not easy to decipher.

In this context, it is interesting to understand whether women in the Indian labour market prefer informal employment as it offers time flexibility for managing household chores or it is the failure of the economy to accommodate them into formal employment. The objective of the paper is to examine the determinants of sectoral choice of women in labour market taking the individual and household characteristics to explain the choice. In this study, choice can be conceptualized as it is women's agency that decides the sector of employment or it can be the structural conditions in employment that involved in making choice. For the purpose of analysis, the sectors of economic activity for women is classified into formal employment and informal employment which is further segregated into unpaid family worker, own account worker/employer, informal wage employment.

The rest part of the paper is divided into following parts. Section two presents a brief review of literature on the factors associated with the sectoral choice of female labour supply. The third section presents the conceptual framework, methodology and data used. An overview of women's labour force participation and its relation to the level of education is presented in section four. Sectoral participation of women by their background characteristics and empirical findings are presented in section five. Conclusion and policy implications are presented in the last section.

## **II. Determinants of Sectoral allocation of female labour : An Overview**

There are two competing views in the literature regarding sectoral participation in the labour market that is staging hypothesis and the other one is the competitive market assumption. In the first view, formal sector employment is rationed due to labour market conditions and

informal sector is an intermediary sector and those cannot afford to remain unemployed, they work in the informal sector (Fields, 1975). The second view sees the informal sector is competitive to the formal sector and the workers prefer the sector where they maximize their productivity (Magnac, 1991; Thomas, 1992). Based on these hypotheses various studies model the sectoral allocation of labour (Pradhan and van Soest, 1995; Pradhan and van Soest, 1997; Wambugu, 2002; Rankin, et.al, 2010). The findings emerged from the studies highlight the factors like expected wage, education, social security, age, marital status, the presence of children and parental education are the strong determinants of participation in different employment activities.

A study by Pradhan and Van Soest (1997) found that non-monetary factors such as job stability, social security and health care access are the major determinants for choosing formal sector jobs over the informal sector. Among all factors that account for occupational choice, education is found to be a key factor for choosing formal or informal employment (Mwabu and Evenson, 1997; Krishnan, Sellasie and Dercon, 1998). While modeling the employment outcomes in a multi-sector labour market setting, a study by Glick and Sahn (1997) finds that more education reduces the likelihood of being self-employed and increases the likelihood of being in the public sector.

Besides human capital and labour market characteristics, demographic factors are also inextricably linked to the sectoral choice. Highlighting the importance of household composition on occupational choice, studies have shown that given the commitment towards household duties, women prefer informal over formal employment as it offers time and location flexibility (Cunningham, 2001). Preference for child quality is also a strong determinant of sectoral allocation of female labour. In this line, studies show that despite higher wages, the presence of children could have a larger negative effect on the labour supply of women under several circumstances (Troske & Vociu, 2009).

The labour market condition is also found to have a significant influence on the participation of female in labour force. Besides higher education owing to labour market imperfection and limited absorbing capacity in formal sector jobs, the share of women in informal employment increases (Kevane and Wydick, 2001; Seguino, 2007). The literature thus suggests that the influence of education on choosing the type of employment is also confounded by the economic opportunities and the socio-cultural norms that decide women's participation and selection of the sector of economic activity.

In Indian context there are studies that examine the determinants of female labour supply and highlight the significance of supply side factors such as household socioeconomic,

demographic condition, social norms, and education in determining female labour supply (Bharadwaj, 1989 Kingdon & Unni, 2001; Dasgupta and Goldar, 2005, Masood and Ahmad 2009). There are limited studies that examine how the supply side factors interact with the demand side factors to influence the decision of women to choose different sectors of employment. A study by Narayanan (2015) has examined the sectoral allocation of labour into employment but gives a limited emphasis on explaining the choice of women in determining the sector of employment. Looking at the current labour market situation of women, expansion of education, and their dual role in managing household chores and employment, it is crucial to have a separate analysis of women labour market behavior. Given this, the present paper analyses the determinants of female's participation in different categories of employment.

### **Conceptual Framework**

Labour force participation of women is a two-way process where on one hand women decide the employment activity that maximizes their utility given their dual responsibilities and it is also a decision on the part of the employer whether to offer the job or not given the changing employment structure. Thus the job accomplishment can be seen as an outcome of the interaction between demand and supply of labour. The framework of the study is thus based on the rationing (opportunities) and preferences (capability) as used in many studies (Verme 2000; Arunatilake & Jayawardena,2010). According to this framework, rationing occurs because of demand shortages in the market. It is affected by labour market conditions such as education, experience, and other work-related skills. Preferences are influenced by a worker's expected income and other individual and household characteristics. Thus, it can be presumed that women with better education and skill are entering into formal sector jobs. However, in South Asian countries, preferences of women in choosing the sector could be either of their own choice or their choice is suppressed by the other contextual factors. Thus, despite possessing better education and skill women could not opt for formal sector employment. The present study thus taking these choice dynamics into account within the rationing and preference framework tries to examine how women in India locate themselves into different sector of economic activity.

### **Data and Method**

This research work is based on the data drawn from National Sample Survey, 2011-12. A total sample of 1, 01,724 households and 456,999 individuals (233,804 male & 223,195 female) from all states and union territories were selected for the survey. The survey provides information on critical labour market indicators such as labour force participation rate, worker population ratio, unemployment, wages etc. Besides socio-economic and demographic information of Individuals were also collected from the survey. For the purpose of analysis

women in the age group 15-59 are used. The definition of formal and informal employment is based on whether they are availing social security benefit or not. Informal employment has been defined in this paper as “that employment where workers are not eligible for any social security benefit”. Informal employment comprises of two segments that are self-employment and informal wage employment. Within self-employment, one of the categories is unpaid family labour where they can assist in family business & farm. Women belonging to poorer socio-economic strata such as agricultural labourers mostly engaged in such job. Another category is involvement of women in the household enterprise such as own-account worker & employer ( garments, textile, handicraft, knitting, painting, poultry, diary) where they run their business hiring/without hiring labour. In the present episode of development, women even the educated one are running various business starting their own enterprises partly due to family responsibilities or could be the lack of opportunities in the formal sector. Informal wage employment comprises the workers who were working mostly as a casual labourer. Those women who have the interest to enter the labour force but not able to work they look for; they fell in the category of unemployment.

The sectors of employment used as dependent variable are grouped into five categories such as unpaid family helper(46%), own account worker/employer(26%), informal wage employment(17%), formal employment(7%) and proportion unemployed (4%). To examine the sectoral determinants of women's labour supply, the study uses multinomial logit model in a multi-sector labour market model of unpaid family labour, own account worker/employer, informal wage employment, formal employment and unemployment with socio-economic characteristics to explain the choice of the sector of employment.

The equation is of the form :

$$P_{ij} = \frac{e^{\beta_i x_i}}{\sum_{j=1}^J e^{\beta_j x_i}} \dots \dots \dots (1)$$

Where P (ij) is the probability that sector j will be chosen, j is the index of sectors, Xi a vector of regressors.

The explanatory variables selected for the study are guided by the theoretical and empirical pieces of evidence. These includes human capital, demographic and household characteristics such as age, marital status, household size, the number of children, education (general/technical/vocational), social group, monthly per capita household expenditure (a proxy measure of household income), place of residence (rural/urban). The demographic and economic characteristics are used to capture the preferences where as the human capital characteristics are used as proxy measures of demand for labour that is employer preference.

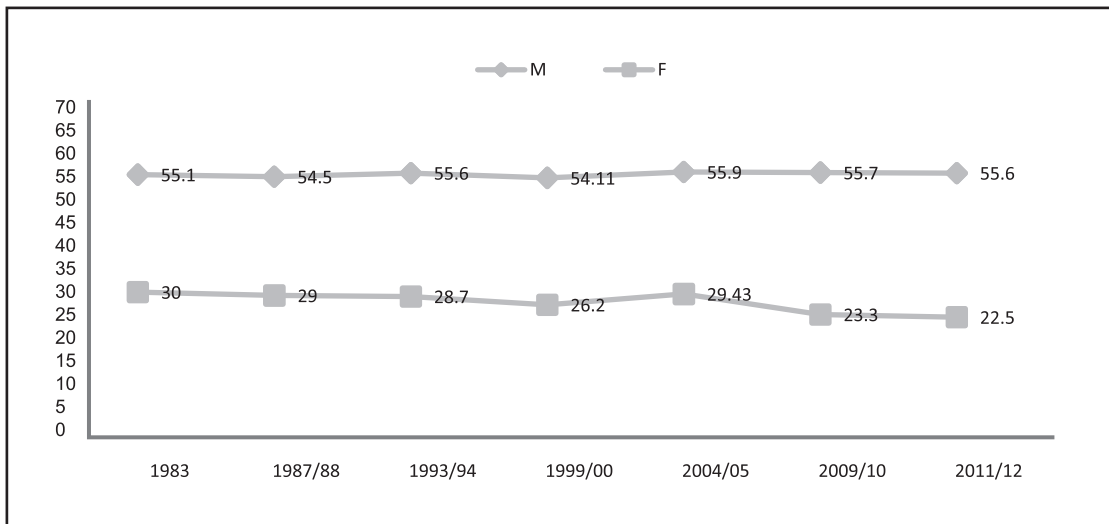


## Female labour force participation and its linkage with education

This section presents the current labour market situation of women in India. This includes female labour force participation rate and the linkages of education with employment. Educational unemployment rate and participation of women in informal employment by level of education will provide an indication of the demand side scenario of the labour market and consequently on the selection of sector of employment.

The Labour force participation rate of the male in India remains stagnant or had slightly varied over various NSS rounds, while the trend is declining among female(Fig-1). The LFPR among female declined from 29.43 percent in 2004/05 to 22.5 percent in 2011/12.

**Fig-1: Labour force Participation Rate in India, NSS, 1983-2011/12**



*Source: Estimated from NSS rounds, 1983-2012*

It has been pointed out by researchers that undercounting of women, the higher level of education, household responsibilities, child care, skill mismatches, are responsible for such decline (Chandrasekhar and Ghosh, 2011; Mazumdar and Neetha, 2011; Kannan and Raveendran, 2012). Further, the distribution of female into different employment activities in labour market reveals that concentration of female in informal employment is higher than the male counterpart. While 94% female are in informal employment, it is 89% among male (NSS, 2011-12). A Higher share of women in informal employment is not only the outcome of the poorer economic condition, perhaps unemployment as a factor also contributing to this.

Unemployment rate by level of education depicts that rate of unemployment is increasing with increase in the level of education and the gender gap is also widening as the level of education increases.

**Table-1: Gender difference in Unemployment rate by level of education (in Percentage)**

Level of education	2004-05		2011-12	
	Male	Female	Male	female
Illiterate	0.63	0.33	0.62	0.45
Primary	1.57	0.83	1.58	0.98
secondary	2.91	2.15	2.37	4.41
Hs	4.04	4.07	4.53	10.19
Diploma	8.94	14.91	8.15	16.69
Graduate	6.47	8.45	6.82	16.12
PG & above	6.24	9.32	6.36	14.33
Total	2.49	1.51	2.58	2.93

*Source: Estimated from National Sample Survey, 2004-05 & 2011-12*

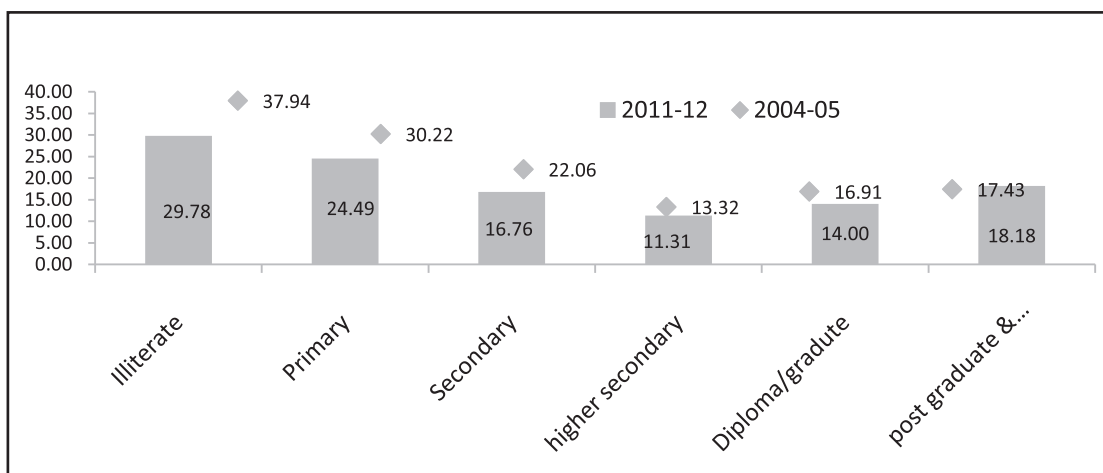
Three major observations may be drawn from the Table-1. First, the unemployment rate is high at the higher level of education. While 0.45% illiterate women are unemployed, it is 16% for women having diploma or graduate degree. Secondly, the unemployment rate is increasing among female between two NSS rounds irrespective of the level of education and the difference is wider at higher level of education. For instance, while the unemployment rate was 8.4% in 2004-05, it increases to 16.12% in 2011-12 for graduates. Thirdly, unemployment rate is substantially higher among female at a higher level of education and the difference across gender is widening over time. For instance, while 7% graduate males are unemployed in 2011-12, it is 16% among female where as in 2004-05 unemployment rate among male and female graduate was 6% and 8% respectively. The differences are also prominent at higher secondary, diploma and post graduate level. The gender differences in the unemployment rate as apparent from the table indicates that the type of job creation is more favourable towards male and the benefits of economic growth perhaps are not equally beneficial for both the sexes.

It can be inferred here that the employment intensity of the sectors that absorb the educated workforce are lower than those of sectors that absorb unskilled and low-educated workforce. In this regard, Mehrotra, et.al (2013) show, the creation of job opportunities within the formal

sector is mainly due to increasing informalisation of formal employment as the share of informal employment within formal sector increases from 32% in 1999-00 to 67% in 2011-12. Further, the NSS estimates also reveals, the participation of women in informal employment within the formal sector raises from 39% in 2004-05 to 47% in 2011-12. Thus, one can argue that increasing educated unemployment among women could be the outcome of structural changes in employment and hence resulted in increasing participation in informal employment.

To understand the trade-off of education and employment, the disaggregation of women's informal employment by their level of education for two NSS rounds is presented (fig-2).

**Fig-2: Percentage of women in Informal employment by level of education**



Source: Estimated from National Sample Survey, 2004-05 & 2011-12

The figure show that women's participation in informal employment is declining between two NSS rounds for all level of education except post graduates and above where the participation rate slightly increased from 17% to 18%. The LFPR is higher among illiterate (30%) and it declines with the increase in the level of education and reaches to minimal that is 11% for higher secondary. Further, the participation rate increases to 14% for graduates and 18% for PG & above exhibiting a slightly 'U' shape relation between LFPR and education. Examining the education and employment linkages studies show that though informal employment is largely absorbing uneducated female worker (Fapohunda, 1999) but this pattern is changing as young workers with more education are entering into the informal sector (Fapohunda,2012). The 'U' hypothesis states that in the initial stages of development there is a greater demand for labour in the industrial sector especially in informal sector but with increasing access to education of

women, demand for white collar and more socially acceptable jobs will be created (Goldin, 1994; Mammen and Paxson, 2000; Kalsen & Piters, 2012). The data presented in figure-2 follows the hypothesis but the pattern of employment and education relation is changing in the present scenario as the significant share of educated workforce is entering into informal employment. Moreover, economic reform has strong implication on the structure of employment as the employment elasticity was 0.68 during 1983 to 1987-88, which is almost zero that is 0.01 in 2004 to 2011-12. The increasing informalisation of employment and failure of the economy in creating wage employment in formal sector thus brings a paradoxical scenario and poses major challenges in the context of increasing educational level.

However, as far as female labour is concerned, education and the amount of job creation are not sufficient to explain women's labour market behavior. With reference to female labour, supply side factors such as household socio-economic, demographic and cultural factors play the critical role in choosing the sector of economic activity. Thus, it is important to understand how the changing employment structure interacting with socio-economic and demographic factors influences labour market participation of women into the different sector of economic activity.

## **Results and Discussion**

### **Sectoral participation rate by socio-economic & demographic characteristics**

An analysis of women's participation rate in different sectors of employment according to their socio-economic status will give an understanding of the factors that determine the sectoral choice of employment. Table-2 presents women's participation in different employment sectors by their socio-economic and demographic characteristics. The age-specific participation rate reveals, women in 35-44 age group have higher participation rate irrespective of the sector where as unemployment is significant in 15-24 (1.76%) followed by 25-34 (1.30%) age group. Percentage of currently married women is higher (13.64%) among unpaid family worker while the participation of widow/divorcee is higher in other employment category and the unemployment rate is higher among never married. Women belong to large household size are participating more as unpaid family labour where as for other categories of employment the participation rate declines with an increase in the household size. For instance, more than 15% of women from larger household size are working as unpaid labour while it is 1% for formal wage employment. The average number of children belongs to 0-5 age group are relatively higher among unpaid labour (1.7%) than for own account worker (1.38%), informal wage worker (1.2%) and formal wage worker (1.1%) and unemployed (1%).

**Table-2: Percentage of women participating in employment sector by socio-economic and demographic characteristics, 2011-12**

Socio-economic & demographic characteristics	Informal employment			Formal employment	Proportion Unemployed
	Self-employment		Informal wage employment		
	Unpaid family labour	Employer/own account worker	Informal wage employment	Wage employment	Unemployed
<b>Age</b>					
15-24	7.97	2.55	3.19	0.62	1.76
25-34	12.14	6.36	5.07	2.04	1.30
35-44	14.07	9.23	5.67	2.21	0.29
45-59	13.18	8.25	4.13	2.23	0.20
<b>Marital status</b>					
Never Married	5.99	2.36	4.72	1.64	2.86
Currently Married	13.64	6.60	3.71	1.50	0.50
Widow/divorcee	4.13	16.23	13.43	4.54	0.59
<b>Household Size</b>					
1-4	10.07	7.45	5.46	2.47	0.93
4-8	12.29	5.75	3.99	1.15	1.03
8+	15.39	3.78	2.16	0.97	0.82
<b>Average children(0-5)</b>	1.74	1.38	1.23	1.01	1.02
<b>MPCE</b>					
Q1	14.95	5.20	3.21	0.34	0.56
Q2	12.63	6.14	4.00	0.52	0.85
Q3	11.92	6.48	5.30	1.14	0.93
Q4	10.44	6.88	5.22	1.85	1.19
Q5	8.25	6.84	4.56	4.50	1.29
<b>Level of education</b>					
Illiterate	17.29	7.78	4.71	0.28	0.20
Primary	12.48	7.11	4.89	0.53	0.34
Secondary	8.26	5.26	3.24	0.96	0.98
Hs	4.66	3.53	3.11	1.85	1.60
Diploma	1.79	5.00	9.61	18.43	7.46
Graduate	2.76	3.82	7.06	10.92	4.81
PG & above	2.20	5.07	10.91	22.13	6.85
<b>Vocational training</b>					
Formal	4.36	12.68	10.16	11.20	6.42
Informal	30.40	21.69	7.97	1.98	6.42
Non	10.74	5.31	4.13	1.46	0.86
<b>Place of residence</b>					
Rural	15.11	6.74	3.40	0.77	0.82
Urban	3.44	5.34	6.93	3.87	1.32
Total	11.60	6.32	4.47	1.70	0.97

Source: National sample survey, 2011-12

Household economic status has an inverse relation with women's employment as unpaid family labour. However, for own account worker/employer, informal and formal employment, participation rate increases with an increase in economic class. For instance, while 5% women belong to poorest economic class is working as own account worker, it increases to 6% for the higher economic group. A similar pattern also observed for women working in informal and formal wage employment. Likewise, unemployment has a linear relation with economic status.

The linkage of the level of education & sectoral participation reveals a clear linear relation with formal employment and with unemployment while a non-linear relation persists with regard to informal employment. The participation rate of women in informal employment shows a 'U' shape relation; it decreases with increasing education but further increases after a certain level of education. For instance, while participation rate as informal wage worker is 3% for women possessing higher secondary education, it increases to 9%, 7% and 11% for diploma, graduates and post graduates respectively. This relation also exhibits for other employment categories. Women who have received vocational training from non-formal sources participating more in self-employment where as those working in informal and formal wage employment were the receivers of formal vocational training. Women informal worker having formal vocational training (10%) is higher than those possess informal vocational training (7%). Likewise, 11% of women working in formal wage employment possess formal vocational training and 2% of them have informal and no vocational education.

Rural-urban differences in the participation rate of women show that women were largely engaged as an unpaid worker in the rural area. In contrast, the participation rate of women is higher in informal and formal employment in urban areas. While 3.4% women are in informal wage employment in rural, it is 6.9% in urban area. Further the proportion unemployed is also more in urban (1.32%) than rural areas (0.87%).

It emerges from the above finding that women belong to low socio-economic group, having more number of children and from large household size are working in informal employment as unpaid family labour. It shows in order to move out of poverty trap women from lower economic class are participating in informal employment as unpaid labour. The findings also disclose the higher participation of better-off socioeconomic group as own account worker/employer and informal wage worker. Owing to job deficiencies in the formal sector, women of this group prefer to join informal employment or remain unemployed.

Moreover, the sector of economic activity where women are located is the outcome of various factors combined with individual preferences, her family circumstances as well as labour demands in the job market. In this context, it is important to critically examine the determinants of choice of economic activity of women.

## Determinants of Sectoral participation of women in employment

This section presents the multinomial logistic analysis in order to understand the factors that are affecting the sectoral choice of women. The estimated results (marginal effects) relating to the multinomial logit model of sectoral choice is presented in Table-3.

**Table-3 Multinomial logit estimates (Marginal effects) of the Sectoral participation of women in employment**

Socio-Economic and Demographic variables	Sectors of Employment				
	Formal	Informal		Informal wage employment	Unemployment
	Formal Employment	Self-employment			
		Unpaid labour	Employer/own account worker		Unemployed
Age	0.009*** (0.001)	-0.034*** (0.002)	0.021*** (0.002)	0.003* (0.001)	0.000 (0.001)
Marital status(NM)					
Currently Married	0.001 (0.004)	0.111*** (0.009)	0.011 (0.009)	-0.075*** (0.008)	-0.048*** (0.004)
widow/divorcee	0.053*** (0.007)	-0.202*** (0.011)	0.111*** (0.013)	0.078*** (0.012)	-0.040*** (0.007)
HHSIZE	-0.009*** (0.001)	0.025*** (0.003)	0.009*** (0.003)	-0.032*** (0.002)	0.007*** (0.002)
Children	0.001 (0.001)	-0.005*** (0.001)	0.003 (0.001)	0.002** (0.001)	-0.002** (0.001)
Older	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000*** (0.000)
Caste(General)					
Sc/St	-0.001 (0.003)	0.034*** (0.006)	-0.053*** (0.006)	0.018*** (0.005)	0.001 (0.003)
Obc	0.028*** (0.003)	-0.008 (0.006)	-0.054*** (0.006)	0.033*** (0.005)	0.001 (0.003)
MPCE(LOW)					
Medium	0.003 (0.004)	-0.030*** (0.006)	0.023*** (0.006)	-0.015*** (0.006)	0.019*** (0.003)
High	0.044*** (0.004)	-0.042*** (0.006)	0.038*** (0.006)	-0.062*** (0.006)	0.022*** (0.003)
Education (Illiterate)					
Primary	0.015*** (0.002)	-0.030*** (0.007)	0.033*** (0.007)	-0.022*** (0.006)	0.004 (0.002)
Higher sec/diploma	0.111*** (0.003)	-0.091*** (0.006)	-0.004 (0.006)	-0.065*** (0.005)	0.050*** (0.002)
Graduate & above	0.338*** (0.008)	-0.301*** (0.009)	-0.146*** (0.008)	-0.017** (0.008)	0.126*** (0.005)
Vocational (NO)					
Formal	0.010** (0.005)	-0.187*** (0.013)	0.156*** (0.014)	0.019** (0.010)	0.002 (0.004)
Informal	-0.030*** (0.004)	0.033*** (0.007)	0.085*** (0.007)	-0.047*** (0.005)	-0.041*** (0.003)
Technical education(yes)	0.055*** (0.005)	-0.106*** (0.024)	-0.051*** (0.021)	0.085*** (0.011)	0.017*** (0.004)
Place(urban)	0.032*** (0.003)	-0.195*** (0.005)	0.015*** (0.005)	0.143*** (0.004)	0.006*** (0.002)

Source: National sample survey, 2011-12

\*\*\*p<.01 at 1%, \*\*p<0.05, \*p<0.001, standard errors are in parenthesis

The Probability of informal employment as unpaid worker decreases significantly (34%) as age increases while the probability of employer/own account worker and formal employment worker increases by 2% and by 0.9%. Being married increases the employment probability as unpaid labour by 11% and reduces the probability of informal wage employment and unemployment by 7.5% and 4.8% respectively. On the other hand being widow/separated increases the probability of participation in formal & informal wage employment and own account worker by 5.3%, 7.8% and 1.1% respectively where as reduces the employment probability as unpaid labour by 20.2%. With the increase in the household size, the probability of being in informal and formal wage employment decreases by 3.2% and 0.9% respectively but the chances of self-employment both as unpaid labour and own account worker increases by 2.5% and 0.9% respectively. Increase in the number of children have contributed to a moderate decline in employment probability as unpaid labour (0.5%), unemployment (0.2%) but increases the probability of informal employment by 0.2%. However, it does not have any significant influence on other segments of employment. Caste dummy which is included to capture the cultural restriction shows that employment probability of formal employment is high among OBC's by 2.8%. The chances of being in informal employment are high both among SC/St and OBC by 1.8% & 3.3% respectively while the probability of participating as own account worker declines.

The association of economic status with the choice of employment sector shows that the employment probability of women belonging to higher economic class is higher for formal employment and own account worker by 4.4% and 3.8% respectively. This relation also exhibits for those searching jobs. The unemployment probability of women also increases by 1.9% and 2.2% for middle and higher economic group. On the other hand the chances of participation as unpaid labour and informal wage employment decline by 4.2% & 6.2% respectively for the higher economic group.

An increase in the level of education increases the employment probabilities in formal employment as well as unemployment but reduces the probability of being in informal employment. The chances of formal wage employment increases by 33.8% for graduates and above but the probability of unpaid labour, own account worker/employer and informal employment decreases by 30%, 14% and 1.7% respectively. A comparison of different categories of informal employment shows that the degree of decline in informal wage employment is moderate for the graduate and above category. Unlike informal employment, the chances of unemployment are higher for highly educated women. For higher secondary/diploma holder, the likelihood of unemployment is 5% and it is 12.6% for graduate and above.



Technical education increases the probability of formal employment by 5.5% but it increases the chances of informal employment to 8.5% and unemployment by 1.7%. Contrary to this, technical education has a negative influence on self-employment. Formal vocational training increases the probability of formal wage employment by 1% but it increases the chances of being self-employed (employer) by 15.6% and informal wage employment by 1.9% and unemployment by 1.7%.

## **Discussion**

The descriptive analysis reveals that the labour market functions differently for female and male workers in terms of their participation rate, unemployment rate and the type of employment. Further, labour market behaves differently for women belonging to different socio-economic groups as well. Informal workers are generally devoid of benefits of social security, hence the participation rate declines in later ages because their economic responsibilities were shared by other earning members of the household and the finding is supported by studies (Arunatilake & Jayawardena, 2005). The preference of women to remain self-employed increases for currently married and women belonging to the large household size given the household burdens and child care. In this connection, studies show that women prefer to choose a flexible job, such as informal wage or contract work over the more restrictive formal sector jobs (Pradhan & Soest, 1995; Patrick, et.al.2016).

The lower participation of women as the unpaid family worker could be explained by rising levels of household income. It has been pointed out in studies that women from the better-off group are more likely to be found in salaried forms of work and prefer less to be self-employed (Verheul et. al., 2006; Faridi, et.al, 2011). Provision of maternity care benefits, accessibility of time-saving infrastructure for household activities and their affordability to pay for child care and domestic chores influence women to participate in formal employment (Kabeer, 2012). Our finding is supported by the above stated studies but at the same time, a positive association of economic status with women entrepreneurship is also observed. Perhaps owing to low employment intensity in formal sector jobs, women from the higher economic group who are invariably educated and have the progressive gender attitude of remaining self-dependent started their own business such as beauty parlour, tailoring, and coaching centre at home. Thus, self-employed in non-farm economic activity is regarded as an alternative to salaried earning given the limited absorbing capacity of formal sector jobs (Kevane and Wydick, 2001; Bogenhold & Klinglmair, 2015). Besides, socio-cultural norms or family responsibilities do lead them not to opt for formal wage employment. It is evident from the results that participation of OBC women in formal employment is higher than upper caste hierarchy and it is a reflection of cultural restriction on women.

Education is found to be a critical determinant and women with higher education prefer to join formal sector over informal employment and the finding is supported by the studies (Pierre, 1993; Leach, 1996; Arunatilake & Jayawardena, 2005). However, the degree of decline is relatively lower for informal wage employment than other types of informal work. In this context studies show that in the light of unavailability of better job opportunities in the formal sector, despite possessing higher education women tend to work in the informal sector (Wambugu, 2002; Devi, 2014). In line with the study conducted by Narayana (2015), the results show that formal vocational training and technical education has much favourable effect for increasing the chances of informal wage employment. On the other hand, informal vocational training increases the chances of self-employment. Further, the chances of unemployment are higher for highly educated and economically better off group. These findings indicate that in the absence of formal sector jobs, informal employment is the only alternative especially for those women whose opportunity costs of income needs are higher than remaining unemployed.

## **VI. Conclusion**

In the current phase of development despite higher economic growth and an increasing level of education, women are disproportionately high in informal employment. Policy reforms with regard to changing the structure of employment or the preference of women in choosing informal employment owing to their household constraints could be the plausible reason of this. Given this scenario, the present study examine the determinants that locate female into different sector of the labour market.

The key findings are following: first, participation of women in low paid wage employment and as unpaid family assistance is not out of voluntary choice rather it is the economic necessity that forcing women to opt for informal employment. Secondly, informal and formal wage workers have the similar socio-economic characteristics. This finding has the implication that a share of educated, economically better off and skilled workforce are also entering into informal employment as in formal employment. Thirdly, enhancement of education, vocational training and technical skill is important but not sufficient in providing employment in the formal sector. Fourthly, slow growth of formal employment affects the educated and economically better off group women more than women belonging to low socio-economic status. These findings fall more in line with the staging hypothesis, however, the study is not able to disentangle empirically the effect of rationing from those of preferences. Moreover, in the present discourse of development the occupational distribution of women in different employment sectors is not only the outcome of individual and household decisions but also are strongly influenced by the structural changes in the employment in the labour market.

The employment situation of the country at present is a formidable challenge for the government. In a scenario of jobless growth, the skill development policies initiated to increase wage and employability are not effective because despite possessing skill, women are participating more in informal employment. This poses a major challenge to accommodate the skilled women in productive employment. Around half of the women labourer is working as unpaid family worker and contribute to household economic activity. However, this sector remains outside the public policy attention despite their contribution in household economic activity. Designing effective labour market policies for these women is highly desirable as they belong to poor socio-economic status and face multiple disadvantages. Besides, state intervention such as better wages, social protection, maternity leave, formalisation of informal trade activities and formal skill training is necessary for the women working in informal employment. These changes in policy arena will provide decent employment to women working in the informal economy through improving the quality of employment.

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