

DETERMINANTS OF PARTICIPATION OF WOMEN IN LABOUR MARKET: AN EMPIRICAL EVIDENCE FROM NADIA DISTRICT OF WEST BENGAL IN INDIA

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Abstract: The paper is an attempt to investigate the determinants of women work force participation (WWFP) in labour market empirically in India. During last two decades Indian economy has grown by satisfactory rates and at present India belongs to the fastest growing countries across the globe. But labour market in India exhibits different striking characteristics like low rate of WWFP, large share of both men and women working in informal sector, regional disparities in WWFP etc. Using field survey data collected from Nadia district of West Bengal, which acquires some socio-economic and political characteristics relevant to our study, we develop a model considering that own characteristics of women and their households, empowerment, and some endogenous covariates are the possible determinants of WWFP on the basis existing literature. Our empirical findings, by applying two-stage least square method followed by Probit regression as the appropriate econometric tools, imply that our considered variables are significant determinants of WWFP, and a number of policy initiatives taken by local, state and central governments can help to boost women economic participation in India.

Keywords: Women Work Force Participation, Women Empowerment, Labour, India, Nadia, Two-Stage Least Square, Probit Regression etc.

INTRODUCTION

Women empowerment is a contemporary issue for developing countries like India nowadays. Empowerment as a multidimensional process comprising political, social, cultural, economic and legal empowerment helps one to gain control of their lives by raising awareness. The term 'empowerment' denotes the process of increasing the assets and capabilities of individuals or groups to make purposive choices for transforming those into anticipated acts and their consequential upshots (Chakrabarti and Biswas, 2008). Empowerment means possessing over and access to resources that assist them to increase their self-reliance and enhance their independent rights. Economic development is based on human resource expansion. In human resources

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the contribution of women is very important. Development of Indian economy cannot be possible without women empowerment, where women work participation is a major policy prescription. Empirical evidence suggests that money in the hands of mother benefits children. Empowering women benefits children, which ultimately lead to more human capital accumulation and growth.

According to the United Nations Millennium Campaign, women work two-thirds of the working hours of world, as growing food, cooking, caring children and elder man, maintaining house etc. which are universally accorded as thankless jobs without pay. But we see women face a number of constraints in the participation of work; due to which, women work participation rate falls, lowering economic empowerment of women and in turn proved to be an obstacle to economic development of the country. We can say women's participation in income-generating activities will lead to women empowerment for having access to resources and women can improve their bargaining position, thereby allowing greater control over decisions and choice making. If a woman has income of her own, she will have a greater capability to take care of herself and is therefore less dependent on her husband or others for survival. Her ability to negotiate within the household should increase not only because she has more to offer to the household duties but also that she has an improved fallback position. Greater bargaining power in households has been seen as empowering the weaker counterparts as it affords women a greater control over her and her family's life allowing them to participate in the public sphere, interact with a wider network of individuals and so on.

Besides this, women's contribution to their family-earning improves upon women's empowerment and reduces domestic violence fated on them. Therefore, working is a ticket to financial security, which has the potential of increasing their autonomy and importance in the domestic sphere as well as in the country. The world of humanity has two wings; one being the woman and other man. Until both of the wings get equally flourished; the bird cannot fly. Empowerment of women through work-participation is very much essential to achieve sustainable development. The News of Bernard Van Leer Foundation supposed that there can be no defensible expansion without the advancement of women, because it is women who contribute the most for upbringing of their children. Increased rate women participation in the labour market is one of the most important instruments of financial development of the developed countries. Since 1900, the participation rate has been increased from the very low level of 4 percent to above 70 percent in 2000. Technological improvement, narrowing gender inequality and structural changes are the main factors responsible for the advancement of women participation in economic activities.

Women's own characteristics, household characteristics and their empowerment indicators are the potential explanatory variables for our study. Women's own characteristics include age, educational endowments and marital status; whereas

family size, working people within family, endowment of appliances, co-residents and per-capita household income are categorized as household characteristics possessing home appliances and co-residents that are seemed to be endogenous for causing biased and inconsistent results due to reverse causality. Further attributes of location such as rural, urban, district are also used as determinants of women work-force participation (WWFP). The main objective of our paper is to identify the factors which discourage or encourage women to participate in the labour force within the study area. The rest of the paper is structured as follows. The review of literature has been documented in next section followed by the hypotheses and model formulation. After discussing the econometric methodology and data source, we have analyzed empirical findings. Final section concludes the paper.

REVIEW OF LITERATURE

The fair sex, unanimously acknowledged, is the most important factor in today's economic empowerment. Though gender biasness and racial otherization prevails to the fore, but it can say undoubtedly that participation of woman as determinants in labour market is not a rare phenomenon. Women from all the regions of the world can exemplify to it. The existing literature in our chosen area is vast. Moghadam (1990) in his celebrated work, "Determinants of Female Labour Force Participation in the Middle East and North Africa" has shown through methodological representations the miscellany of 'women's positions, eminence and work opportunities to their class, societal dogmas, and the extensive cultural constraints. He has depicted in this paper, like Beauvoir in *The Second Sex*, that gender is nothing but a social construct and since 1960s' more women have joined salaried job; and how the concurrent relegation of women in the society both in private and public sphere commendably tested by separate women's organizations kept vigilance on the state, development practitioners, and cultural institutions is also an emblem of excellence in his paper. Connelly (1992), in her research study, "The Effect of Child Care Costs on Married Women's Labour Force Participation", evaluates the significant role played by child-care expenses in women's Labour Force Participation. Cameron, Malcolm and Worswick (2001), in their research study "Education and Labour Market Participation of Women in Asia: Evidence from Five Countries", explored that female education is the be-all and end-all of their labour force participation. They have analysed women education and its impact on their labour force participation in five developing countries in Asia, Sri Lanka, Philippines, Thailand, Indonesia and Korea. Rahman and Islam (2013) seize that society, its customs and the cultural constrictions are responsible for the lower rate of women labour force participation in India. They too regard society and environment as the major obstructions to Women's labour force participation.

An investigation by the Asian Development Bank (ADB) and ILO (2011) epitomized the labour market scenario in Asian countries especially highlighting

the sway of the global fiscal disaster, which immersed the business economies since 2008. The study observes that WWFR in South Asia attribute the status-quo of female participation as a 'secondary earner' within domestic province are at the core of less worthy jobs taken up by women. In Bangladesh, women's unceremonious occupation as a fraction of their non-agricultural service was 91.3 as related to 88, 68 and 57 in India, Indonesia and Philippines. Rahman (2006) surveyed the determinants of LFPR on the foundation of 2003 LFS data that acquired the undesirable influence of primary and secondary education, the head's education and being married. The outcomes are permeated with restraint because it is grounded on 2003 LFS having innumerable scarcities.

Mason (1998) premeditated on prospective sections of urban households in Pakistan, India, Malaysia, Thailand and the Philippines, concerning women empowerment. They pointed out that social milieu has a undeviating and circumlocutory upshot on women's financial stature. Malhotra and Mather (1997) speculated on women empowerment in Sri Lanka and the signs of empowerment were women's take in domestic decision making and possession over monetary stuffs. The self-determining variables are women and husband's edification, partaking in remunerated job, family construction. The conclusion, therefore is, employment for reimbursement and education heighten verdict making input in financial, but not in the public and managerial matters in the household chores. Leach and Sitaram (2002) came to the point that micro-credit has thrived in socially empowering women where financial empowerment could not be promising due to their dearth of knowledge and perception about business. Puhazhendhi and Satyasai (2001), in their research study, propounded that SHGs have been influential in economic and social empowerment of the bucolic privileges. A number of findings bear proof that the acceleration of SHGs in India and stipulation of micro credit to them by banks and microfinance organizations has effected in recuperating their contribution in society and in authority. Gibb (2008) has marked that micro-credit has detained in empowering women as this subjugated sect could not modify her customary domestic task and could not lay weight over financial controls. Equivalent constituents of empowerment are included in the eight indicators by Hashemi, Schuler and Riley (1996), like mobility, financial security, ability to make small purchases, ability to make larger purchases, involvement in major decisions, relative freedom from domination by the family, political and legal awareness, and involvement in political campaigning and protests. Education, indisputably argued, has been one of the indications of empowerment (Malhotra and Mather, 1997). Page and Czuba (1999) classified empowerment as a multi-dimensional social practice that facilitates people to expand tenure over their own lives, a dictum that cultivates command in people for use in their own existence, their population and in their milieu, by performing on matters they consider to be of primal significance. Kabeer (1999) has endeavoured to put up the gauges of

the privileges of working ladies, by using three-dimensional theoretical outline constituting (a) the 'resources' as a piece of pre-requisites of empowerment, (b) the 'agency' as an characteristic of progression; and lastly (c) the 'achievements' as a parameter of conclusions. The analysis explains that the most plausible pointers for empowerment of women are family constitution, conjugal benefits, financial self-sufficiency, liberty of movement, and life long understanding of employment partaking in the contemporary sector. Against this backdrop we can argue that a large number of theoretical and empirical works have done both in nationally and globally concentrating on women's participation in labour market with main focus on women empowerment and the associated issues. Our study tries to determine the participations of women in labour market empirically in India on the basis of primary data collected from Nadia district of West Bengal as our case study area.

HYPOTHESES AND MODEL FORMULATION

The theoretical foundation leads to the following set of determinants of women work force participation (WWFP). The women's own and the household's characteristics play an important role in determining women participation in the labour force. The women's characteristics such as educational endowments, marital status, and age along with the household characteristics indicated by family size, and locality of the family will be considered as potential determinants of women labour force participation. Gender empowerment (proxy by fixed assets endowments) and exposure to labour saving technology, measured by the existence of home appliances, will also be considered as explanatory variables.

The main objective of the study is to identify the factors that discourage or encourage women labour force participation in the labour market across the study area. Therefore, the research question leads towards the construction of the following basic two hypotheses:

Hypothesis 1: Own characteristics of women do not have any impact on women to participate in the labour market.

Hypothesis 2: Characteristics of household have no impact on women work force participation in the labour market.

The goal of the study is to explore the factors that determine women labour force participation. Women's own and household characteristics, and women's empowerment indicators are the potential explanatory variables in the process of determination of women labour force participation. Probit model with endogenous covariate will be estimated by using two-stage least square technique.

The different studies of women labour force participation in labour market frequently encounter a research problem where a dependent variable of the structural model is not directly observed. Actual value observed may be dependent on the values of other variables or alternatively may observe a variable that takes on

values related to underlying unobserved dependent variables. For these models, ordinary least squares or standard economic estimators are not appropriate because of limited or qualitative nature of the observed dependent variable. The collective household behaviour provides the following specification for the determination of labour supply decision of the women:

$$WWFP = WWFP(WC, HC, P, E)$$

Where,

WWFP = Women work force participation,

WC = Own characteristics of women,

HC = Characteristics of household,

P = Proxy variables for women's empowerment, and

E = Endogenous covariates (here these are home appliances and co-residence).

Here, WWFP is the outcome variable, WC and HC are the control variables, whereas P is the variables of interest.

The effect of home appliances, co-residence and marriage on labour force participation has been evaluated by Instrumental Variable approach in order to overcome the problem of endogeneity. The reverse causation could lead to incorrect conclusion due to correlation between endogenous covariates and participation. Causality may run in opposite direction only, that is, increase in labour force participation leads towards change in home appliances, and vice versa. Ownership of home appliances is potentially endogenous variables. Causation may operate in the reverse direction, from dependent to independent. Specifically, if the woman's participation in the labour market leads to an increase in ownership of home appliances, then the standard Probit estimates will be biased.

Household home appliances have been instrumented by the average women's ownership of home appliances in the district. Women's age, marital status, education level were considered as her own characteristics which are all exogenous variables. The household characteristics include the per capita income of household, family size, family type (whether the family is joint or nuclear), location (rural/urban dummy), agricultural or non-agricultural household, woman headed household and level of education of the head of the family.

The present study examines the cross sectional household data from Nadia district of West Bengal and employs limited dependent variable models to determine the effect of various socioeconomic and demographic variables on the labour force participation of women. Specifically, the connection between empowerment and labour force participation has been analysed. Naqvi and Shahnaz (2002) and Ejaz (2006) have discussed the decision making empowerment issue but did not consider the issue of endogeneity. It is thus proposed to use the estimation in order to address the concerns of endogeneity between the variables in the model.

ECONOMETRIC METHODOLOGY AND DATA

The relationship between women labour force participation and women empowerment is estimated with Probit model. Because of the potential endogeneity of women's empowerment, the Probit model has been estimated with instrumental variables. Though relatively easy to interpret, the linear probability model has drawbacks. One disadvantage is that fitted probabilities can be negative or greater than one. Another disadvantage is that the partial effect of any explanatory variable is constant. Therefore, to bypass these limitations, more sophisticated binary choice models, such as Probit, are sometimes preferred. For two reasons; one, that the predicted probabilities are bound between 0 and 1 and the other, the estimated co-efficient is effect change in Z for a unit change in X.

Two-Stage Least Square (2SLS)

The error term ε_i is correlated with the coefficients of interest i.e. β and δ in the Ordinary Least Square (OLS) equation of labour supply. The OLS estimates of β and δ would be biased as the OLS estimates are upward and downward biased depending on whether the ε_i is positively or negatively correlated to endogenous covariate P. To avoid the correlation between error term and the endogenous variables like co-residence and home appliances two stage least square method (2SLS) is used. To address the endogeneity problem of co-residence and home appliances, we use an instrumental variable approach. An ideal instrument should be correlated with endogenous variable but uncorrelated with all other factors that determine labour force participation of women. With such instruments, a two stage least squares (2SLS) approach has been applied. The first stage co-residence and home appliances equations uses ordinary least squares to predict their respective probabilities. Using the predicted probability of each endogenous covariate, we estimate the labour supply equation in the second stage.

Probit Model with Instrumental Variables

The Probit estimation is based on an underlying latent variable model of WWFP:

$$WWFP = \alpha + P_i \beta + E_i \delta^* + X_i \gamma + \varepsilon_i \quad (1)$$

In the Probit model, the dependent variable, WWFP is a binary choice variable that can take only two values: 1 if the woman is either currently working in labour market or looking for work and 0 if she does not. Non-linear maximum likelihood function for the normal probability (Probit) model has been estimated where WWFP is a function of several explanatory variables, P_i is the vector of proxy variables for women's empowerment indicators, E_i is the vector of endogenous covariates, and X_i is a vector of exogenous variables pertaining to women's specific and household-level characteristics leading to the woman's decision to be involved in

formal economic activity. The Probit model was estimated by 2SLS process and instrumental variable techniques.

For notational purposes, consider the following:

$$WWFP = b_0 \times (Y) + \varepsilon_i Y = (1, P, E, X)$$

The model allows the possibility for the elements of Y_i may be correlated with the error term ε_i . Here, we consider E as potentially correlated with ε_i , if $E(\varepsilon_i, \varepsilon_i) \neq 0$. If endogeneity is present, then results can be biased and inconsistent. To mitigate potential endogeneity issues, let Z_i represent the vector of instrument such as, gender of the first child, proximity to clinic and contraceptive use, average ownership of home appliances in the district, and housing information and where each instrument is a continuous variable. Lack of availability of data, the subjectivity inherent in assessing processes, and the shifts in relevance of indicators over time has posed the major methodological encounters in determining the procedure of women's empowerment, comprising the usage of direct dealings as opposed to proxy indicators. However, some authors who have made efforts at empirically formative empowerment have contended that as a development, it cannot be restrained unswervingly, but only through proxies (Ackerly, 1995). Women's empowerment cannot be measured, therefore, it will be proxied by the ownership of current assets and gender wage gap.

The present research work entirely depends on the primary data. The primary data is collected from different rural and urban areas of four sub-divisions named Krishnagar Sadar, Ranaghat, Kalyani and Tehatta of Nadia District of West Bengal in India. There is a very few research work on the present issue in Nadia district, which displays some unique socio-economic and political scenario, which are more relevant to our study. That is why we have selected our research study area as Nadia district, which is a broader district and a vast of migrated population continuously happens in Nadia, and most of the populations remain poor, thus women are playing very important and significant socio-economic roles both in the rural and urban areas. Besides those most of the women in this area are participating in formal as well as informal labour market for their livelihood.

For this purpose questionnaires have been prepared to collect necessary information about the women of the above areas. In this research work we have used stratified random sampling technique to collect the primary data as well as for testing different hypotheses. To understand the nature and consequences of women empowerment and participation of women as workers in the labour market a primary survey has been conducted from October, 2014 to April, 2015 covering 654 women workers engaged in formal as well as informal sectors from Nadia district of West Bengal as our case study area. The data have been collected by almost equal share both from rural and urban areas through a mix of exit interviews, door-to-door surveys and random interviews in different SHGs and micro and small firms.

The sample was selected using a stratified random sampling technique. The entire population was stratified basically on the basis of their income, caste, age group, occupation, level of education, living area, working area, religion as different kinds of socio-economic categories.

EMPIRICAL FINDINGS

In the first stage, simple OLS regression equations have been regressed for each of the endogenous covariates by using instrumental variables along with the control variables. It leads to Probit estimation procedure in the second stage in which the predicted values from first stage along with the other control and proxy variables are used to determine the WWFP. As per the literature, endogenous covariates are those variables that are supposed to have a causal relationship with WWFP. Woman's co-residence with parents or in-laws, and ownership of home appliances are identified as the endogenous covariates, which need to be corrected by using the instrumental variables technique. These instruments are selected in the manner that they have direct impact on the endogenous covariates, but do not have any direct link with WWFP. Average ownership of appliances in the locality is as an instrument for home appliances and housing information is used as instrument for co-residence.

The results show that the labour force participation has a significant and inverse relationship with the nuclear family, as well as the child-woman ratio (CWR). If the women live in a joint family then the family allows her to share a burden of work at home with parents or in laws, then the probability of her WWFP is greater, but if she is residing in the nuclear family she is unable to manage both household and office work together. Therefore nuclear family is an important determinant of WWFP, and it is also a constraint of WWFP. The result shows a positive relationship has been found with marital status, dependency ratio and literacy rates but this positive relationship with marital status is in contrast to most of the earlier studies. Interesting observations is the presence of a male member in the household reduces the likelihood of women participation in the labour force.

Presence of other women in the house increases the probability that a woman will work. Women labour participation is positively related to an increase in expected earnings, wages and level of education. Age, education attainment and marital status have significant and positive effects on WWFP. The greater the probability of woman belonging to nuclear family and having access to a vehicle, the more likely she is to participate in economic activities whereas a large number of children and availability of home appliances reduces the probability of WWFP. Besides the above factors, the labour-force participation decision of women is inversely related to the socio-economic status of the family, such as ownership of durables.

Our empirical findings say that schooling after intermediate increases the probability of women to participate in the labour market whereas the less educated are discouraged to enter in the labour market. The household factors like higher income per capita increases the probability of women to work. Living in a joint family, increase the possibility of women to participate in economic activities. Higher number of family members in the household increases the probability of a woman to participate in the labour market but as the number increases above fifteen, the situation gets reversed. Being involved in child care activities and having facilities of home appliances, a woman is less likely to participate in the economic activities. One of the interesting results of this analysis is that married women are subject to higher discrimination relative to unmarried women. These results point toward the fact that women of different marital status are not treated equally in the labour market. The women's empowerment indicators reveal that lower the empowerment lesser will be the likelihood of women to take part in economic activities.

TABLE 1: FIRST STAGE REGRESSION RESULTS

<i>Variables</i>	<i>Coefficients</i>	<i>Standard Errors</i>
Age	0.3100*	0.005
Age ²	-0.0030*	0
Education	0.0310*	0.004
Education ²	-0.001	0
Family Size	0.9900*	0.004
Family Size ²	-0.0260*	0
Working People	-0.1910*	0.004
N WWFP	-0.4130*	0.023
Women Head HH	0.5490*	0.034
Nuclear*Urban	-0.1710*	0.015
Nuclear	2.6120*	0.015
Home Appliances	-0.0370*	0.004
Urban Area	-0.3260*	0.053
Rural Area	-0.1080*	0.036

Note: *, **, *** indicate significance at 1%, 5% and 10% level respectively

From Table 1, we find that the predicted or fitted values from each of the first stage regression is used as exogenous variable along with other explanatory variables classified in women's own and household characteristics categories and proxy variables of women's empowerment. The two stage least square regression (2SLS) has been estimated using binary variable, WWFP (a dummy variable;

including working women = 1, and non-working women = 0). Estimated parameters and probability derivatives or marginal effects of Probit model are reported in Table 2.

Here, the explanatory variables are classified into four categories i.e. Women's own characteristics, household characteristics, the proxy variables for women's empowerment and the endogenous covariates. Women's own characteristics include age and age-squared. As age increases, after a certain optimal level, its relationship with WWFP starts becoming negative. Age and education both are conventional variables. Age of the women is positively related to work force participation.

TABLE 2: PROBIT RESULTS OF WOMEN WORK FORCE PARTICIPATION

<i>Explanatory Variables</i>	<i>Family with Informal Activities</i>			<i>Family with Formal Activities</i>		
	<i>Coefficients</i>	<i>Marginal effects</i>	<i>Standard Error</i>	<i>Coefficients</i>	<i>Marginal effects</i>	<i>Standard Error</i>
Age	0.1043	0.0038	(0.000)*	0.1067	0.0003	(0.000)*
Age ²	-0.0012	0	(0.000)*	-0.0013	0	(0.000)*
Education	0.0904	-0.0033	(0.000)*	0.1077	-0.0003	(0.000)*
Education ²	0.0037	0.0001	(0.000)*	0.0031	0	(0.000)*
Marital Status	-0.3038	-0.0127	(0.002)*	-0.291	-0.0009	(0.000)*
Household size	0.0979	0.0036	(0.000)*	0.0345	0.0001	(0.000)*
Household size ²	-0.0031	-0.0001	(0.000)*	-0.0019	0	(0.000)*
Income	0.671	0.0247	(0.003)*	0.949	0.0023	(0.001)*
Household with Primary Activities	1.3482	0.1094	(0.011)*	3.0951	0.1742	(0.020)*
Women Headed HH	-0.0189	-0.0007	(0.002)*	0.8617	0.0086	(0.002)*
Residential status	0.3403	0.0087	(0.002)*	0.5002	0.0006	(0.000)*
Location	-0.3472	-0.0134	(0.005)*	-0.1375	-0.0003	(0.000)*
Labour saving appliances hat	-0.3333	-0.0122	(0.002)*	0.059	0.0001	(0.000)*
Labour saving appliances hat ²	0.0224	0.0008	(0.000)*	-0.0113	0	(0.000)*
Luxurious appliances hat	-0.0974	-0.0036	(0.001)*	-0.1317	-0.0003	(0.000)*
Luxurious appliances hat ²	0.2507	0.0092	(0.002)*	0.2612	0.0006	(0.000)*
Co-residence hat	4.3161	0.1586	(0.024)*	0.4846	0.0012	(0.003)*
Constant	-7.6637	-	-	-6.9461	-	-
Observations		331			323	

Note: *, **, *** indicate significance at 1%, 5% and 10% level respectively. Standard errors are in parenthesis

In Table 2, WWFP (women work force participation) with family with informal activities, coefficient of Explanatory Variable, i.e. Age is 0.1043 which is positive and for family with formal activity, coefficient of explanatory variable, age is 0.1067 which is positive which implies a direct relationship between WWFP and age of women worker. In this Table 2, the coefficient of Age Squared is negative for WWFP with informal activities and formal activities, which implies after a certain age, increase in age reduces the likelihood to participate in the labour market. The variable of education measured by years of schooling completed is taken in level as well as variable, Education, Squared. The Coefficient of education level and squared of education implies that an increase in education of twelve years of schooling (Higher Secondary) increase the probability of women to participate in the labour market whereas to participate in the labour market whereas the less educated (10th or below) are discouraged to enter the labour market.

The coefficient of marital status shows that married women are less likely to participate in the labour market compared to unmarried women because a married woman is less likely to work outside due to household responsibilities. Now, it is considered household characteristics. Household-characteristics include family size, household income per capita, agricultural household and dummy for rural and urban areas. Household income per capita has a positive and significant relationship with WWFP which shows higher the level of income, higher will be the probability to work. The coefficient of agricultural household is positive which shows that the women living in agricultural household have higher probability to participate compared to non-agricultural household.

The coefficient of family size with informal activities and with formal activities, indicate greater the number of family member in the household increases the probability of the women member to participate in the labour market as the family size increases above fifteen members, the probability of women to participate in the labour market becomes negative as the coefficient of family size squared is negative. It is because of the fact that due to lower income and large family, up to a certain level women are more likely to work as more income is needed. But a large number of people in the household would cause a higher work load for women members, as they will be involved in preparing food, doing laundry and looking after the family member, so the turning point is fifteen and after that the association becomes negative.

In the first stage, the results of instrumental variable technique had shown an inverse relation between housing information and co-residence. The predicted variable co-residence has a positive and significant relationship with women work force participation. It suggests that living in joint family allows her to share a burden of work at home with parents or in law. On the other hand, if she is residing in the nuclear family, she is unable to manage both household and office work together. So, nuclear family is a constraint of WWFP.

The Coefficient of level of predicted variable from labour saving appliances, is negative with respect to labour force participation but the square is positive indicating that the likelihood to participate increases when the number of labour saving appliances increase from seven. The category belongs to lower and middle class households where the appliances consist of basic necessities and durable goods. It is due to the fact that due to lower household income, a woman would move towards labour market to meet the household needs. In similar manner, the Coefficient of level of time consuming or luxurious appliances shows a negative relationship and square of it is showing a positive relationship with WWFP. This variable is representative of upper class households, where the women spend more time utilizing the facilities at home to get access to more opportunities like education, health etc. Therefore being more competitive, she is more likely to an active participant of labour market activities. So, we can, for informal activities, negative relationship exists between labour saving appliances and WWFP, but a positive relation exists in formal activities. The turning points for overall Nadia district with informal activities, is 13 labour savings appliances and with formal activities is five. The coefficient of women headed household variable is negative for informal activities and positive for formal activities. As women is the head of house and she try to prefer paid jobs and reluctant to offer unpaid family helpers without any monetized benefits. In the urban areas, the monetized pay is preferred whereas in rural agricultural area women do support the family as unpaid helper.

CONCLUSION

This study aims to identify the determinants and constraints of women work force participation and economic empowerment of women. In the determination of women work force participation, the women's own and household's characteristics play an important role. The women's characteristics such as educational endowments marital status and age, caste, religion along with the household characteristics by family size household income-per capita, co-residence, residential status, and locality of the family are considered to be the potential determinants of women work force participation.

In our empirical findings the variable which shows the positive relationship between that variable and WWFP then those variables are treated as determinants of WWFP and those variable shows the negative relationship with WWFP are treated as constraints of WWFP. So, women's education level, age, caste, religion marital status, household per-capita income, co-residence, family size, family structure are the important determinant of WWFP. On the other hand, marriage, existence of children, nuclear family etc are constraints of WWFP. The determinants of economic empowerment are socio-economic, socio-demographic and women empowerment. These determinants are age, caste, religion, occupation, education, income-share of the household, dependent share, marital status and also the indicators of women

empowerment, i.e. decision making, freedom of movement violence against women and mobility. The empirically tested variables which are positively related to women economic empowerment are determinants of women's economic empowerment and those are negatively related are called as constraints of women's economic empowerment.

In conclusion we can say, in spite of the existence of many determinants of women participation and women economic empowerment, there exists a lot of constraints of women participation and women economic empowerment. Women in our study area have double burdens and triple roles and consequent work. Overload women have lack of access to and control over productive resources and lack of access to formal financial and technical assistance. They have lower level of productive capacity and education. A directing related barrier to female participation in the face of the work burdens is their physical health. Examining the nutritional needs of women, anaemia comes at the fare font as it is directly correlated with the physical mobility and productivity of women. Women also have the responsibility of child bearing and breast feeding which can curtail their participation. Therefore increasing the access to sufficient, safe and nutritional food (especially for pregnant, lactating women) has an empowering impact. Initiatives that empower women and encourage their participation in economic enterprises need to be informed by a well understood notion of their chief inhibitions. It is therefore, a prerequisite to concentrate on their work-loads vis-a-vis their responsibilities of reproduction. The initiatives need to address the gender and care norms that over burden women with simultaneously demands to ensure production, reproduction and care and their contribution in each sphere.

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