EMPOWERMENT OF MICROCREDIT PARTICIPANTS AND ITS SPILLOVER EFFECTS: EVIDENCE FROM THE GRAMEEN BANK OF BANGLADESH

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ABSTRACT

This paper analyzes how participation in microcredit program helps to reduce the fertility rate. By using the data from the Grameen Bank of Bangladesh, the paper also examines whether the accomplished empowerment of the microcredit borrower remains limited only to economic activities or also reflected in their non-economic activities. The results show that the Grameen Bank transforms its participants from a passive recipient of credit to a well responsive and active agent in economic and non-economic aspects of life. This transformation sets up an encouraging context for the effective public policies for economic and social changes at a reduced transaction cost.

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INTRODUCTION

It is well established in the literature of microfinance that participation of the rural women in the microcredit programs helps to reduce the fertility rate or birth per woman (e.g. Hashemi and Schuler, 1996). This reduction can result either from a decrease in household demand for children or change in the preference for a particular gender of children. For example, if the parents have a strong preference for male child, then any possible birth of a female child may induce them to have another child. But if they do not distinguish between male and female children, then the total number of birth can potentially be small. It is yet to be studied in literature whether the reduction in the fertility rate with women’s participation in microcredit program results from the decrease in household demand for children or change in the preference structure for children. This paper investigates this question by using the information on the participants of the Grameen Bank of Bangladesh.

Women’s empowerment is another much celebrated results in the literature of the microfinance. (e.g., Pitt et al. 1998). But the existing literature is yet to adopt a holistic approach to study empowerment. As it stands now, the empowerment is perceived mainly on the basis of the changes in the economic behavior of the program.

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participants. But once one accomplishes strong motivation to bear the cost of specious nonconformity between social values and her own economic action, she can also participate in non-economic activities by defying the social objection to them. Similarly, as a result of the demonstration effect, not only the participants of the microcredit program, but also the non-participants can accomplish the strong motivation to defy the existing social values.

Therefore, the empowerment augmenting role of any microcredit program should not be evaluated only on the basis of the activities that have direct economic implications. Rather, it should also include the non-economic behavior of the participants and changes in not only the individual but also social attitude. The current paper adopts this approach to study the empowerment augmenting role of the Grameen Bank of Bangladesh.

This paper contributes to the literature of the microfinance in three different ways; Firstly, the paper assesses whether the microcredit program of the Grameen Bank results in any change in participant’s preference for male child. The result suggests that with the longer association with the microcredit program; participants become indifferent between male and female children. This finding is helpful to understand the routes through which microcredit programs affect the fertility behavior of the participants.

Secondly, this paper examines whether the rural women are empowered to cope with the prevailing systems of relationship, information and communication to participate in non-economic events which are not required to continue their membership with the Grameen Bank. This question has been analyzed by using the voluntary participation of the Grammen Bank borrower in the national election 1996 of Bangladesh. The results suggest that women’s empowerment is not limited to economic activities only.

Thirdly, the paper examines the social empowerment through the spillover effects of individual empowerment by examining the social hostility faced by the participants. Spillover effects of individual empowerment are evident from the results.

The rest of the paper is structured as follows. Section 2 briefly sets the conceptual framework to emphasize the role of the non-income preconditions for socio-economic development and how the Grameen Bank can help to accomplish them. Section 3 provides information on sampling and data used in this study. Section 4 presents the findings, and section 5 concludes.

GRAMEEN BANK AND SOCIO-ECONOMIC DEVELOPMENT

Following Goulet's (1971) The Cruel Choice: A New Concept on the Theory of Development, one can identify three preconditions for economic development. They are; (1) Life-sustenance, (2) Self-esteem, and (3) Freedom.

Life-sustenance is concerned with the provision of basic needs, like minimum food, housing, clothing and education etc. Self-esteem is related to the graduation of an individual from a passive recipient of 'empowerment' process to an active participant in the social and economic events. Freedom refers to the liberty from the evils of ignorance and servitude to others including customs, tradition and human domination, and increases in the opportunities, and autonomies to choose from that opportunity vectors.

Grameen Bank has the potential to affect the income and non-income preconditions for development. Participants of the Grameen Bank are the residual claimants of the income generated from their loans. The income (I) of a participant of the Grameen Bank’s credit program can be shown as follows:

\[ I = L(n)(\mu - R) \]  

(1)
Where, $I$ is the income generated through the use of a loan, $n$ is the number of loan taken from the Grameen Bank, $\mu$ is the rate of return from the activity undertaken with the loan, $R$ is the rate of interest on that loan, $L(n)$ is total amount (net of consumption) of loan expressed as a function of total number of loan, because the amount of loan increases with the number of loan received. The rate of interest is institutionally determined and therefore exogenous for the participants. The rate of return varies across the type of activities and level of efforts making it a choice variable for the participants. Any increase in the rate of return, either as a result of increased labor intensity (for example, through participation of women) or switching to more productive activities, will increase the income of the participant.

Grameen Bank draws its participants into public sphere and exposes them to new ideas. Thus participation in the Grameen Bank acts as a conduit of information to bring attitudinal changes among the participants. These indirect effects, coupled with significant increase in income, can lead to the accomplishment of the non-income preconditions of socio-economic development. More specifically, Grameen Bank can change participants’ attitude towards the sex of the child, embolden them to participate in economic and non-economic events.

DATA AND SAMPLING

This paper is based on the primary data pertaining to the socio economic profile of the participants of the Grameen Bank. The data were collected at participant level through a structured questionnaire. To have a representative dataset for Bangladesh, I adopt a stratified random sampling to select four branches of Grameen Bank. There is no zonalization of the country on the basis of regional heterogeneity readily available, and this task is beyond the scope of this paper. Therefore, I have chosen the old division as the strata to select one branch of Grameen Bank randomly from each stratum.

125 participants, selected randomly, from each branch were surveyed. The branches were established in 1998, 1989, 1987, and 1984. The respondents are predominantly female. About 90 percent of them are living with their husbands. A small number of participants are involved in agricultural activities. Small and petty trading is the main nonagricultural activity in which most of the participants are employed.

The collected data indicate a shift in the attitude of the rural women towards fertility control. More than 85 percent of the respondents are unwilling to take any additional child. About 62 percent of them are unwilling as they already have ‘sufficient’ children. Their perceived sufficient number of children is about 3.5 on average. But this number varies across participants. The perceived sufficient number of children for the participants, who joined the Grameen Bank with 0, 1, and more than 1 child, are 2.8, 2.6 and 3.85 respectively. About 35 percent of the participants are not willing to take any additional child because of the financial difficulties. Thus they consider child as an economic choice variable.

<table>
<thead>
<tr>
<th>Fertility Decision</th>
<th>% of Respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not willing to have more children</td>
<td>85.48</td>
</tr>
<tr>
<td>Practicing birth control</td>
<td>82.45</td>
</tr>
<tr>
<td>Reasons for not to have more children</td>
<td></td>
</tr>
</tbody>
</table>
Already have sufficient 61.93
Economic hardship 35.32
Health problem 2.75
Source: Calculated by author from field survey 2001

The average number of children for those who joined the Grameen Bank after meeting their demand for children is 3.73. The same numbers for the participants who joined the Grameen Bank with 0 and 1 child are 2.10 and 2.65 respectively. Juxtaposition of national average fertility rate, which was as high as 3.1 in 1998 (see, World Development Report 2001), reveals the awareness of the Grameen Bank’s participants about the population problem.

### TABLE 2
PERCEIVED SUFFICIENT, AND AVERAGE NUMBER OF CHILDREN BORN AFTER JOINING THE GRAMEEN BANK

<table>
<thead>
<tr>
<th>No. of children born before joining the Grameen Bank</th>
<th>Perceived sufficient number of children</th>
<th>Average number of children born after joining the Grameen Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2.8</td>
<td>2.10</td>
</tr>
<tr>
<td>1</td>
<td>2.6</td>
<td>1.65</td>
</tr>
<tr>
<td>More than 1</td>
<td>3.85</td>
<td>1.60</td>
</tr>
<tr>
<td>All respondents</td>
<td>3.5</td>
<td>1.66</td>
</tr>
</tbody>
</table>

## EMPIRICAL INVESTIGATION

### Changes in the Relative Preference for Male Child

The empirical investigation is based on the assumption that the latent demand for male children (or their equivalence) mainly determines the total number of children. Given the fact that male offsprings are responsible to provide the old-age support to the parents, the strong preference for male child is a fitting assumption for the rural poor of Bangladesh.

Suppose the latent demand for male equivalence is $T_e$, where

$$T_e = \text{Number of male children} + \omega \cdot \text{Number of female children}. \quad (2)$$

$\omega$ represents the weight of female child relative to male child. It will be equal to 1 if parents are indifferent between male and female children. It will be less than 1 if parents value the male child more than the female child. For any given level of $T_e$, the observed number of children, $T$, will be higher than $T_e$ if $\omega$ is less than one, and vice versa. $T_e$ will be equal to $T$ if $\omega$ is equal to one. Suppose the latent demand for male equivalence of a household is two. The possible combinations of male and female children for $\omega = 0.5$ are; (1) two male children and no female child, (2) one male child and two female children, (3) three female children and one male child, and (4) four female children and no male child. But if $\omega = 1$, the possible combinations of children are; (1) one male and one female child, (2) two male children and no female child, and (3) two female children and no male child. They are summarized below in table 3.
TABLE 3
TOTAL NUMBER OF CHILDREN UNDER DIFFERENT VALUES OF $\Omega$, WHEN LATENT DEMAND FOR CHILDREN IS 2 MALE EQUIVALENCE

<table>
<thead>
<tr>
<th>$\omega = 0.5, T_e = 2$</th>
<th>$\omega = 1, T_e = 2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

It is clear from the above example that if the parents weigh the male child more than the female child, any possible birth of female child will result into a higher number of total births. It means the marginal contribution of female child to total births will be higher than the male child. This helps us to assess the parental preference for male and female children. Strong parental preference for male child is implied by a higher marginal contribution of the female child to total births.

To set the benchmark for parental preference between male and female children I use the following model:

$$T = \alpha + \beta \cdot \text{age} + \delta \cdot \text{edu} + \phi \cdot \text{nmale} + \gamma \cdot \text{land} + \phi \cdot \text{o_contr} + \epsilon$$

Where, $T =$ Observed number of children, $x =$ the observed household characteristics, $z =$ unobserved household characteristics, and $\epsilon =$ error term. The vector of observed household characteristics include, $\text{age} =$ Age of the respondent, $\text{edu} =$ Education of the household head, $\text{nmale} =$ Number of male children, $\text{land} =$ Amount of household land, and the unobserved characteristics are captured by $o\_contr =$ other control.

Therefore, equation (3) can be re-written as

$$T = \alpha + \beta \cdot \text{age} + \delta \cdot \text{edu} + \phi \cdot \text{nmale} + \gamma \cdot \text{land} + \phi \cdot o\_contr + \epsilon$$

The accounting identity, $T =$ Number of male children + Number of female children, implies that the coefficient of female children in the above specification will be $(1-\phi)$ . Preference for male children will be high if the marginal contribution of female child to total number of birth, $(1-\phi)$ , is higher than 0.50, i.e., if $\phi$ is smaller than 0.50, and vice versa. The assumption that given the latent demand for male equivalence, number of male children determines the total births implies a unidirectional causality between these two; the former determines the later one, not the other way. Thus there is no problem of endogeneity in model (3). $o\_contr$ captures the unobserved and missing household characteristics. It has been derived by following Behrman, Bridsall and Deolalikar (1995), and discussed below.

Suppose we want to model the impact of ‘Z’ on ‘X’. We can consider a regression model, in which X is the dependent variable, and a set of income and non-income variables are explanatory variables capturing mainly observed attributes, plus $Z$. So,
\[ X = \alpha + \beta Y + \delta Z + \varepsilon \]  

(4.1)

where, \( Y \) is the vector of observable variables, \( Z \) is the unobservable variables, and \( \varepsilon \) is the i.i.d. disturbance term with mean zero. Vector \( Z \) may include intelligence, ability, economic sense and aptitude of the household. The main problem with the estimation of equation (4.1) arises from the fact that it is difficult to have an acceptable measure for \( Z \). Behrman, Bridesall and Deolalikar (1995) used a method to solve this problem. Suppose there exists another variable \( W \) that can be explained by same vector of \( Y \) and \( Z \). If we run a regression using \( W \) as the dependent variable and only vector of \( Y \) as the explanatory variables, then the error term of that regression will capture the impact of the omitted variables \( Z \). So these i.i.d. error terms with zero mean can be used in the estimation of equation (4.1) as a proxy for unobservable characteristics as represented by \( Z \).

To derive the estimates for \( Z \), I use the supply of loan as the dependent variable. The high recovery of loan is of utmost importance to the field workers of the Grameen Bank, and also to the other member of the group, who jointly determine the amount of loan to a group member. In fact, very high default rate can cost the job of the field workers. So the field workers and the other group members will take the intelligence, instinct economic sense, and aptitude of the applicant into their consideration in deciding the size of the loan to ensure the high recovery rate. This possibility enables us to obtain an estimate for the unobserved characteristics. The supply (amount) of the loan to a participant of the Grameen Bank can be modeled as

\[ L = \alpha + \beta Y + \gamma Z + \varsigma \]  

(4.2)

where \( \varsigma \) is the i.i.d. disturbance term with zero mean, and \( \text{cov} (\varepsilon, \varsigma) = 0 \). This equation can be written by capturing the unobserved characteristics in the disturbance term.

\[ L = \alpha + \beta Y + \xi \]  

(4.3)

The disturbance term \( \xi = (\gamma Z + \varsigma) \) and \( \text{plim} \ \xi = \text{plim} \ Z \). So \( \xi \) is a consistent representation of \( Z \). Therefore, it can be used as a measure for \( Z \). The advantage of this approach is that the use of \( \xi \) will also take care of the potential bias resulted from any possible omitted observed variables. One can question this approach as the size of loan given by the Grameen Bank and the total births of the participants do not depend on same determinants. Models (3) and (4.3) can include different set of dependent observed variables. But in both models the vector of unobserved variables of our interest will be same as it should ideally include intelligence, instinct economic sense, and aptitude of the household.

In estimating (4.3) I use the amount of current loan is the dependent variable, and age of the borrower, education of the household head, amount of household land, and number of male children as the explanatory variable. The residual terms of such model capture the effects of all unobserved attributes and other observable but omitted variables. Then I use these residuals in the estimation of equation 3'.

As the number of total births is a non-negative count variable I use the Poisson regression. In empirical implementation of model (3), I use the information of the respondents who (i) are married and live with their husbands, (ii) belong to age group 20-45, (iii) have completed their fertility decision and not willing to have any more children. Thus the analysis of this paper is not plagued by the incompleteness of the fertility decision. The results are reported in Table 4.

The levels of education of the household head or the amount of household landholdings are not adequate or large enough to impact the fertility decision of the Grameen Bank participants. The heterogeneous background of the respondent, as represented by other control variables, does not have any significant impact on their
fertility behavior. Although other control variables themselves are not significant, they help to control for the selection bias, and imprecise causality. The only variable that is significant in model (3.1) is the number of male children. The coefficient of this variable, \( \varphi = 0.15 \), so \((1-\varphi) = 0.85\). So there exists a strong preference for male children. One qualification about this benchmark result should be mentioned. This benchmark is derived by using the total fertility decision regardless of

**TABLE 4**

**PARENTAL PREFERENCE FOR MALE CHILDREN: DEPENDENT VARIABLE IS NUMBER OF CHILDREN**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.73</td>
<td>0.008</td>
</tr>
<tr>
<td>Education of household head</td>
<td>-0.02</td>
<td>0.642</td>
</tr>
<tr>
<td>Age of the respondent</td>
<td>0.01</td>
<td>0.295</td>
</tr>
<tr>
<td>Household landholding</td>
<td>0.001</td>
<td>0.324</td>
</tr>
<tr>
<td>No. of male children</td>
<td>0.15</td>
<td>0.000</td>
</tr>
<tr>
<td>Other control variables</td>
<td>0.001</td>
<td>0.75</td>
</tr>
</tbody>
</table>

whether it was made before or after joining the Grameen Bank. If Grameen Bank is able to induce any change in the parental preference for male children; it must affect their fertility decisions made after joining the bank. The benchmark is derived without netting out this effect of the participation with Grameen Bank. Therefore, it may be underestimated. Even with this underestimation, the result suggests a strong preference for male children.

To assess whether participation in the Grameen Bank changes the preference for male children I use the following model;

\[
T_{af} = \alpha + \beta \text{age} + \delta \text{edu} + \varphi \text{nmale}_{af} + \gamma \text{land} + \varphi_0 \text{contr} + \eta_1 \text{t_{bf}} + \mu_l \text{l_gr} + \varepsilon \quad (5)
\]

In model (5), the dependent variable \((T_{af})\) is the number of children born after joining the Grameen Bank. This number also depends on total births before joining \((t_{bf})\), and how long \((l_{gr})\) the participant has been associated with the Grameen Bank starting from the group formation. \(\text{nmale}_{af}\) is the number of male children born after joining the Grameen Bank. The coefficient of \(\text{nmale}_{af}\) will show an increase if the Grameen Bank succeeds in increasing the relative weights of female children. The results are reported in Table 5.

**TABLE 5**

**CHANGES IN PARENTAL PREFERENCE FOR MALE CHILDREN: DEPENDENT VARIABLE IS TOTAL CHILDREN BORN AFTER JOINING THE GRAMEEN BANK**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.47</td>
<td>0.46</td>
</tr>
<tr>
<td>Education of household head</td>
<td>-0.09</td>
<td>0.23</td>
</tr>
<tr>
<td>Age of respondent</td>
<td>-0.002</td>
<td>0.901</td>
</tr>
<tr>
<td>Land</td>
<td>0.002</td>
<td>0.149</td>
</tr>
<tr>
<td>No. of male children born after joining the Grameen Bank</td>
<td>0.58</td>
<td>0.000</td>
</tr>
<tr>
<td>Other control variables</td>
<td>0.0001</td>
<td>0.75</td>
</tr>
<tr>
<td>Total births before joining the Grameen Bank</td>
<td>-0.19</td>
<td>0.01</td>
</tr>
<tr>
<td>Length of participation in the Grameen Bank</td>
<td>0.59</td>
<td>0.01</td>
</tr>
</tbody>
</table>
As expected, total births before joining the Grameen Bank negatively affects the total births after joining the Grameen Bank. Such negative causality may be attributable to different reasons. (a) Given the latent demand for male equivalence, the higher number of births before joining the Grameen Bank means smaller unmet demand for children. (b) It may also be possible that participation in the Grameen Bank reduces (revises) the latent demand for male equivalence. (c) The third possible reason may be that participation in the Grameen Bank increases the relative weight of female child, and (d) both b and c. All these reasons imply that higher the number of the births before joining the Grameen Bank, smaller will be the number of the births after joining the Grameen Bank. The longer association with the Grameen Bank has positive effect on the total births after joining the Grameen Bank. This is mainly because a longer association with the Grameen Bank means that participants spent a longer part of their fertility period as a member of the bank.

The marginal contribution of male child to total births in model (5) is much higher than model (3). This means the relative weight of female child has increased. This finding indicates an attitudinal change of the participants of the Grameen Bank towards the sex of the child. This attitudinal change helps to lower the fertility rates of the participants. One may argue that the reduction in the strong preference for male child is not a contribution of the Grameen Bank rather it is the result of other public programs. The respondents used in this paper joined the Grameen Bank in different years starting from 1984 to 1998. If the reduction in the strong preference for male child is the result of public programs only, then it would have equally affected the fertility decisions regardless of whether it has been made before or after joining the Grameen Bank also. But that is not the case as shown in table 4. Therefore, the significant contribution of the Grameen Bank in changing the strong preference for male child cannot be ruled out.

### Participation in Non-economic Event

As mentioned earlier, this paper evaluates whether the longer association with the Grameen Bank increases the likelihood of voluntary participation in national election 1996. Out of the total respondents who gave their vote in that election, only 35% did that without being guided by others, or without taking any money or gifts, or without being intimidated by someone. These respondents are considered as the voluntary participants in this paper. I use the following Logit model to assess the role of the length of association with Grameen Bank in increasing the voluntary participation.

\[
v_{wg} = a + \beta_{age} + \delta_l_{asso} + \phi_{land} + \gamma_T + \varphi_{edu} + \mu_o_{contr} + \varepsilon
\]

where, \(v_{wg}\) is a binary variable representing the voluntary participation in national election 1996. It takes value 1 if yes, and 0 if no. \(T\) is the total births, and \(l_{asso}\) is the year of association with the Grameen Bank. All other variables have been described earlier.

It is possible that the more conscious women joined the Grameen Bank earlier than the others. The same groups of women are more likely to participate in non-economic events. In that case the positive relation between length of association and voluntary participation in national election cannot be attributed to the Grameen Bank. To solve this problem, I controlled for the heterogeneous background of the respondent by using proxy variable following Behrman, Bridsall and Deolalikar (1995), as described earlier. The results are reported in table 6.

The model can correctly predict 73.6 percent of the cases. It can correctly predict 85.5 percent of those who participated voluntarily and 47.8 percent of those who did not. All the significant coefficients have expected signs.

The length of association has the expected sign, and also statistically significant.
The LR test implies that the coefficient of the length of association is significantly different from zero. Longer association implies higher likelihood for a respondent to voluntarily participate in the national election. This manifests that Grameen Bank’s participants graduate from the passive recipient of empowerment process to an active agent of social and economic process over time.

### Table 6

**ASSOCIATION WITH THE GRAMEEN BANK AND PARTICIPATION IN NON-ECONOMIC EVENTS; DEPENDENT VARIABLE: VOLUNTARY PARTICIPATION IN NATIONAL ELECTION 1996 (BINARY)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.96</td>
<td>0.096</td>
<td>0.38</td>
</tr>
<tr>
<td>Age of respondent</td>
<td>0.01</td>
<td>0.322</td>
<td>1.014</td>
</tr>
<tr>
<td>Length of association with the Grameen Bank</td>
<td>0.18</td>
<td>0.000</td>
<td>1.20</td>
</tr>
<tr>
<td>Household landholding</td>
<td>0.005</td>
<td>0.057</td>
<td>1.01</td>
</tr>
<tr>
<td>Total children</td>
<td>-0.15</td>
<td>0.052</td>
<td>0.87</td>
</tr>
<tr>
<td>Education of household head</td>
<td>-0.12</td>
<td>0.259</td>
<td>0.86</td>
</tr>
<tr>
<td>Other control variables</td>
<td>0</td>
<td>0.025</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Spillover of the Individual Empowerment**

Grameen Bank organized the participants into groups, where the participants are motivated to choose their own peer through a consultative process initiated by the field workers of the bank. This consultative process motivates the rural women to join the Grameen Bank defying the criticism of other people. If more and more women join the Grameen bank, the social attitude may also change. As a by-product of the spillover of participant’s empowerment, the attitude of the family members as well as the neighbors may also change over time. The observation that the Grameen Bank provides economic helps to the poor may also make the family members and neighbors tolerant about the bank.

If this is the case, then the initial objection of the family members and neighbor against joining the Grameen Bank should decrease and disappear over time. Society should become more receptive about women’s empowerment. It is evident from table 7 that more women faced objection and hostility either from family member or neighbors for joining the Grameen Bank in the early stages of the bank’s activity.

By mid 1990s, the disapproval of the Grameen Bank has disappeared. Approval of Grameen Bank’s activities is also an approval of the changes resulted from such activities. The estimated linear trend of changes in approval of Grameen Bank is as follows;

\[ n_{\text{obj}} = -8506 + 4.31 j_{\text{year}} \]  \hspace{1cm} (7)

where, \( n_{\text{obj}} \) is the percentage of the participants who did not face any objection to join the Grameen Bank, and \( j_{\text{year}} \) is the year of joining [1984-1998]. The p-value for the coefficient of year of joining is 0.001. This linearized result suggests that the percentage share of participants who did not face any criticism from family member and neighbors for joining the Grameen Bank has increased by 4.31 percent every year. Thus this result indicates that the increase in society’s acceptance of the changes achieved by Grameen Bank’s participants over time is statistically significant. The result also implies
that the society is overwhelmingly accepting women’s headway beyond the home base not only to participate in economic activities but also in non-economic events. This is an empowerment of the rural society of Bangladesh.

### TABLE 7

PERCENTAGE OF RESPONDENTS WHO FACED OBJECTION TO JOIN THE GRAMEEN BANK YEAR OF JOINING PERCENTAGE OF RESPONDENTS

<table>
<thead>
<tr>
<th>Year of joining</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 1990</td>
<td>81.10</td>
</tr>
<tr>
<td>1990-1994</td>
<td>46.05</td>
</tr>
<tr>
<td>1995-99</td>
<td>6.25</td>
</tr>
</tbody>
</table>

Source: Calculated by author from field survey 2001

### CONCLUSION

This paper analyzes the non-income impacts of the Grameen Bank pertaining to socio-economic development of the participants. On the basis of the findings, several conclusions are in order.

First, this paper finds that the participation in the Grameen Bank changes the parental preference for male children. As the strong preference for male child decreases, female child becomes close substitutes for it. This result provides important insights about how the Grameen Bank and other microcredit programs contribute to the reduction of the fertility rates in Bangladesh. Of course, this finding does not rule out the possibility that the Grameen Bank may also reduce the fertility rates by reducing the total demand for children.

Second, Grameen Bank also helps its participants to graduate from a passive recipient of credit to an active agent of economic and social process. Through their participation in group meeting, visit to branch office, and financial dealing with the field workers, the rural women learn to cope with the existing system of information and communication. This enhances their self-confidence, and emboldens them to participate in other non-economic events. Therefore, the likelihood of voluntary participation in noneconomic event increases with the length of association with the Grameen Bank.

Third, Grameen Bank empowers not only the participants to take advantage of new opportunities that conflicts with the existing values and custom, but also make the society more receptive about these changes. The spillover effects of the individual empowerment are evident from society’s acceptance of the attitudinal changes accomplished by the participants of the Grameen Bank. All these changes set up an encouraging environment to increase the efficacy of public policies at a reduced cost.

### REFERENCES


