

Chapter Five

EMPIRICAL ESTIMATES AND ANALYSIS

5.1. Introduction

We have formulated the relevant working models and hypotheses related to the study of women's empowerment in the district of Bankura. The descriptive statistics of several household and individual characteristics including focussed constructed variables degree of women's empowerment and the composite index of women's empowerment have been explained in the last chapter. In this chapter our plan is to describe the empirical findings and analyze the econometric models duly estimated.

The route of journey of this chapter has been designed as follows. In section 5.2 we have interpreted and analyzed the estimated results of the model for the decision towards family planning. The estimated impacts of women's empowerment status along with the other determinants on the incidence of domestic physical violence have been analyzed in section 5.3. Section 5.4 has explained the impact of women's empowerment along with other socio-economic and demographic traits on the expenditure for children education. Section 5.5 deals with the determinants affecting the women's empowerment at household level as well as at community level. The determinants of the household level empowerment have been discussed in sub-section 5.5.1. Sub-section 5.5.2 has interpreted the results of the estimates of community level empowerment of women in the district of Bankura. Finally, section 5.6 concludes the chapter.

5.2. Impact of Women's Empowerment on Decision regarding Family Planning

In chapter three we have specified an econometric model regarding the decision towards family planning. It has been pointed out that we use a Probit model for assessing the probability of taking family planning decision for the women in the district of Bankura.

The probability of taking family planning decision depends on a number of determinants divided into individual/household and community characteristics of the women. Among them most important variable is definitely the women's empowerment. We expect that after controlling for individual/household and community characteristics, the women with higher level of empowerment at the household level and at the community level have better position to take family planning decision. This implies that the likelihood of taking family planning is expected to increase with higher empowerment at the household level and at the community level. In addition to women's empowerment at the household level and at the community level, male child bias, age, spousal age gap, education of the woman, husband education, household occupation, income, landholding, dependency ratio and the duration of SHG-membership have been considered as important explanatory variables in the probit model for the decision regarding family planning.

Based on the methodology of computing empowerment we have estimated two models for each issue of household welfare achieved through empowerment. In order to explain the decision towards family planning we have estimated two models, Model-1A and Model-1B, in each model all the variables being the same, except empowerment variables. In Model-1A we consider the empowerment variables measured by simple average method and Model-1B incorporates the composite index for the women's empowerment computed by principal component analysis. For each model the number of observation is 580.

5.2.1. Model-1A: Probit Model with Simple Empowerment Indices

In this sub-section we discuss the results of the estimated probit model of the decision regarding family planning where empowerment variables have been measured by simple average of the indicators which is called the degree of empowerment, i.e., Model-1A. The results of the Model-1A are presented in table-5.2.1 and in table-5.2.2. First, we interpret the coefficients of the individual/household characteristics as explanatory variable; then we come to the community characteristics.

In table-5.2.1 the coefficient of women's empowerment at the household level is positive and statistically significant. One percent higher household level empowerment increases the log-odds in favour of taking family planning by 1.3 percentage points. It is indicative

that household level empowerment is an important factor for taking decision regarding family planning. Refer to table-5.2.2. We have found that the probability of taking decision regarding family planning increases by 0.5 percent point due to one percent increase in the degree of empowerment from the mean level household empowerment of the women. It implies that household level empowerment has a positive marginal impact on the probability of taking family planning decision. Empowered women at the household have the decision making power and consciousness regarding family and child welfare. So, the result is consistent with the logic.

The coefficients of the dummies for first two child combinations turn out to be negative. The dummy for first child male and second child female (FMSF=1) is statistically insignificant to determine family planning decision. The dummy for first child female and second male (FFSM=1) and the dummy for first and second children female (FFSF=1) are statistically significant determinants of the decision regarding family planning. The estimated probit model shows that the probability of taking family planning decision is 26% lower for the women having first two children female than the women having one child or first two children male. We also find that the women having first child female and second child male are 13% less likely to adopt family planning in contrast to the women having one child or first two children male. Therefore, women having first two children female are worst in position to have family planning decision. These findings prove that our sample women have male child bias and this is the reason they did not want to take family planning before having two male children. So our male child bias hypothesis regarding family planning turns out to be true.

It is revealed that age at marriage has some positive impact on the log-odds towards family planning for the women in the district of Bankura. The marginal change of probability states that if average age of the women at marriage increases by one year probability of taking family planning decision increases by 0.6 percentage point from mean. This result is, however, statistically insignificant. High age at marriage increases the consciousness of the women regarding familial and biological know how of family planning. So, the result is expected. We have also found that the coefficient of spousal age gap is positive and statistically significant at 6% level. The magnitude of the coefficient of spousal age gap says that age gap is suitable for positive decision regarding family planning. We have seen that average age gap of our sample couples

(husband's age – wife's age) is 5.7 years. The marginal change of probability calculation in table-5.2.2 implies that ceteris paribus one year increase in spousal age gap from mean increases the probability of taking family planning by 1.6 % points. This result supports the Indian culture regarding age of husband and wife and goes against our hypothesis. Therefore, Indian culture may be suitable for taking family planning. However, the result is not highly significant at all.

Table-5.2.1 Results of the Probit Model for the Decision regarding Family Planning When Women's Empowerment is the Simple Average of the Indicators

Dependent Variable: DRFP (Decision regarding Family Planning)				
Method: ML - Binary Probit (Newton-Raphson)				
Included observations: 580				
Convergence achieved after 5 iterations				
Covariance matrix computed using second derivatives				
Explanatory Variable	Coefficient	Std. Error	z-Statistic	Prob.
Constant	-3.341	0.569	-5.875	0.000
Personal/Household characteristics				
DOWEH (%)	0.013**	0.006	2.246	0.025
Women having at least two child (FMSF =1)	-0.080	0.166	-0.480	0.631
Women having at least two child (FFSM =1)	-0.355**	0.166	-2.134	0.033
Women having at least two child (FFSF =1)	-0.695*	0.184	-3.780	0.000
Age at Marriage AGAM (Year)	0.016	0.013	1.194	0.233
Spousal Age Gap (SAGEG) (Year)	0.042***	0.023	1.827	0.068
Education of the Woman (EDU) (Year)	0.082*	0.026	3.087	0.002
Husband's Education (HEDU) (Year)	0.020	0.024	0.870	0.384
Type of Family (TYFAMI) (Nuclear = 1)	-0.258	0.169	-1.527	0.111
Household Occupation CULTI, (Cultivation =1)	-0.144	0.173	-0.835	0.404
Household Occupation, NONFARM, (Non-Farm= 1)	-0.437**	0.218	-2.009	0.045
Household's Land holding, HLAND, (bigha, = 0.4hector)	0.014	0.029	0.474	0.636
Dependency Ratio in the Household DRATIO (%)	-0.002	0.003	-0.589	0.556
Annual Per Capita Household Income (APCHIN) (Rs. '000)	0.023**	0.011	2.186	0.029
Community characteristics				
DOWEC (%)	0.038*	0.007	5.304	0.000
Duration of SHG-membership DSHGM (Month)	0.003	0.002	1.530	0.126
Caste (OBC=1)	0.153	0.177	0.864	0.388
Caste (SC=1)	0.063	0.180	0.351	0.726
Caste (ST=1)	-0.436***	0.243	-1.792	0.073
Summary Statistics				
LR statistic (19 df) (probability)	224.996 (0.000)	Akaike information Criterion		1.032
McFadden R-squared	0.287	Schwarz criterion		1.183

Source: Author's own computation based on sample observations, 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

Table-5.2.2 Marginal Probability of the Decision regarding Family Planning When Women's Empowerment is the Simple Average of the Indicators

Marginal effects after probit					
Dependent Variable(y): Probability of the Decision regarding Family Planning (DRFP)					
(predict) = .6445					
Included observations: 580					
Explanatory Variable	dy/dx evaluated at mean	Std. Error	z-Statistic	Prob. > z	Mean of the Explanatory Variable(x)
Personal/Household characteristics					
DOWEH (%)	0.005**	.0022	2.25	0.025	68.12
Women having at least two child (FMSF=1) [#]	-0.029	.0629	-0.48	0.634	0.20
Women having at least two child (FFSM =1) [#]	-0.136**	.0649	-2.10	0.036	0.19
Women having at least two child (FFSF =1) [#]	-0.269*	.0706	-3.81	0.000	0.16
Age at Marriage AGAM (Year)	0.006	.005	1.20	0.232	18.75
Spousal Age Gap (SAGEG) (Year)	.0158***	.0086	1.83	0.068	5.74
Education of the Woman (EDU) (Year)	0.030*	.0098	3.09	0.002	3.59
Husband's Education (HEDU) (Year)	0.007	0.87	.0087	0.384	4.86
Type of Family (TYFAMI) (Nuclear = 1) [#]	-0.092	.0582	-1.59	0.111	.818
Household Occupation CULTI, (Cultivation =1) [#]	-0.053	.0645	-0.84	0.404	0.443
Household Occupation NONFARM (Non-Farm= 1) [#]	-0.169**	.0855	-1.98	0.048	0.143
Household's Land holding, HLAND, (bigha)	.0051	.0109	0.47	0.636	2.64
Dependency Ratio in the Household DRATIO (%)	-.0006	.0011	-0.59	0.556	49.68
Per Capita Household Income (APCHIN) (Rs. '000)	.0086**	.0038	2.22	0.027	13.78
Community characteristics					
DOWEC (%)	0.014*	.0026	5.31	0.000	54.37
Duration of SHG-membership DSHGM (Month)	0.001	.0007	1.53	0.126	27.23
Caste (OBC=1) [#]	0.056	0.88	0.06	0.378	0.23
Caste (SC=1) [#]	0.023	.066	0.35	0.725	0.33
Caste (ST=1) [#]	-0.169***	.096	-1.76	0.079	0.11

([#]) dy/dx is for discrete change of dummy variable from 0 to 1
 *, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.
 Source: Author's own computation based on sample observations, 2012-13

Education of the women has also some direct impact on the decision regarding family planning. Our marginal probability computation has shown that one additional completed year of formal education after primary level increases the probability of adopting family planning by 3 percentage points. Education of women inculcates the knowledge and importance of family planning for family welfare as well as for social welfare. Therefore, education is very much important factor affecting the decision regarding family planning as we have found. The coefficient of husband's education in Model-1A is also positive but statistically insignificant. One year extra above primary

level (mean education of the husband) education of husband increases the probability of adopting family planning by 0.8% point. By the same logic as we have mentioned for women's education the impact of husband's education on the probability of adopting family planning is consistent. However, impact of women's education is more important than that of husband's education on the probability of adopting family planning. Estimates of the probit model shows that the dummy for family type (Nuclear =1) has negative effect on the log-odds in favour of family planning. It tells us that women belonging to nuclear family are less likely to be ideal family planner. The probability towards family planning reduces by 9.2 percentage point if the woman is belonging to nuclear family. This result is statistically significant at 11% level.

We have examined the impact of household occupation on the attitudes of sample women towards family planning. Household occupation, CULTI (cultivation =1) has some negative impact on log-odds towards the decision regarding family planning. It means that women belonging to cultivator family relative to women belonging to wage labour class are less likely to adopt family planning. However, this empirical result is statistically insignificant. The coefficient of household occupation, NONFARM (Non-farm=1) in Model-1A points out that women in non-farm self-employed households compared to wage labour class are less likely to take family planning. Table-5.2.2 shows that, if a household shifts to self-employed occupation from service or wage earning jobs, the probability of taking family planning will reduce by sixteen percentage points. It may happen due to the fact that wage labour households/couples think the opportunity cost of child rearing whereas women in farm and self-employed family do not think regarding opportunity cost of child rearing. Rather in farm and petty business family children are viewed as earner at least in rural area.

It turns out that dependency ratio in the households has some adverse but insignificant impact on the decision regarding family planning. We find that the coefficient of household's landholding is positive in our estimated probit model. It means that household's landholding is favourable for adopting family planning decision but this empirical finding is statistically insignificant. The coefficient of annual per capita household income, which is significant at 2% level, reports that one thousand rupees additional annual per capita household income increases the log-odds in favour of adopting family planning by 2.3% points. Table-5.2.2 shows that if annual per capita

household income increases one thousand rupees probability of adopting family planning would increase by almost 1% point. It is fact that rich households are very much concerned regarding child care i.e. about health, education and future economic status and thereby cost of child care. So, it is an expected result.

The prime community trait captured by the women's empowerment at the community level has some positive and statistically significant impact on the probability of adopting family planning. As women's empowerment increases 1% the probability of taking family planning increases by 1.4% points. Not only that, community level empowerment is more important than the household level empowerment in the determination of the probability of adopting family planning. Therefore, employment outside home, association with community affairs, and mobility of the women are most important for taking family planning. Mobility of the women in different social institutions helps her understand the importance of family planning.

The coefficient of the duration of SHG-membership is positive and statistically significant at 12% level. It has been observed that one year extra participation in SHG from mean increases the probability of taking family planning by 0.1%. Participation in SHG ensures the financial inclusion of the women. As duration of participation increases the intensity of financial inclusion increases ensuring higher amount of borrowing if needed. A large number of sample women has reported that availing SHG loan they are now self-employed. Therefore, availability of fund to the women increases the opportunity cost of time to her. Besides, participation in SHG inculcates the consciousness in women member. It induces them to take family planning. However, the impact of SHG-membership is too small in the determination of the probability of taking family planning.

In order to answer whether caste is a matter or not to take family planning decision we have considered three dummies for caste of the women. In this study Caste (general caste =1) has been considered as comparison category. The coefficients of dummies for caste (OBC=1) and for caste (SC =1) indicate that the women belonging to other backward classes and scheduled castes in contrast to general caste women are more likely to take family planning decision. But these findings have no statistical base. We also find that the coefficient of the dummy for caste (ST =1) is negative but significant at 7% level. So

the probability of adopting family planning for the tribal couple is 16% lower than that of the general caste couples. It may arise due to ignorance, unawareness and lack of consciousness of the tribal women.

This study reveals that empowerment of women at the household level and at the community level, male child bias, education of woman, family type, household income, participation in SHG and caste are significant determinants of the decision towards family planning for the women in Bankura district.

5.2.2. Model-1B: Probit Model with Composite Empowerment Indices

In this section we consider the probit model (Model-1B) for the decision regarding family planning where empowerment variables are composite indices along with the same other explanatory variables as had in Model-1A. This new model is denoted by Model-1B and results have been depicted in table-5.2.3 and table-5.2.4.

Refer to table-5.2.3 and table-5.2.4. The coefficients of the composite index of women's empowerment at household level and at community level are positive and statistically significant at 1% level. Women's empowerment at household level and at community level increases the probability of taking family planning measures for the sample women. It is important to note that compared to household level empowerment, community level empowerment has higher impact on family planning decision. Therefore, methodological difference in measuring women's empowerment does not alter the findings regarding the impact of women's empowerment on the probability of adopting family planning decision.

In addition to empowerment, male child bias has same line impact on the decision regarding family planning as we have in Model-1A. Like Model-1A we have found that women's education is significant determinant of the decision towards family planning. The estimates of the probit model show that one year extra education of the woman from mean education increases the probability of taking family planning decision by 2.7 percent point while one year extra education of husband from mean education increases the probability of taking family planning decision by 0.97 percent point. Therefore, women's education compared to husband education is more important in family planning decision as we have seen in Model-1A.

Table-5.2.3 Results of the Probit Model for the Decision regarding Family Planning When Women's Empowerment is Composite Index of the Indicators

Dependent Variable: Decision regarding Family Planning (DRFP) Method: ML - Binary Probit (Newton-Raphson) Included observations: 580 Convergence achieved after 5 iterations Covariance matrix computed using second derivatives				
Explanatory Variable	Coefficient	Std. Error	z-Statistic	Prob.
Constant	-0.356	0.423	-0.841	0.400
Personal/Household Characteristics				
CIWEH	0.016*	0.004	3.758	0.000
Women having at least two child (FMSF =1)	-0.059	0.168	-0.350	0.727
Women having at least two child (FFSM =1)	-0.367**	0.169	-2.174	0.030
Women having at least two child (FFSF=1)	-0.708*	0.187	-3.795	0.000
Age at Marriage AGAM (Year)	0.015	0.014	1.144	0.253
Spousal Age Gap (SAGEG) (Year)	0.041***	0.024	1.752	0.080
Education of the Woman (EDU) (Year)	0.073*	0.027	2.719	0.007
Husband's Education (HEDU) (Year)	0.026	0.024	1.098	0.272
Type of Family (TYFAMI) (Nuclear = 1)	-0.230	0.171	-1.345	0.179
Household Occupation CULTI, (Cultivation =1)	-0.123	0.175	-0.700	0.484
Household Occupation NONFARM (Non-Farm= 1)	-0.490**	0.221	-2.219	0.027
Household's Land holding, HLAND, (bigha)	0.014	0.030	0.471	0.637
Dependency Ratio in the Household DRATIO (%)	-0.002	0.003	-0.770	0.441
Per Capita Household Income (APCHIN) (Rs. '000)	0.021**	0.010	2.046	0.041
Community Characteristics				
CIWEC	0.026*	0.005	5.492	0.000
Duration of SHG-membership DSHGM (Month)	0.003	0.002	1.561	0.119
Caste (OBC=1)	0.161	0.180	0.894	0.372
Caste (SC=1)	0.093	0.183	0.508	0.611
Caste (ST=1)	-0.329	0.250	-1.317	0.188
Summary Statistics				
LR statistic (19 d f) (Probability)	238.393 (0.000)	Akaike information Criterion		1.009
McFadden R-squared	0.304	Schwarz Criterion		1.160

Source: Author's own computation based on sample observations, 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

The coefficient of household occupation (Non-farm=1) in Model-1B points out that non-farm self-employed households compared to wage labour class are less likely to take family planning. Table-5.2.4 shows that if a household shifts to self-employed occupation from service or wage earning jobs the probability of taking family planning will reduce by 18 percentage points. Like Model-1A we find that household income increases the probability of taking family planning as we expect. The coefficient of the duration of SHG-membership is positive and statistically significant at 11% level. One

year extra participation in SHG from mean increases the probability of taking family planning by 1.1% magnifying the consciousness in the member women that induces them to take family planning. However, age at marriage, spousal age gap, family composition, household's landholding and caste are insignificant factors determining the probability of accepting family planning decision.

Table-5.2.4 Marginal Probability of the Decision regarding Family Planning When Women's Empowerment is measured by Composite Index

Marginal effects after probit Dependent Variable(y): Probability of the Decision regarding Family Planning (DRFP) (predict) = .6457 Included observations: 580					
Explanatory Variable	dy/dx evaluated at mean	Std. Error	z-Statistic	Prob. > z	Mean of the Explanatory Variable(x)
Personal/Household Characteristics					
CIWEH	0.005*	.0015	3.77	0	3.00E-06
Women having at least two child (FMSF =1) [#]	-0.021	.0631	-0.35	0.728	0.208
Women having at least two child (FFSM=1) [#]	-0.140**	.0659	-2.14	0.033	0.191
Women having at least two child (FFSF =1) [#]	-0.274*	.0716	-3.83	0	0.163
Age at Marriage AGAM (Year)	0.005	.0050	1.15	0.252	18.75
Spousal Age Gap (SAGEG) (Year)	0.015***	.0087	1.75	0.08	5.743
Education of the Woman (EDU) (Year)	0.027*	.01	2.73	0.006	3.593
Husband's Education (HEDU) (Year)	0.009	.0089	1.1	0.272	4.867
Type of Family (TYFAMI) (Nuclear = 1) [#]	-0.082	.0593	-1.4	0.162	0.818
Household Occupation CULTI, (Cultivation =1) [#]	-0.045	.0654	-0.7	0.484	0.443
Household Occupation NONFARM (Non-Farm= 1) [#]	-0.189**	.0866	-2.19	0.029	0.143
Household's Land holding, HLAND, (bigha)	0.005	.011	0.47	0.637	2.646
Dependency Ratio in the Household DRATIO (%)	-0.001	.0011	-0.77	0.441	49.68
Per Capita Household Income (APCHIN) (Rs. '000)	0.007**	.0038	2.07	0.038	13.78
Community Characteristics					
CIWEC	0.009*	.0017	5.48	0	1.10E-06
Duration of SHG-membership DSHGM (Month)	0.001	.0007	1.56	0.118	27.23
Caste (OBC=1) [#]	0.058	.064	0.91	0.362	0.232
Caste (SC=1) [#]	0.034	.0672	0.51	0.609	0.336
Caste (ST=1) [#]	-0.126	.0983	-1.29	0.198	0.117

([#]) dy/dx is for discrete change of dummy variable from 0 to 1

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

Source: Author's own computation based on sample observations, 2012-13

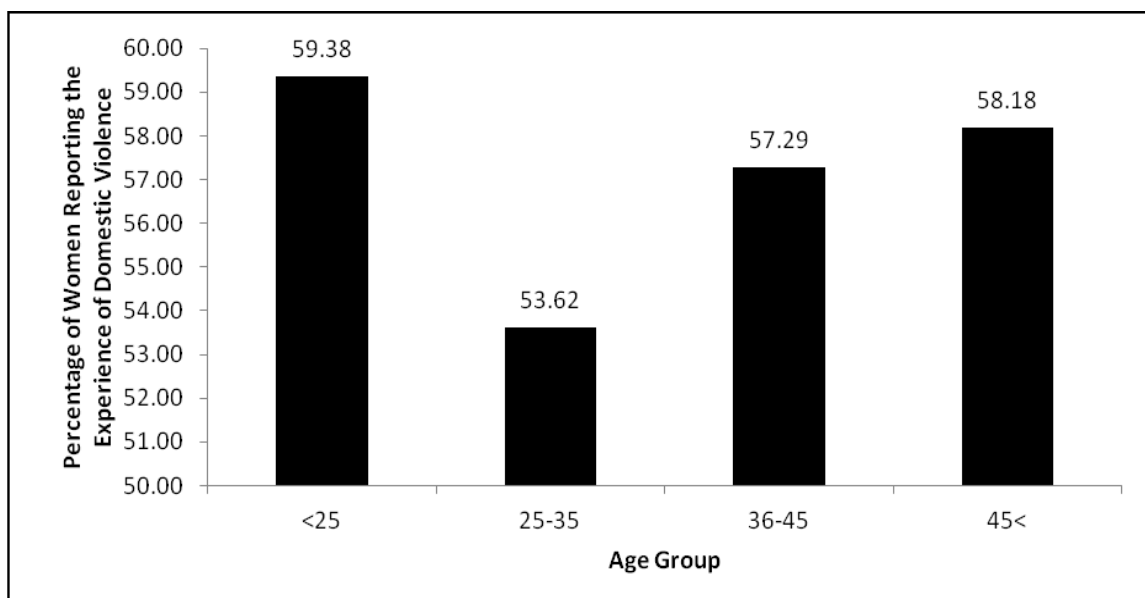
We, therefore, observe that almost all the findings remain intact in Model-1B as they were in Model-1A. The major findings in this section are as follows. Women's

empowerments at the household level as well as at the community level are significant determinants of the decision regarding family planning. We find that male child bias, education of women, non-farm household occupation, dependency ratio, per capita income and participation in SHG are important factors influencing the decision regarding family planning.

5.3. Impact of Women’s Empowerment on Domestic Violence against Women

In this section we have explored the determinants of the incidence of domestic violence for the women in the district of Bankura. At the outset, we would look into the nature of domestic violence against women with respect to their age. We have observed that younger and older women are experiencing higher risk of violence relative to the middle aged group women. It indicates that newly married women (mean age at marriage is 19 years) and older suffers from more violence than the others. This finding supports that in the middle age when women are physically and mentally more active to protest violence and other family members become scared to make violence against women. However, figure-5.3.1 shows that in all age group a major section of women is suffering from domestic violence.

Figure-5.3.1 Age-Group Wise Prevalence of Domestic Violence against Women in Bankura District



Source: Author’s own computation based on sample observations, 2012-13

In figure-5.3.1 we see that the relation between age and the incidence of domestic violence against women is non linear. If we try to draw the line joining the mid points of

the bars we get an approximately U shaped curve. It is already revealed in the profile of inter correlation (refer to table-4.5.1) that the correlation between age and the incidence of domestic violence is almost zero. We could not include age of the women as determinant of the probability of the incidence of domestic violence, although, most of the existing empirical study regarding domestic violence has included the age as determinant of domestic violence.

So far, the examination of the impact of women's empowerment on the probability of experiencing domestic violence is our main motto. In addition to women's empowerment we have included spousal age gap, husband education and education of other family members, household occupation, income, dependency ratio, dowry, drug addiction of the husband, participation in SHG and caste of the women/household as determinants of the incidence of domestic violence.

In accordance with the methodology of measuring women's empowerment we have estimated two models Model-2A and Model-2B for the incidence of domestic violence. In Model-2A we consider the empowerment variables measured by simple average method and Model-2B incorporates the composite indices of women's empowerment computed by PCA. In each model we have 580 observations.

5.3.1. Model 2A: Logit Model with Simple Empowerment Indices

In this sub-section, we discuss the results of the estimated logit model of the incidence of domestic violence where empowerment variables have been measured by simple average of the indicators. This average is termed as the degree of empowerment. The outcomes of the Model-2A have been presented in table-5.3.1 and in table-5.3.2.

The coefficient of empowerment of women at the household level is -0.024, which is statistically significant at 1.2% level. It indicates that other things remaining the same, the household level empowerment of women reduce the log odds towards domestic violence against them. The marginal change of probability has reported that one percent increase in women's empowerment at the household level from mean reduces the probability of the incidence of domestic violence by 0.6% point. An empowered woman can logically establish her views and she has some decision making power.

Table-5.3.1 Results of the Logit Model for the Incidence of Domestic Violence When Women's Empowerment is Simple Average of the Indicators

Dependent Variable: Incidence of Domestic Violence (DVIO)				
Method: ML - Binary Logit (Newton-Raphson)				
Included observations: 580				
Convergence achieved after 4 iterations				
Covariance matrix computed using second derivatives				
Explanatory Variable	Coefficient	Std. Error	z-statistic	Prob.
Constant	1.650	0.936	1.764	0.078
Individual/household Characteristics				
DOWEH (%)	-0.024*	0.010	-2.511	0.012
Duration of Married life (DURM), (Year)	0.010	0.013	0.780	0.435
Spousal Age Gap (SAGEG) (Year)	-0.022	0.027	-0.812	0.417
Husband's Education (HEDU) (Year)	-0.054*	0.033	-1.632	0.103
Highest education among male household members HIMEDU (Year)	-0.078*	0.032	-2.408	0.016
Type of Family, TYFAMI (Nuclear = 1)	-0.162	0.278	-0.582	0.561
Household Occupation CULTI, (Cultivation =1)	-0.659*	0.278	-2.372	0.018
Household Occupation NONFARM (Non-Farm= 1)	-0.676**	0.347	-1.945	0.052
Household's Land holding, HLAND, (bigha)	0.089**	0.044	2.037	0.042
Dependency Ratio in the Household DRATIO (%)	0.004	0.005	0.822	0.411
Per Capita Household Income (APCHIN) (Rs. '000)	-0.024**	0.012	-2.063	0.039
Dowry Given at Marriage (DOW)(Yes=1)	1.434*	0.287	4.994	0.000
Post Marriage Dowry Demand (PMDOW) (Yes=1)	1.366*	0.345	3.964	0.000
Drug Addiction of the Husband (ADDIC) (Yes=1)	0.885*	0.210	4.223	0.000
Community Characteristics				
DOWEC (%)	-0.014	0.011	-1.368	0.171
Duration of SHG-membership DSHGM (Month)	0.007**	0.003	2.202	0.028
Caste (OBC=1)	0.098	0.269	0.364	0.716
Caste (SC=1)	0.436	0.283	1.537	0.124
Caste (ST=1)	1.064*	0.425	2.502	0.012
Summary Statistics				
LR statistic (19 d f) (Probability)	175.734 (0.000)	Akaike information Criterion		1.136
McFadden R-squared	0.221	Schwarz Criterion		1.286

Source: Author's own computation based on sample observations, 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

The estimated coefficient of the duration of married life and the coefficient of spousal age gap have appeared statistically insignificant. Besides, direction of the effect of the duration of married life, which was expected as a reducing factor of domestic violence against women, is rambling in determination of the probability of the incidence of domestic violence. We also find that higher spousal age gap reduces the incidence of domestic violence which is also unexpected. However, we are not worried about these two findings because these empirical relations are statistically insignificant.

Table-5.3.2 Marginal Probability for the Incidence of Domestic Violence When Women's Empowerment is Simple Average of the Indicators

Marginal Effects After Logit					
Dependent Variable (y) = Probability for the Incidence of Domestic Violence (PDVIO) (predict) =0.5922					
Included observations: 580					
Explanatory Variable	dy/dx evaluated at mean	Std. Error	z-Statistic	Prob.> z	Mean of the Explanatory Variable(x)
Personal/Household Characteristics					
DOWEH (%)	-0.0058**	0.0023	-2.5200	0.0120	68.2120
Duration of Married life (DURM), (Year)	0.0024	0.0031	0.7800	0.4350	16.8690
Spousal Age Gap (SAGEG) (Year)	-0.0054	0.0066	-0.8100	0.4170	5.5940
Husband's Education (HEDU) (Year)	-0.0131***	0.0080	-1.6300	0.1030	4.8670
Highest education among male household members HIMEDU(Year)	-0.0187*	0.0078	-2.4100	0.0160	6.9930
Type of Family, TYFAMI (Nuclear = 1) #	-0.0387	0.0657	-0.5900	0.5560	0.8180
Household Occupation CULTI, (Cultivation =1) #	-0.1588*	0.0661	-2.4000	0.0160	0.4430
Household Occupation NONFARM (Non-Farm= 1) #	-0.1667**	0.0854	-1.9500	0.0510	0.1430
Household's Land holding, HLAND, (bigha)	0.0214**	0.0105	2.0300	0.0420	2.6460
Dependency Ratio in the Household DRATIO (%)	0.0010	0.0012	0.8200	0.4110	49.6840
Per Capita Household Income (APCHIN) (Rs. '000)	-0.0058**	0.0028	-2.0500	0.0400	13.7884
Dowry Given at Marriage (DOW)(Yes=1) #	0.3431*	0.0639	5.3700	0.0000	0.6910
Post Marriage Dowry Demand (PMDOW) (Yes=1) #	0.2816*	0.0549	5.1300	0.0000	0.1568
Drug Addiction of the Husband (ADDIC) (Yes=1) #	0.2137*	0.0504	4.2400	0.0000	0.5200
Community Characteristics					
DOWEC (%)	-0.0035	0.0026	-1.3700	0.1720	54.3760
Duration of SHG-membership DSHGM (Month)	0.0017**	0.0008	2.2000	0.0280	27.2390
Caste (OBC=1) #	0.0235	0.0642	0.3700	0.7140	0.2320
Caste (SC=1) #	0.1034	0.0657	1.5700	0.1160	0.3360
Caste (ST=1) #	0.2261*	0.0752	3.0100	0.0030	0.1170

(#) dy/dx is for discrete change of dummy variable from 0 to 1
 *, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.
 Source: Author's own computation based on sample observations, 2012-13

The coefficient of husband's education is -0.054. It confirms that with higher educated husband women gain strong foothold to fight against domestic violence. The estimation of marginal probability also supports this result. The probability of facing domestic violence reduces by 1.3% if the husband is educated one year more from mean education level. Highest education among the male members in the family also reduces the probability of the incidence of domestic violence against women. One year extra schooling of the highest qualified male person in the family from mean education level reduces the probability of having experience of domestic violence by 1.8% points.

The coefficient of the dummy for family type is negative but insignificant. We have measured the impact of household occupations with reference to wage labour class. The coefficient of major household occupations CULTI and NONFARM are negative and statistically significant at 1.8% and 5% level of significance respectively. It implies that the incidence of domestic violence among women belonging to cultivator family and non-farm employment holder family is less than that among the women belonging to wage labour class. In table-5.3.2 we see that the probability of experiencing domestic violence among the women belonging to cultivator family is 15% lower than that among the labour class women. If a woman belongs to non-farm employment family instead of belonging to the wage labour family the chance of domestic violence will reduce by 16% points. In case of cultivator family and non-farm employment family women have some control over asset and have some decision making power. Whereas in case of labour family women may have some earning but it is controlled by family members and usually they have no physical assets. As a result women belonging to labour class face more violence compared to others.

The estimate of domestic violence shows that household's landholding is a significant determinant of the incidence of domestic violence against women. One bigha extra landholding over the mean landholding increases the probability of domestic violence by 2.1% points. Landholding is a strong indicator of economic status at least in rural areas. Higher size of landholding by a family implies the higher social and economic status of that family. However, in rural area most of the women have no ownership of land. So, higher size of household's landholding means higher inequality in asset holding against women. It often makes women exclusively dependent on male persons. This factor makes domestic violence easy against women. Estimate of the logit model shows that dependency ratio is a stimulating factor of domestic violence. Ten percent additional dependency ratio increases the probability of domestic violence by one percent point. This result supports our hypothesis but it is not significant.

We have found that higher per capita family income reduces the probability of experiencing domestic violence against women, this relation is statistically significant. In table-5.3.2 we see that one thousand additional household's annual per capita income above mean reduces the probability of experiencing domestic violence by 0.5% point. Higher household income means higher economic status and occupational status and

higher access to asset and wealth. These facts usually give honour the women in the family as we expect. Our empirical analysis strongly supports our expectation. Therefore, poor women in terms of land and income are more victimised in domestic violence compared to others.

We have found that a major section of sample women has given dowry at marriage. The coefficient of dowry given at marriage tells that women whose houses paid dowry at the time marriage face more risk of domestic violence. The probability of facing domestic violence for the women who paid dowry is 34% greater than the probability of facing domestic violence for the women who did not pay dowry. Further, women who are forced to pay extra dowry after marriage are more likely to face domestic violence. This result is statistically significant at 1% level. In table-5.3.2 we find that post marriage dowry demand increases the probability of domestic violence by 28%. Usually, women are not willing to bring dowry from her natal house after marriage. This disagreement often creates quarrel between the woman and in-laws or husband and thereby the women face domestic violence. So, the result is justified. We have got that the coefficient of drug addiction of the husband is positive and statistically significant. Drug addition of the husband increases the probability of facing domestic violence 21% points. Usually women protest against drug addiction of the husband. But addiction does not tolerate any protest and thereby make violence against women. Our findings agree with this view. Therefore, dowry at the marriage and post marriage time and drug addiction of the husband are the main cause of domestic violence in the area under study.

We have observed that the community level empowerment of women reduces the probability of domestic violence. The marginal change of probability reports that one percent higher degree of community level empowerment above mean reduces the probability of facing domestic violence by 0.35% but the result is statistically significant at 17% level. It establishes that household level empowerment is more important than the community level empowerment of the women for combating the curse of domestic violence against them.

The coefficient of the duration of SHG membership is positive and statistically significant at 2% level. Our empirical result shows that probability of domestic violence will increase by 2% points if the duration of SHG membership increases by one year

from average. Therefore, duration of SHG membership has been found to stimulate the probability of suffering from domestic violence. The marginal probability of domestic violence against women increases due to increase of the duration of SHG membership in the area under study. This result goes against our hypothesis. This empirical result tells us that women participate in SHG movement at the cost of domestic violence. By local customs households don't want that their women will move outside home and form a group for social and economic movement. Sometimes women become member of SHGs even when their family members oppose to do it. As a result there occurs domestic violence within the family. So, domestic violence against women is an impediment of financial inclusion for women in rural Bankura.

We have considered the women belonging to general caste as base category for assessing the impact of caste dummies on the probability of facing domestic violence. The coefficient of caste (OBC =1) is positive but insignificant. The coefficient of Caste (SC=1) is positive and statistically significant at 11% level. This result is indicative that the women belonging to scheduled castes are suffering more from domestic violence in contrast to the women of general castes. Moreover, the coefficient of the caste dummy (ST=1) is positive and statistically significant. The marginal probability calculation shows that the probability of experiencing domestic violence is 22% (10%) higher for the Scheduled tribe (scheduled castes) women compared to general caste women. During our field survey we have noticed that there exist several types of superstitions among the people of ST community such as Daini (witch) etc. which provokes violence against women within the family. Therefore, scheduled tribes women are more vulnerable in terms of domestic violence in the area under study.

We, therefore, conclude that women's empowerment at the household level is an important determinant of the probability of facing domestic violence. Moreover, we have found that husband education, household occupation, dowry at marriage and at post marriage and husband's drug addiction are effective factors of domestic violence. This empirical estimation, however, reveals that community level empowerment of women, duration of married life, spousal age gap, type of family, dependency ratio and caste SC and Caste OBC are statistically insignificant in the determinant of the probability of domestic violence against women in the area under study.

5.3.2. Model-2B: Logit Model with Composite Empowerment Indices

In this model composite index of women's empowerment at the household level and at the community level have been considered as exogenous variables along with the other exogenous variables (as they were in Model-2A) for estimating the impact of empowerment on the incidence of domestic violence. Table-5.3.3 and table-5.3.4 represent the results of the Model-2B.

Table-5.3.3 Results of the Logit Model for the Incidence of Domestic Violence When Women's Empowerment is Composite Index of the Indicators

Dependent Variable: Incidence of Domestic Violence (DVIO) Method: ML - Binary Logit (Newton-Raphson) Included observations: 580 Convergence achieved after 4 iterations Covariance matrix computed using second derivatives				
Explanatory Variable	Coefficient	Std. Error	z-Statistic	Prob.
Constant	-0.736	0.727	-1.013	0.311
Individual/household Characteristics				
CIWEH	-0.018*	0.006	-2.781	0.005
Duration of Married life (DURM), (Year)	0.010	0.013	0.830	0.407
Spousal Age Gap (SAGEG) (Year)	-0.022	0.027	-0.827	0.408
Husband's Education (HEDU) (Year)	-0.056***	0.033	-1.693	0.091
Highest education among male household members HIMEDU(Year)	-0.077*	0.032	-2.397	0.017
Type of Family, TYFAMI (Nuclear = 1)	-0.234	0.278	-0.845	0.398
Household Occupation CULTI, (Cultivation =1)	-0.641*	0.277	-2.313	0.021
Household Occupation NONFARM (Non-Farm= 1)	-0.659**	0.346	-1.903	0.057
Household's Land holding, HLAND, (bigha)	0.088**	0.043	2.032	0.042
Dependency Ratio in the Household DRATIO (%)	0.005	0.005	0.911	0.362
Per Capita Household Income (APCHIN) (Rs. '000)	-0.024*	0.011	-2.087	0.037
Dowry Given at Marriage (DOW)(Yes=1)	1.403*	0.287	4.893	0.000
Post Marriage Dowry Demand (PMDOW) (Yes=1)	1.363*	0.343	3.979	0.000
Drug Addiction of the Husband (ADDIC) (Yes=1)	0.902*	0.210	4.303	0.000
Community Characteristics				
CIWEC	-0.007	0.007	-0.975	0.330
Duration of SHG-membership DSHGM (Month)	0.006**	0.003	2.005	0.045
Caste (OBC=1)	0.084	0.268	0.312	0.755
Caste (SC=1)	0.428	0.283	1.516	0.129
Caste (ST=1)	1.053*	0.426	2.474	0.013
Summary Statistics				
LR statistic (19 d f) (Probability)	172.282 (0.000)	Akaike information Criterion		1.142
McFadden R-squared	0.217	Schwarz Criterion		1.292

Source: Author's own computation based on sample observations, 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

Table-5.3.4 Marginal Probability of the Incidence of Domestic Violence When Women's Empowerment is Composite Index of the Indicators

Marginal Effects After Logit Dependent Variable (y) = Probability for the Incidence of Domestic Violence (PDVIO) (predict) = 0.59081508 Included observations: 580					
Explanatory Variable	dy/dx evaluated at mean	Std. Error	z- Statistic	Prob.> z	Mean of the Explanatory Variable(x)
Individual/Household Characteristics					
CIWEH	-0.004*	0.0016	-2.7800	0.0050	3.00E-06
Duration of Married life (DURM), (Year)	0.002	0.0030	0.8300	0.4070	16.8690
Spousal Age Gap (SAGEG) (Year)	-0.005	0.0066	-0.8300	0.4080	5.5948
Husband's Education (HEDU) (Year)	-0.0135***	0.0080	-1.6900	0.0900	4.8672
Highest education among male household members HIMEDU(Year)	-0.0185*	0.0077	-2.4000	0.0170	6.9931
Type of Family, TYFAMI (Nuclear = 1) [#]	-0.0557	0.0648	-0.8600	0.3890	0.8190
Household Occupation CULTI, (Cultivation =1) [#]	-0.1546*	0.0661	-2.3400	0.0190	0.4431
Household Occupation NONFARM (Non-Farm= 1) [#]	-0.1626**	0.0852	-1.9100	0.0560	0.1431
Household's Land holding, HLAND, (bigha)	0.0213**	0.0105	2.0300	0.0420	2.6465
Dependency Ratio in the Household DRATIO (%)	0.0011	0.0012	0.9100	0.3620	49.6845
Per Capita Household Income (APCHIN) (Rs. '000)	-0.0059**	0.0028	-2.0900	0.0370	13.7884
Dowry Given at Marriage (DOW)(Yes=1) [#]	0.3363*	0.0642	5.2400	0.0000	0.6914
Post Marriage Dowry Demand (PMDOW) (Yes=1) [#]	0.2817*	0.0549	5.1300	0.0000	0.1569
Drug Addiction of the Husband (ADDIC) (Yes=1) [#]	0.2181*	0.0507	4.3000	0.0000	0.5207
Community Characteristics					
CIWEC	-0.0016	0.0017	-0.9700	0.3300	1.10E-06
Duration of SHG-membership DSHGM (Month)	0.0015**	0.0008	2.0100	0.0450	27.2397
Caste (OBC=1) [#]	0.0202	0.0643	0.3100	0.7540	0.2328
Caste (SC=1) [#]	0.1018	0.0656	1.5500	0.1210	0.3362
Caste (ST=1) [#]	0.2247*	0.0758	2.9600	0.0030	0.1172

([#]) dy/dx is for discrete change of dummy variable from 0 to 1

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

Source: Author's own computation based on sample observations, 2012-13

In the model of the incidence of domestic violence where empowerment is measured by the composite index of the indicators, we have found almost the same results as we have found in Model-2A (table-5.3.1 and table-5.3.2). Table-5.3.4 shows that one percent increase in women's empowerment at the household level from its mean reduces the probability of the incidence of domestic violence by 0.43% point. However, the coefficient of community level empowerment of woman is statistically insignificant. Therefore, in this model we also observed that household level empowerment is effective

to reduce domestic violence against women whereas community level empowerment is not so important for reducing domestic violence. In addition to the household level empowerment of women we find that husband education and education of other family member reduce the incidence of domestic violence for the sample women. On the other hand, dowry demand, drug addiction and participation in SHG stimulate domestic violence against women in the district of Bankura, West Bengal. Therefore, change of methodology for estimating the impact of women's empowerment did not alter our findings regarding the incidence of domestic violence.

5.4. Impact of Women's empowerment on Expenditure for Child Education

In this section, we have interpreted the estimated results of child education expenditure as proportion to annual household income. It is quite natural that in our sample all women do not have children of school going age. So the estimation of the impact of women's empowerment on child education expenditure as proportion to household income would be on the basis of those sample members who have school aged children during the time of interview. Although our study is based on 580 observations, only 431 sample women have school aged children, who are either enrolled or not in school. Therefore, the estimation of child education expenditure as proportion to annual household income is based on only 431 observations. The issue of child education expenditure as proportion to annual household income has been estimated using two log-linear models, Model-3A and Model-3B. In Model-3A we have included the degrees of women's empowerment at the household level and at the community level in addition to some selected households and community characteristics as exogenous variables. We have considered the composite index of women's empowerments including the other exogenous variables in the determination of child education expenditure as proportion to annual household income in Model-3B. Among other variables, we have incorporated education level of father and other household members, household's land holding, household occupation, dependency ratio, composition of family, annual per capita family income in the range of individual and household characteristics. Caste and the duration of SHG-membership have been included as other community characteristics. The results of the Model-3A and Model-3B have been presented in table-5.4.1 and in table-5.4.2 respectively. In these log-linear models we have a few dummy independent variables. We have interpreted the coefficients of the dummies following the formula of Halvorsen and Palmquist, (1980) [$\exp(\text{coefficient of dummy variable}) - 1$] $\times 100$. The summary

statistics shows that the log-linear models for child education expenditure are good fitted and there is no heteroscedasticity problem in the estimates.

In table-5.4.1 the coefficient of women's empowerment at the household level is 0.0014. This result supports our expected direction but it is statistically insignificant. If we look into the coefficient of community level empowerment, we find that community level empowerment has a positive and significant impact on the proportion of household income on child education. It implies that one percent increase in the degree of women's empowerment at the community level increases the proportion of household income spent on child education by 0.48%. For Model-3B, this line of findings has also been confirmed. It means that although both the household and community level empowerment are instrumental for spending on child education, the community level empowerment of women is more fruitful for spending more on child education. Empowerment at the community level increases the spending in three ways. First, a woman always wants that her child would be educated. This want is more active for empowered women. So, it is expected that empowered women at the community level spend or force to spend more of household income for her child. Second, empowered women have own decision making power regarding the matters relating to children. This power can increase expenditure for her children. Third, empowered women at the community level are more conscious of the education of their children. This consciousness induces to increase the expenditure for children out of school like private tuition, school uniform, expenditure for co-curricular activities etc.

From the sign of the coefficient of father's education (husband's education, HEDU) we can say that educated father spend smaller percentage of household income for his child education. This result is statistically significant at one percent level. In table-5.4.1 and in table-5.4.2 we find that one year extra schooling of father reduces the share of household income spending for child education by 2.8%. Apparently, one may argue that this result is unexpected. But this result may be supported by some economic logic. It is expected that educated father earns more; so it is expected that as income increases due to higher education of father the share of education expenditure will reduce. Therefore, our empirical finding regarding the impact of father education on spending for child education has a logical base.

Table-5.4.1 Results of the Log-Linear Model for Child Education When Women’s Empowerment is Simple Average of the Indicators

Dependent Variable: LEDEX{ln(Child Education Expenditure as Proportion to Annual Household Income)}				
Method: Least Squares				
Included observations: 431				
White heteroskedasticity-consistent standard errors & covariance				
Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	1.8434	0.4438	4.1537	0.0000
Individual/household Characteristics				
DOWEH (%)	0.0014	0.0017	0.8179	0.4139
Father’s education (HEDU) (Year)	-0.0285*	0.0059	-4.8157	0.0000
Highest education among male household members, HIMEDU,(Year)	0.0361*	0.0063	5.7362	0.0000
Highest education among female household members HIFEDU(Year)	0.0217*	0.0056	3.8770	0.0001
Type of Family TYFAMI, (Nuclear =1)	0.2271*	0.0481	4.7262	0.0000
Household Occupation CULTI, (Cultivation =1)	0.0031	0.0471	0.0649	0.9483
Household Occupation NONFARM (Non-Farm= 1)	0.0371	0.0623	0.5951	0.5521
Household’s Land holding, HLAND, (bigha)	0.0058	0.0073	0.7896	0.4302
Dependency Ratio in the Household DRATIO (%)	0.0048*	0.0012	4.0110	0.0001
ln(APCHIN)	-0.2408*	0.0493	-4.8827	0.0000
Community Characteristics				
DOWEC (%)	0.0048*	0.0018	2.6326	0.0088
Duration of SHG-membership DSHGM (Month)	0.0004	0.0005	0.7179	0.4732
Caste (OBC=1)	-0.0437	0.0461	-0.9484	0.3435
Caste (SC=1)	-0.0880***	0.0521	-1.6891	0.0920
Caste (ST=1)	-0.0938	0.0729	-1.2861	0.1991
Summary Statistics				
R-squared	0.3402	Akaike information criterion		0.7690
Adjusted R-squared	0.3147	Schwarz criterion		0.9294
Durbin-Watson statistic	0.7178	F-statistic (Probability)		13.339 (0.000)

Source: Author’s own computation based on sample observations, 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

The coefficient of highest education among male household members in family is positive and statistically significant. The magnitude of the coefficient speaks that one year extra education of the highest qualified male member in the households increases the proportion of household income spent on child education by 3.6% point. We have got the same effect of highest education among male household members for Model-3B. This result supports our hypothesis. The qualified male and female members understand better the importance of education and accordingly oblige the parents to spend more for the children. We have also found that highest education among female household members have also positive and significant impact on child education expenditure as proportion to household income. One year extra education of the highest qualified

female increases share of child education expenditure in income by 2.1% point for both, Model-3A and in Model-3B. We have observed that effect of male education is greater than the effect of female education on the share of child education expenditure in household income. It may happen due to the fact that the average education of the highest qualified male is greater than the education of the highest qualified female. In the course of field survey we have generally observed that highest educational qualification goes in favour of the younger members who are still studying or seeking jobs. Naturally, parents are inspired for spending more out of their income for their children's education. Therefore, educational back ground of the household is an important determinant of the share of child education expenditure in household income.

Table-5.4.2 Results of the Log-Linear Model for Child Education When Women's Empowerment is Composite Index of the Indicators

Dependent Variable: LEDEX {ln(Child Education Expenditure as Proportion to Annual Household Income)}				
Method: Least Squares				
Included observations: 431				
White heteroskedasticity-consistent standard errors & covariance				
Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	2.2103*	0.4314	5.1235	0.0000
Individual/Household Characteristics				
CIWEH	0.0016	0.0012	1.3933	0.1643
Father's education (HEDU) (Year)	-0.0282*	0.0060	-4.7438	0.0000
Highest education among male household members, HIMEDU,(Year)	0.0361*	0.0063	5.6883	0.0000
Highest education among female household members HIFEDU(Year)	0.0218*	0.0056	3.9008	0.0001
Type of Family TYFAMI, (Nuclear =1)	0.2343*	0.0479	4.8936	0.0000
Household Occupation CULTI, (Cultivation =1)	0.0071	0.0472	0.1506	0.8804
Household Occupation NONFARM (Non-Farm= 1)	0.0406	0.0625	0.6484	0.5171
Household's Land holding, HLAND, (bigha)	0.0061	0.0073	0.8373	0.4029
Dependency Ratio in the Household DRATIO (%)	0.0047*	0.0012	3.8351	0.0001
ln(APCHIN)	-0.2430*	0.0489	-4.9680	0.0000
Community Characteristics				
CIWEC	0.0027*	0.0011	2.3576	0.0189
Duration of SHG-membership DSHGM (Month)	0.0005	0.0005	0.9632	0.3360
Caste (OBC=1)	-0.0397	0.0464	-0.8554	0.3928
Caste (SC=1)	-0.0815	0.0528	-1.5422	0.1238
Caste (ST=1)	-0.0866	0.0725	-1.1955	0.2326
Summary Statistics				
R-squared	0.3376	Akaike information criterion		0.7729
Adjusted R-squared	0.3120	Schwarz criterion		0.9333
Durbin-Watson statistic	0.7115	F-statistic (Probability)		13.187 (0.000)

Source: Author's own computation based on sample observations, 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

According to our hypothesis the coefficient of the dummy for type of family (1= Nuclear family) in Model-3A and in Model-3B are expected to be positive. In the empirical estimation these coefficients are 0.227 in the Model-3A and 0.234 in Model-3B. These results are statistically significant at 1% level. These indicate that the child education expenditure as proportion to household income for the nuclear families is greater than that for the joint or extended families. Following the formula of Halvorsen and Palmquist, (1980) the coefficient of the dummy for type of family in the Model-3A indicates that the mean child education expenditure as proportion to the household income is 25.49% higher for the nuclear family than that for the other types of family. Qualitatively almost same results we have found for Model-3B. These results support our hypothesis. Therefore, we come to the conclusion that the nuclear composition of family increases the child education expenditure as proportion to household income in the district of Bankura. During the field survey we have seen that most of the parents in nuclear family compared to joint and extend families are more serious and have soul authority to spend for their child. It justifies our result regarding the effect of family composition on child education expenditure.

In order to assess the impact of household occupation on pattern of spending on child education we have categorized the household occupation into three categories – cultivation, non-farm self employment/service and wage labour class. For econometric analysis labour class has been considered as reference category. Table-5.4.1 and table-5.4.2 exhibit that the household occupations (Cultivation=1) and (Non-farm self employment=1) have positive impact on child education expenditure. We find that in both the models child education expenditure as proportion to household income is higher for cultivator family (0.31%) and for self-employed/service holder family (3.77%) than labour class family. However, the impacts of household occupation on child education expenditure are not statistically significant. The coefficient of landholding in both the models indicates that landholding has a direct effect on child education expenditure. It is compatible with our expectation but this result is statistically insignificant.

This study asserts that dependency ratio has some favorable effect on child education expenditure as proportion to household income. The estimated coefficient shows that one percent increase in dependency ratio increases the share of child education expenditure by 0.48% in Model-3A (0.47% in Model-3B). This result is statistically significant at 1%

level. Although this finding goes against our hypothesis we can explain the findings based on our ground experiences. In the course of field survey we have observed that a major portion of the sample households are nuclear and dependents are children. Therefore, the higher is the value of dependency ratio the higher is the number of children. Number of children definitely increases the share of income spent on child education. That is why, we have obtained a direct relation between dependency ratio and child education expenditure as proportion to household income.

We know that any kind of expenditure depends on income. Like other expenditure child education expenditure necessarily depends on household income. In our log-linear model we have tried to examine the effect of the log of per capita income on the log of child education expenditure as proportion to household income. For both Model-3A and Model-3B, we find that the coefficient of the log of per capita household income is -0.24 which is statistically significant at one per cent level. It indicates that one per cent increase in per capita household income reduces the share of income spent one child education by 0.24%.

Now we interpret the impact of community characteristics on child education expenditure. We have already explained that community level empowerment of women have a significant impact on child education expenditure as proportion to household income. We have observed that a large section of household particularly women have joined SHG-centric microfinance which organize the poor women for financial inclusion and let them to understand the importance of child education and health and other social issues. With this end in view, we have taken the duration of SHG membership as an explanatory variable in the spectrum of community characteristics in this model of child education expenditure. The coefficient of the duration of SHG-membership is found to be positive. It means that if any member in household participates in SHG and continues the membership, child education expenditure increases. It is as per with our expectation. However, this empirical result in both model are statistically insignificant. It is indicative that SHG movement may be successful to ensure financial inclusion but it is less important to enhance the expenditure for child education.

Like other issues regarding women's empowerment in the estimation of child education expenditure as proportion to household income we have considered three dummies for

castes. The households belonging to general castes are reference category. The coefficients of the caste dummies are negative. They indicate that the share of household income spent for child education is lower for the OBC, SC and ST households in contrast to the general caste households. The coefficient of the dummy for caste (SC=1) is statistically significant at 9% level in Model-3A and at 12% level in Model-3B. We compute that child education expenditure as proportion to household income for scheduled castes household is 8.42 % smaller than that for general castes households. However, the coefficient of the dummies Caste (OBC=1), Caste (ST=1) are not statistically significant. The backwardness of the lower castes and unconsciousness regarding child education gives these results. It makes the vicious circle of educational poverty. Due to backwardness and income poverty, the lower castes could not spend more for education which in turn keep these people backward in terms of education and income.

This section, therefore, concludes that women's empowerment i.e. mothers empowerment, father's education, highest education of the male persons in the family, highest education of the female persons in family, family type, dependency ratio, income and caste are the most important determinants of child education expenditure as proportion to household income for the households in the district of Bankura.

5.5. Determinants of Women's Empowerment in Bankura District

In the last three subsequent sections, we have interpreted and explained the impact of women's empowerment at the household level and at the community level along with selected household and community characteristics on three issues of household and child welfare. We have found that women's empowerment at the household level and at the community level have some positive and significant effect on the probability of adopting family planning decision for the households in the district of Bankura. Women's empowerment at the household level and at the community level reduces the probability of the incidence of domestic violence against women. Our empirical research has also shown that women's empowerment is very much important on spending more for child education. Therefore, it has been empirically established that women's empowerment are instrumental for household and child welfare in the district of Bankura. Once we have found the instrumental role of women's empowerment, we should examine the determining factors of women's empowerment at the household level and at the

community level. To this end, we have estimated two multiple linear regression models – one for women’s empowerment at the household level and another for women’s empowerment at the community level. In this section, with two sub-sections we interpret the estimated models relating to women’s empowerment at the household level and at the community level.

5.5.1. Determinants of Women’s Empowerment at the Household Level

In this sub-section, we explain the estimated multiple linear regression model relating to women’s empowerment at the household level. Based on two measures of women’s empowerment at the household level, we have estimated two multiple linear regression models with same set of explanatory variables. Both these multiple regression models include some quantitative explanatory variables and some dummy variables. This implies that our regression models relating to the women’s empowerment are known as Analysis of Covariance Models (ANCOVA). First, we discuss the findings of the model (Model-4A) where household level women’s empowerment has been measured by simple average of its Indicators. Next we explain the models (Model-4B) of household level women’s empowerment measured by weighted average of PCA of the indicators. The empirical estimates of models have been presented in table-5.5.1 and table-5.5.2 respectively. The goodness of fit is reasonable for both the models. Again F-statistics is significant for both the model. The result of White test of heteroscedasticity reveals that estimates of the models for household empowerment of women do not suffer from heteroscedasticity problem.

Age is a very important factor for growing personality of a person. Although age of a person is quantitative variable, in this study sample women have been divided into four age groups for examining the impact of age on their empowerment. We have included three dummies and the older age group (age>45 Years) has been considered as reference category. The coefficient of age group (< 25 years) is positive. It indicates that controlling other explanatory variables, the age group (< 25 years) enjoys 3% point higher empowerment at the household level compared to the household level empowerment of the older group. But the result is statistically significant at 14.5 % level. The age group AGE2 (25-35 years) of the women has positive and significant impact on empowerment index. The average degree of empowerment of women at the household level increases by 4.26% points if the women belong to AGE2 group instead of AGE4.

Further, women under age group AGE3 (36-45 Years) enjoy 3% points higher empowerment at the household level compared to the empowerment at the household level of the reference age group. In Model-4B we have got the qualitatively same result regarding the effect of age on women's empowerment at the household level. We have, therefore, found that young women in contrast to the older women are more empowered. However, it does not mean the reduction of traditional respects of elder rather now a-days elders share their power with the younger.

The coefficient of the education level of the women is negative in Model-4A and positive in Model-4B. The result of Model-4B justifies our hypothesis. But both the results are statistically insignificant. It is indicative that women's education is not so much important in the determination of the women's empowerment at the household level in the district of Bankura. Education of women should have positive and significant impact on household level women's empowerment. Yet we should point out the fact that most of the sample women have education below primary level. So, what impact should we expect from this level of education on empowerment? Further, in the time of interview we have observed that many educated women could not take several familial decisions and don't have any say regarding economic matter of the households. On the other hand, many illiterate women in the low caste family enjoy commendable empowerment at the household level.

Personal occupation of the women is, no-doubt, a crucial determinant of women's empowerment at the household level. Personal occupation of our sample women has been categorized in three groups – wage labour, self-employed or formal service holders and homemakers. Homemaker is here benchmark category. Our empirical estimates shows that the coefficient LAB (Wage labour =1) is negative and statistically significant. Controlling the other things, the magnitude of the coefficient of LAB (Wage labour =1) signifies that average household level empowerment of wage labour women is 6.1% point lower than that of the homemakers. It goes against our hypothesis. Wage labourers earn some income but in most of the cases earnings are controlled by their families, particularly, by their husbands. Besides, wage earners are usually illiterate or just literates, accordingly they are less concern regarding the economic decisions. It may explain the causes of the low level household empowerment of the wage labourers compared to homemakers. On the other hand, the coefficient of SELF (Self employed or

service=1) is positive (4.26) and statistically significant. It says that mean of household level empowerment of self employed or service holder women is higher by about 4.26% point than mean of household level empowerment of the benchmark category. This result has justified our hypothesis. Relative to common homemaker self employed and formal service holders are definitely more powerful to take several household level decisions and hold some more physical and financial asset. In Model-4B, we have obtained almost same findings regarding the impact of personal occupation on household level empowerment of the women.

Estimating the ANCOVA model for women's empowerment at the household level we find that personal income of the women has some positive and statistically significant impact on household level empowerment of women. The coefficient of personal income shows that one thousand additional average annual personal income of the woman increases the household level empowerment by 9.36% points from average. In Model-4B we have seen the qualitatively same result regarding the impact of personal income on household level empowerment. Therefore, our empirical results support the hypothesis. When a woman earn, she becomes economically independent. We have projected that income of wage labor women is controlled by other family members. But in average for all we can say that women earners have some economic dignity or empowerment in their households.

In order to assess the impact of financial inclusion on household level empowerment of the women we have included the dummy AFCT (access to formal credit, Yes=1) as an explanatory variable in the model for empowerment at the household level. Our empirical estimates of the ANCOVA models, Model-4A and Model-4B, show that the coefficient of AFCT is positive and statistically significant. The coefficient refers to that other factors remaining same if a woman has access to formal credit it increases her empowerment at the household by 4.45% points from the average. This result supports our hypothesis and is not hard to explain the logic behind. Access to formal credit enhances the importance of the women in her household through borrowing from institution in different difficult situations. Further, when a woman can borrow from formal institution it is expected that she is powerful in different familial decision making process. Having access to formal credit, women may take decisions regarding children's education and saving credit decision independently. So, it is expected that access to

formal credit by women inculcates women's empowerment. Therefore, financial inclusion increases the household and child welfare through the channel of women's empowerment at the household level.

We obtain that the coefficient of the dummy for the type of family is 4.99 in Model-4A and it is 5.45 in Model-4B. Therefore, the coefficient of the dummy for family type tells us that household level empowerment of women of nuclear families is almost 5% points higher from average household level empowerment of the women of joint/extended families. It is not surprising that women in the nuclear families enjoy exclusive power in economic and familial decision making process. So, our empirical result regarding the effect of family type on household level empowerment of women is reasonably conclusive.

We have observed that dependency ratio has some adverse effect on the household level empowerment of women. In both the regression analysis the coefficient of the dependency ratio is negative and statistically significant. In Model-4A the coefficient of the dependency ratio interpret that one percent increase in dependency ratio from average level reduces the household level empowerment of the women by 0.5% points from average empowerment. However, dependency ratio reduces empowerment but the effect is marginal. In the family with higher dependent members like old or child, women have to spend more time in the household's jobs. They get less time for earning as well for knowing and thinking about various economic issues. So, higher dependency ratio reduces women's empowerment within the household.

In our empirical estimation we have got a favourable impact of per capita household income on women's empowerment at the household level in both the models– Model-4A and Model-4B. The coefficient of the per capita household income tells us that household level empowerment of women increases with household income. However, the empirical relation between household income and women's empowerment is not statistically significant. Therefore, our study suggests that although personal income is significantly important, household income is immaterial in the determination of women's empowerment at the household level for the women in the district of Bankura of West Bengal.

Table-5.5.1 Estimates of degree of Women's Empowerment at Household Level

Dependent Variable: Degree of Women's Empowerment at Household Level (DOWEH)				
Method: Least Squares				
Sample: 1 580				
Included observations: 580				
Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	59.001*	2.391	24.677	0.000
Individual/Household Characteristics				
Age Group (<25 Years) AGE1 (Yes=1)	2.941	2.015	1.459	0.145
Age Group (25-35 Years) AGE2 (Yes=1)	4.261*	1.512	2.819	0.005
Age Group (36-45 Years) AGE3 (Yes=1)	3.037**	1.413	2.150	0.032
Education of the Woman, EDU (Year)	-0.036	0.193	-0.184	0.854
Occupation of the Woman, LAB (Wage Labour=1)	-6.102*	1.132	-5.389	0.000
Occupation of the Woman, SELF (Self employed or Service =1)	4.268*	1.874	2.277	0.023
Average Monthly Personal Income PINC (Rs. '00)	0.078*	0.027	2.865	0.004
Access to Formal Credit AFCT (Yes=1)	4.458*	1.166	3.823	0.000
Type of Family TYFAMI (Nuclear =1)	4.998*	1.279	3.907	0.000
Dependency Ratio in the Household DRATIO (%)	-0.058**	0.025	-2.313	0.021
Per Capita Household Income (APCHIN) (Rs. '000)	0.051	0.045	1.151	0.250
Household Occupation CULTI, (Cultivation =1)	-5.514*	1.297	-4.251	0.000
Household Occupation NONFARM (Non-Farm= 1)	1.336	1.660	0.805	0.421
Household's Land holding, HLAND, (bigha)	0.258	0.199	1.295	0.196
Highest education among male household members, HIMEDU,(Year)	-0.173	0.139	-1.240	0.216
Highest education among female household members HIFEDU(Year)	0.547*	0.161	3.399	0.001
Community Level Characteristics				
Duration of SHG membership DSHGM (Month)	0.021	0.017	1.291	0.197
Caste (OBC =1)	1.578	1.309	1.205	0.229
Caste (SC=1)	1.134	1.366	0.830	0.407
Caste (ST=1)	-0.412	1.824	-0.226	0.821
Summary Statistics				
R-squared	0.341	Akaike information criterion		7.712
Adjusted R-squared	0.316	Schwarz criterion		7.878
Durbin-Watson statistic	1.691	F-statistic (Probability)		13.744 (0.000)
White Heteroskedasticity Test: H ₀ : Variance of random disturbance term is constant				
F-statistic (Probability)	0.985(0.548)	Obs×R-squared (Probability)		228.262(0.520)

Source: Author's own computation based on sample observations 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

We have taken two dummy variables for major household occupation in our ANCOVA model. The coefficient of the major household occupation dummy (Cultivation=1) is – 5.51. It implies that the average degree of household level empowerment of the women

belonging to cultivator family is 5.51% points lower than that of the women belonging to wage labour family. This result is statistically significant in both the models. This empirical result does not support our hypothesis. But, this empirical finding is insightful. During the course of data collection we have seen that women in the wage labour family are more vocal than the women in cultivator family. Wage labour families are usually tribal or low castes where by custom women enjoy empowerment at the household level. Further, in the wage labour family women are earner which often inculcates empowerment at the household level. On the other hand, the coefficient of the dummy indicating (self employment=1) is positive in both the models. It means that the degree of empowerment at the household level of the women under self employed family is higher than that of the women under wage labour. However, this result is not statistically significant at all.

The coefficient of landholding shows that other things remaining unchanged, one bigha extra landholding increases the household level empowerment by 0.25% points in Model-4A and 0.52% points in Model-4B. The result in Model-4B is statistically significant at 6% level. Therefore, the estimation of the Model-4B establishes that household's landholding increases the household level empowerment of the women in the district of Bankura. Large land size of the household ensures livelihood security of the family and the women. Often women have the land ownership in the household with higher landholdings. These matters may enhance dignity of the women and accordingly the empowerment at the household level.

The coefficient of highest education among the male household members is statistically insignificant as an explanatory variable in the models for women's empowerment at the household level. On the other hand, the coefficient of the highest education among the female members is positive and statistically significant at 1% level. The coefficient implies that one extra completed year of education of the highest qualified female member increases the average degree of empowerment at the household level by 0.55% points. We have got almost the same result in Model-4B regarding the highest female education. Therefore, female education is more imperative than the male education in the family for inculcating women's empowerment at the household level. It is expected that most of the educated women persuades the decisions making power and the personality of the women. Hence, our result is expected.

Table-5.5.2 Estimates of Composite Women’s Empowerment Index at Household Level

Dependent Variable: Composite Index of Women’s Empowerment at Household Level (CIWEH) Method: Least Squares Sample: 1 580 Included observations: 580				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-11.627	3.350	-3.471	0.001
Individual/Household Characteristics				
Age Group (<25 Years) AGE1 (Yes=1)	3.757	2.823	1.331	0.184
Age Group (25-35 Years) AGE2 (Yes=1)	6.190*	2.118	2.923	0.004
Age Group (36-45Years) AGE3 (Yes=1)	4.207**	1.979	2.126	0.034
Education of the Woman, EDU (Year)	0.180	0.270	0.664	0.507
Occupation of the Woman, LAB (Wage Labour=1)	-7.964*	1.586	-5.020	0.000
Occupation of the Woman, SELF (Self employed/Service =1)	7.563*	2.626	2.880	0.004
Average Monthly Personal Income PINC (Rs. '00)	0.127*	0.038	3.342	0.001
Access to Formal Credit AFCT (Yes=1)	5.017*	1.634	3.071	0.002
Type of Family TYFAMI (Nuclear =1)	5.453*	1.792	3.043	0.003
Dependency Ratio in the Household DRATIO (%)	-0.089*	0.035	-2.533	0.012
Per Capita Household Income (APCHIN) (Rs. '000)	0.061	0.063	0.969	0.333
Household Occupation CULTI, (Cultivation =1)	-8.544*	1.817	-4.702	0.000
Household Occupation NONFARM (Non-Farm= 1)	2.666	2.325	1.147	0.252
Household’s Land holding, HLAND, (bigha)	0.521**	0.279	1.866	0.063
Highest education among male household members, HIMEDU,(Year)	-0.207	0.195	-1.059	0.290
Highest education among female household members HIFEDU(Year)	0.488**	0.225	2.165	0.031
Community Level Characteristics				
Duration of SHG membership DSHGM (Month)	0.052**	0.023	2.237	0.026
Caste (OBC =1)	2.979***	1.834	1.624	0.105
Caste (SC=1)	2.435	1.914	1.272	0.204
Caste (ST=1)	-0.085	2.555	-0.033	0.974
Summary Statistics				
R-squared	0.345	Akaike information criterion		8.387
Adjusted R-squared	0.321	Schwarz criterion		8.552
Durbin-Watson statistic	1.662	F-statistic (Probability)		14.019 (0.000)
White Heteroskedasticity Test: H ₀ : Variance of random disturbance term is constant				
F-statistic (Probability)	1.224 (0.045)	Obs×R-squared (Probability)		258.931 (0.092)

Source: Author’s own computation based on sample observation, 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

Let us now interpret the impact of selected community level traits on women’s empowerment at the household level. A large section of the sample women have joined SHG-centric microfinance programme which has nowadays taken the shape of social

movement. It inspired us to take the duration of SHG-membership as an explanatory variable in the spectrum of community characteristics in the determination of women's empowerment at the household level. The coefficient of the duration of SHG membership tells us that one year extra participation in SHG increases the empowerment at the household level by 0.24% points. This result is statistically significant at 19% level in Model-4A and 2% level in Model-4B. The logic behind this result comes out as follows. First, the participation in SHG ensures the access to formal savings and credit of the member women. It increases the financial asset holding of the women. Second, access to formal credit increases the importance of the women within household. Third, frequent meeting of group inculcate the political consciousness and democratic behavior of the women. As a result, the duration of SHG membership has a direct effect on women's empowerment at the household level.

Caste is another community level trait which has been considered as a determinant of women's empowerment at the household level. This study shows that the coefficients of the dummies for caste (SC=1) and caste (OBC=1) are positive. It points out that empowerment at the household level is higher for the women under scheduled castes and other backward classes in contrast to that for the women under general castes. On the other hand, the coefficient of dummy for caste (ST=1) tells us that women belonging to scheduled tribes are less empowered compared to women belonging to general castes. However, Caste variables are not statistically significant determinants of women's empowerment at the household level.

Hence, estimates of women's empowerment at the household level reveal that age, occupation personal income, financial inclusion of the women, family type, dependency ratio, household occupation, highest female education in the family are the major determinants of women's empowerment at the household level for the women in the district of Bankura.

5.5.2. Determinants of Women's Empowerment at the Community Level

We have computed the community level women's empowerment applying two alternative methodologies. The multiple regression models relating to the women's empowerment at the community level include some quantitative explanatory variables and some dummy variables. So, these are known as Analysis of Covariance Models

(ANCOVA). In this sub-section we interpret the estimated ANCOVA models relating to women's empowerment at the community level. We have considered the same household and community characteristics as explanatory variables in the model for community level empowerment as they were in the model for household level empowerment of women. First, we discuss the findings of the model (Model-4C) where community level women's empowerment has been measured by simple average of its indicators. Next we explain the models (Model-4D) of community level women's empowerment measured by weighed average of principal components of the indicators. The empirical estimates of Model-4C and Model-4D have been presented in table-5.5.3 and table-5.5.4 respectively. We find that goodness of fit for both the models is at satisfactory level. F-statistic is statistically significant for both the models. The result of White test of heteroscedasticity confirms the absence of heteroscedasticity problem in the estimates of these models.

No doubt age of woman is an imperative factor for developing personality and mobility in the society. The coefficient of age group (< 25 years) is positive. It tells us that the age group (< 25 years) enjoys 0.82% point higher empowerment at the community level compared to that of the aged group. But the result is statistically insignificant in both the models. The age group AGE2 (25-35 years) of the women is found to be favourable for community level empowerment. The average degree of empowerment at community level of the women belonging to AGE2 group (belonging to age group AGE3 (36-45 Years)) is 3.7% (3%) points higher than that of AGE4. Further, in the estimation of community level empowerment measured by PCA we have got qualitatively the same result regarding the effect of age on women's empowerment. Therefore, from this finding we conclude that middle aged women in contrast to the aged women are more empowered at the community level. Thus, middle aged women relative to aged women have more mobility and socio economic consciousness.

The coefficients of the education level of women are positive and statistically significant in Model-4C and in Model-4D. The coefficient of women's education demonstrates that one extra completed year of education increases the community level empowerment by 0.34% points from the mean level of empowerment. These results justify our hypotheses. It is indicative that women's education is a key factor in the determination of the women's empowerment at the community level in Bankura district. Although we have

reported that education of women is immaterial in the determination of household level empowerment, but education has positive and significant impact on community level empowerment of the women. Higher level of education expands the job opportunity, mobility and accessibility to social institutions which are imperative to empowerment at the community level. However, we should remember that most of the sample women have education below the primary level. As a result we have got a marginal effect of women's education on their community level empowerment.

Among the dummies for personal occupations the coefficient of personal occupation LAB (Wage labour=1) is negative and statistically significant. It implies that average community level empowerment of wage labour women is 2.32% points lower than that of the homemakers. Usually the earnings of women wage labourers are low and controlled by their family members, particularly, by their husbands. As they are illiterate or just literates and poor, they are less concern regarding the economic decisions and several rights and opportunities. Thereby they have less participation on social and community activities. Moreover, wage labour is not a respectful occupation in our society. That is why, community level empowerment of the wage labourers is lower than compared to that of homemakers. On the other hand, the coefficient of the dummy for personal occupation SELF (Self employed or service=1) is positive but statistically insignificant. It says that self-employed or service holder women are more empowered than the homemakers in their community. This result has justified the expected direction of relation. These findings are almost same for Model-4D.

In the estimation of the Model-4A and Model-4B we have seen that personal income of women significantly affects women's empowerment at the household level. But for community level, the coefficients of personal income are positive but statistically insignificant in Model-4C and Model-4D. Therefore, our empirical results explore that personal income is important for accelerating household level empowerment but it is less important to increase the degree of empowerment at the community level. We have observed that most of the women earn from informal sector and they are ill paid. Besides, these jobs do not get respect in our traditional society. This causes the insignificant relation between the personal income and community level empowerment of the women.

Table-5.5.3 Estimates of degree of Women's Empowerment at Community Level

Dependent Variable: Degree of Women's Empowerment at Community Level (DOWEC)				
Method: Least Squares				
Sample: 1 580				
Included observations: 580				
Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	41.023	1.985	20.670	0.000
Individual/Household Characteristics				
Age Group (<25 Years) AGE1 (Yes=1)	0.828	1.673	0.495	0.621
Age Group (25-35 Years) AGE2 (Yes=1)	3.692*	1.255	2.942	0.003
Age Group (36-45 years) AGE3 (Yes=1)	3.047*	1.173	2.598	0.010
Education of the Woman, EDU (Year)	0.347**	0.160	2.163	0.031
Occupation of the Woman, LAB (Wage Labour=1)	-2.324*	0.940	-2.472	0.014
Occupation of the Woman, SELF (Self employed/Service =1)	2.106	1.556	1.354	0.176
Average Monthly Personal Income PINC (Rs. '00)	0.032	0.023	1.427	0.154
Access to Formal Credit AFCT (Yes=1)	7.457*	0.968	7.704	0.000
Type of Family TYFAMI (Nuclear =1)	2.286**	1.062	2.153	0.032
Dependency Ratio in the Household DRATIO (%)	-0.064*	0.021	-3.065	0.002
Per Capita Household Income (APCHIN) (Rs. '000)	0.017	0.037	0.456	0.648
Household Occupation CULTI, (Cultivation =1)	-2.534**	1.077	-2.353	0.019
Household Occupation NONFARM (Non-Farm=1)	-0.403	1.378	-0.293	0.770
Household's Land holding, HLAND, (bigha)	0.459*	0.166	2.775	0.006
Highest education among male household members, HIMEDU,(Year)	-0.008	0.116	-0.067	0.947
Highest education among female household members HIFEDU(Year)	0.390*	0.134	2.923	0.004
Community Level Characteristics				
Duration of SHG-membership DSHGM (Month)	0.076*	0.014	5.542	0.000
Caste (OBC =1)	0.699	1.087	0.643	0.520
Caste (SC=1)	1.276	1.134	1.125	0.261
Caste (ST=1)	-3.420**	1.514	-2.260	0.024
Summary Statistics				
R-squared	0.535	Akaike information criterion		7.340
Adjusted R-squared	0.518	Schwarz criterion		7.505
Durbin-Watson statistic	1.809	F-statistic (Probability)		30.609(0.000)
White Heteroskedasticity Test: H ₀ : Variance of random disturbance term is constant				
F-statistic (Probability)	1.065(0.298)	Obs×R-squared (Probability)		239.167(0.325)

Source: Author's own computation based on sample observations 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

Table-5.5.4 Estimates of Composite Women's Empowerment Index at Community Level

Dependent Variable: Composite Index of Women's Empowerment at Community Level (CIWEC)				
Method: Least Squares				
Included observations: 580				
Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-19.691	2.835	-6.947	0.000
Individual/Household Characteristics				
Age Group (<25 Years) AGE1 (Yes=1)	0.306	2.389	0.128	0.898
Age Group (25-35 Years) AGE2 (Yes=1)	4.723*	1.792	2.635	0.009
Age Group (36-45 Years) AGE3 (Yes=1)	3.606**	1.675	2.153	0.032
Education of the Woman, EDU (Year)	0.693*	0.229	3.027	0.003
Occupation of the Woman, LAB (Wage Labour=1)	-3.126**	1.343	-2.328	0.020
Occupation of the Woman, SELF (Self employed or Service =1)	1.334	2.222	0.600	0.548
Average Monthly Personal Income PINC (Rs. '00)	-0.008	0.032	-0.237	0.813
Access to Formal Credit AFCT (Yes=1)	11.937*	1.382	8.635	0.000
Type of Family TYFAMI (Nuclear =1)	3.063**	1.516	2.020	0.044
Dependency Ratio in the Household DRATIO (%)	-0.039	0.030	-1.318	0.188
Per Capita Household Income (APCHIN) (Rs. '000)	0.065	0.053	1.235	0.218
Household Occupation CULTI, (Cultivation =1)	-2.563***	1.538	-1.667	0.096
Household Occupation NONFARM (Non-Farm= 1)	-0.225	1.968	-0.114	0.909
Household's Land holding, HLAND, (bigha)	0.551**	0.236	2.329	0.020
Highest education among male household members, HIMEDU,(Year)	-0.030	0.165	-0.184	0.854
Highest education among female household members HIFEDU(Year)	0.503*	0.191	2.635	0.009
Community Level Characteristics				
Duration of SHG-membership DSHGM (Month)	0.078*	0.020	4.002	0.000
Caste (OBC =1)	-0.775	1.552	-0.499	0.618
Caste (SC=1)	-0.148	1.620	-0.092	0.927
Caste (ST=1)	-8.596*	2.162	-3.976	0.000
Summary Statistics				
R-squared	0.526	Akaike information criterion		8.053
Adjusted R-squared	0.508	Schwarz criterion		8.218
Durbin-Watson statistic	1.862	F-statistic (Probability)		29.487 (0.000)
White Heteroskedasticity Test: H ₀ : Variance of random disturbance term is constant				
F-statistic (Probability)	0.862(0.888)	Obs×R-squared (Probability)		210.152 (0.822)

Source: Author's own computation based on sample observations 2012-13

*, ** and *** imply that coefficients are significant at level 1%, 5% and 10% respectively.

The coefficient of financial inclusion i.e. the coefficient of dummy AFCT (access to formal credit, Yes =1) in Model-4C and Model-4D are found to be positive and highly significant. The coefficient of access to formal credit indicates that the community level

empowerment of the women will increase by 7.45% points if she has access to formal credit. When a woman can borrow from formal institution it makes an identity in society or in social institutions. Again access to formal credit, particularly, from SHGs or cooperative inculcates the banking habits and democratic idea allowing them in election and selection process. In this way formal borrowing accelerates the women's empowerment at community level. Therefore, our study reveals that financial inclusion increases women's empowerment at the household level and at the community level.

It is seen that the type of family is a significant determinant of community level empowerment of women. Our empirical estimate reports that community level empowerment is 2.28% points higher of the women in nuclear families compared to the women in joint/extended families. Women in the nuclear families enjoy more freedom to participate in social and community decision making process. Besides, women in nuclear families are compelled to move outside more for several household requirements which definitely improve the community level empowerment. So, the result regarding the effect of family type on community level empowerment of women is meaningful.

Like the estimation of the models for household level empowerment of women, we have observed that dependency ratio has negative effect on indices of community level empowerment. But it is statistically significant only in Model-4C. Table-5.5.3 shows that one percent increase in dependency ratio from average level reduces the community level empowerment of the women by 0.06% points from average. Although the finding is supporting our hypothesis but the magnitude is negligible. Generally higher dependency implies more number of older and children in the family. So, women spend more time in the household's jobs and rearing the children and older. It respects the motherhood duties of women, but provides less time to manifest her potentially in community. As a result women with higher dependency ratio have lower participation in community level activities which are crucial for empowerment. So, our finding has a logical base.

The empirical estimations of Model-4C and Model-4D confirm that per capita household income increases women's empowerment at the community level. However, the

empirical result is not statistically significant. Therefore, household income is immaterial in the determination of women's empowerment at the community level.

In table-5.5.3 the coefficient of the dummy for major household occupation (Cultivation=1) tells us that the average degree of community level empowerment of the women belonging to cultivator family is 2.53% points lower than that of the women belonging to wage labour family. This result is statistically significant in both the models. This finding goes against our hypothesis. But, this empirical finding is meaningful. Usually the women of wage labour family are also wage labour. These women come in contact with many people outside home. It helps them get experience in broader arena of life. We also find that degree of empowerment at the community level of the women under self employed family is lower than that of the women under wage labour family. However, this result is not statistically significant at all.

Our empirical study reveals household's landholding as a crucial factor for accelerating women's empowerment at the community level in the district of Bankura. The coefficient of landholding in table-5.5.3 and in table-5.5.4 imply that one bigha extra landholding increases the community level empowerment by 0.45% points and by 0.55% respectively. Large land size of the household secures livelihood of the family and of the women. Often women have the land ownership in the household with large landholdings. These matters may enhance dignity of the women within and outside home and accordingly the empowerment at the household and community level.

It has been obtained that the coefficients of highest education among the male household members are statistically insignificant as an explanatory variable in the models for women's empowerment at the community level. However, the coefficient of the highest education among the female members is positive and statistically significant at 1% level. The coefficient implies that one extra completed year of education of the highest qualified female member increases the average degree of empowerment at the community level by 0.39% points in the area under study. We have got almost same result in Model-4D regarding the highest female education. Therefore, female education is more imperative than the male education in the family for inculcating women's empowerment at the community level. It is expected that most educated woman inspires

the other women to develop their personality in and outside home. Hence, our result is significantly conclusive.

In the spectrum of community characteristics we have duration of SHG-membership and caste variables as determinants of women's empowerment at community level. In table-5.5.3 and table-5.5.4 we find the coefficient of the duration of SHG-membership positive and statistically significant. This result tells us that one year extra participation in SHG increases the empowerment at the community level by 1% point. The logic behind this outcome as follows. Participation in SHG ensures the financial inclusion allowing the opportunity of formal savings, financial literacy and credit. These increase the financial asset holding of the women and thereby the importance of the women within and outside home. Further, frequent meeting of the group inculcate the political consciousness and the association among members reduces several social barriers of empowerment. Therefore, it is not surprising that SHG-membership induces women's empowerment at the community level.

This study shows that the coefficients of the dummies for caste (SC=1) and caste (OBC=1) are positive. It may be argued that empowerment at the community level is higher for the women under scheduled castes and other backward classes in contrast to that for the women under general castes. However, we are not worried of these results, as they are not statistically significant at all. On the other hand, the coefficient of dummy for caste (ST=1) is negative and statistically significant. Women belonging to scheduled tribes are less empowered at the community level compared to women belonging to general castes. We observed that due to language barriers and community rituals tribal women are socially backward in the context of general castes. Tribal women are less educated compared to general caste women. As a result, their empowerment in respect to other castes is lying far below. However, it should be noted that tribal women have full dignity in their own society.

We, therefore, conclude from this study that age, education, occupation, financial inclusion of the women, family type, dependency ratio, household occupation, highest female education in the family, duration of participation in SHG and caste are the major determinants of community level empowerment for the women in the district of Bankura West Bengal.

5.6. Conclusion

This chapter has vividly discussed the empirical finding of our estimated econometric models. We conclude this chapter with the significantly conclusive findings of the study as follows. We find that women's empowerment at the household level and at the community level significantly increases the probability of adopting family planning. Household level empowerment is more important than community level empowerment of women for reducing the probability of experiencing domestic violence. We have obtained that both the empowerment has some favourable impact on child education expenditure. Therefore, women's empowerment is an effective factor for improving household welfare. Finally, our study has shown that women's age, personal income, personal occupation, financial inclusion, family type, household occupation and participation in SHG are major determinants of household level empowerment. On the other hand, women's education, personal occupation, family type, household occupation, highest female education and duration of SHG-membership are important determinants of community level empowerment. Based on the empirical findings, we may suggest some policies for improving the level of empowerment and its consequences in households and in society at least in the area under study. In chapter six we suggest the alternative policy prescriptions on the basis of our empirical results.