

TIME SPAN AND CRITERIA FOR WOMEN ECONOMIC EMPOWERMENT APPLICABLE FOR TURKISH GRAMEEN MICRO-CREDIT PROJECT

Hemin Ashrafi

Istanbul University

Department of Economics.

Postal Address: 1st Kilyos Dormitory, Saritepe Campus, Bogazici University, 34450, Sariyer, Istanbul.

E-mail: heminash@yahoo.com, 2504080007@ogr.iu.edu.tr

—Abstract —

Turkish Grameen Micro Credit Project (TGMP) is quite new in Turkey which started from 2003, works as a part of Grameen Bank Bangladesh replication program. Through this female based micro credit services women can be self sufficient, empowered and raise their family's socio economic condition at the same time. As a whole TGMP is a big scope for the poorest part in the society to gain economic empowerment.

This paper analyzes the relationship and association of loans in form of amount and number with membership time period for the achievement of economic empowerment and graduation of a member. An analysis is made on the basis of a regression model where economic graduation and empowerment of a member is quantified in terms of time after which they cease to take the loans even still be the members of TGMP. Using some poverty free indicators declared by TGMP, this study also examines how the members can achieve socio-economic empowerment gradually.

Key Words: *Micro credit, TGMP, Economic Empowerment.*

JEL Classification: G21, L31.

1. INTRODUCTION

1.1. TGMP and its objective

The Turkish Grameen Micro credit Project (TGMP) was officially launched in Diyarbakir, Southeastern Turkey on June 11, 2003 with a primary aim to help the poor suffered women by giving a beginning capital to build up their micro-

entrepreneurships and provide a sustainable income source in the struggle against poverty. TGMP was established and implemented in such a condition when poverty was increasing in some regions which forced women to earn income to sustain their households. Moreover, TGMP established in Turkey when the country faced rising unemployment rates and when more than 20% of the people lived below the national poverty line, but had virtually no experiences of using micro credit as the instrument for poverty reduction. (Latifee, 2007)

1.2. Data and Methodology

To find the success of women economic empowerment associated with TGMP loans, data (general information, success in different area of poverty, loan performance of the members) in this study has been taken for 48 successful members of TGMP's different branches mainly from Baglar, Sur, Bismil, Mardin, Silvan, etc of Diyarbakir area. Data has been collected from official website, Annual Reports from 2006-2009 of TGMP and some personal experience from TGMP's manager and members. An econometrics package, Gretl 1.9.4.exe (OLS) and multiple regression using Data analysis Add-in of Excel have been used for the regression analysis of the model described in this paper.

2. TGMP ASSOCIATED WITH WOMEN ECONOMIC EMPOWERMENT

Generating and controlling income is the starting point for other forms of empowerment (Hamida, 2000:7-8). Economically empowered women can take control and ownership of their lives through expansion of their choices and capacities for self-reliance by gaining both individual and family empowerment and increasing standard of living (Kay, 2002: 69-71).TGMP offers a simple and beneficial micro credit program for improving poverty status of women through economic empowerment. TGMP, which is designed to create new possibilities for microcredit programs, follows Grameen Generalized System (GGS). The size of the loans depends upon the capacity of individual poor women and their purpose of the loan. The first time loan varies from 100 TL (75USD) to 700 TL (518 USD) and it changes every year depending on the particular member's loan utilization capacity. TGMP members generally start with a single loan which is known as the Basic Loan. TGMP also provides loans of Flexible or Contract loan, Micro enterprise loan, Micro Vegetunnel and Animal Husbandry loan. Moreover,

TGMP gives loan opportunity for the struggling members also. (TGMP, Annual Reports: 2006-2009)

2.1. Observations in light of Criteria set by TGMP for economic empowerment

Depending on the poverty free indicators declared by TGMP, this study has tried to evaluate the criteria of achieving economic empowerment of TGMP members through their loan performances. It has been mainly focused on the members' improvement in health and housing facilities, progress in children lives including education, regular repayment with a minimum weekly 25 Turkish Lira installment, yearly impressive amount of saving balances (250 Turkish Lira or more), capability of earning additional income even for their husband and overall capability to meet their basic needs without any support from any institution (TGMP, 2008). According to the data set of 48 successful members, here their success can be observed by the improvements in some specific areas that might be the criteria for achieving economic empowerment and overall improvement of their lives to get free of extreme poverty. The observations have been discussed below:

2.1.1. Saving and Entrepreneurship

TGMP members, similar as Grameen Model, are encouraged to deposit a voluntary minimum amount of 1 Turkish lira per week in their weekly installment to use it during their unforeseen essential expenses such as health care, children education or heating materials for the winter season. From the recent records of TGMP, the percentage of savings withdraw decreased by 4% in 2008 compared to 2007. The weekly installment rate of the successful members also maintaining increasing trend for the recent year. TGMP encouraged Micro enterprise loan for the most capable, efficient, hard working members who would like to carry their activities on a large scale and want to use their capital in a small business and entrepreneurship purpose with the support of TGMP. As of December 2008, 3700 members received total of 176354 Turkish Lira for entrepreneur loan. The amount of disbursement and repayment has also increased from the year 2005-2008. But the repayment rate is slower compare to disbursement rate especially for the year 2007 and 2008.

2.1.2. Ability in major decision making and better quality of life

Through achieving economic empowerment 74% of the observed data set members are the major decision maker along with their husband inside their family. Economic empowerment can raise the status of a borrower inside their family. According to their statement, after joining TGMP, 79% of the members uplifted their socio-economic status. Moreover, 13% of them are successful to raise their status within their family and 8% of the successful members feel that they achieved empowerment from all perspectives. Overall the members and her family owned a house with better facilities and quality of heating, bathroom, kitchen, sleeping and drawing room by the benefit of TGMP Loans.

2.1.3. Improvement in health facility and children condition

According to the analysis of this data set it can be said that 96% of the members are successful to raise better health condition including health insurance and other facilities by joining TGMP loan program. 4% of them feel that their conditions remain same. According to the study, 57% of TGMP members are successful to improve the education and schooling condition of their children. Also 39% are capable to improve their children's health condition by joining TGMP. On the basis of these observations it can be said that TGMP members are quite successful to fulfill every criteria of economic empowerment to eradicate their extreme poverty.

3. LOAN PERFORMANCE ASSOCIATED WITH MEMBERSHIP LENGTH: AN EMPIRICAL STUDY

According to the collected data set of 48 successful TGMP members, 64% of the members have taken 4 times loan within average time duration of 33 months of their membership period to overcome their poverty condition and economic empowerment. 11% (with an average membership period of 7.4 months), 15% (an average membership period of 8.4 months) and 4% (with an average membership period of 29 months) of them have taken 1, 2 and 3 times loan respectively. The average total amount of loan is 2812 Turkish lira for the members who have taken 4 times loan. The average total amount of loans for the members who have taken 1, 2 and 3 times of loan are 560, 1145 and 4700 Turkish lira respectively. Only a few members have taken 5 (2%) and 6 (4%) times loan. Although both categories of these members' average total amount of loans are maximum. It can also be calculated that for all of these 48 members, the average time period of their

membership is 27 months and average total amount of loan is 2670 TRL (Turkish Lira).

To evaluate the success of a credit program it is important to analyze the relationship between loan performance and membership length of the members. Moreover, as a part of a program success women can be empowered as well as economically empowered through the proper use of their loans in productive purposes during their membership time period (Hoque, 2009:248-249). In this study, with the help of an empirical study (Khandker, 1996:20) by using data of TGMP's member, an attempt is made to analyze how the member's economic empowerment and loan performance (in terms of number of loans and total amount of loans) is related to the time period of their membership (M). The regression equation for this empirical study is:

$$C = \alpha_0 + \alpha_1 M + \alpha_2 M^2 + \varepsilon \quad (1)$$

Where, C indicates number of loans in the original model where as in this study C indicates both number of loans and total amount of loans for each separate model respectively. M is the membership length, ε is an error term, and the α terms are the parameters to be estimated. On the basis of the regression (equation 1) equation, the empirical study has been conducted by 4 separate models for variable C. The regression has been fitted for Participants who received at least one loan during their program exposure and who are still members of TGMP. In Model 1 and 2, this study regress the total amount of loans and number of loans on the membership length (M) respectively which can be written as the following simple regression form:

$$C = \alpha_0 + \alpha_1 M \quad (2)$$

On the other hand, the squared term M^2 is used in equation (1) to evaluate the indefinite membership length effect on loan performance of the members. In order to analyze the results of Model 3 and 4, OLS (ordinary least square) can handle non-linear relationships by introducing the term M^2 . The regression equation then becomes a multiple linear model as the following way,

$$C = \alpha_0 + \alpha_1 M + \alpha_2 M^2 \quad (3)$$

The results of the regression are presented in Table 1.

3.1. Interpretation of the Regression Results

All of these Models (in Table 1) are statistically significant in terms of P, t, R^2 and F values. For comparing two alternative models, smaller values of Akaike and Schwarz criterion will indicate a better model. For Model 1 and 2, as estimated coefficient on membership length (M) is found positive, from equation (2) it is clearly shown that dependent variable (C) has positive relation with independent variable (M). For an increase in membership length (here estimated in months) there will be on an average an increase in total amount of loans or number of loans.

In the Model 3 and 4, number of loans and total amount of loans are regressed on the time period of membership (M) respectively. As estimated coefficient is obtained negative for equation (3), Model 3 and 4 results indicate that the 2nd variable, M^2 is negatively related to number of loans and total amounts of loans of the members. That means if the membership length will be too long then it will have negative effect on C.

Table 1: Regression results

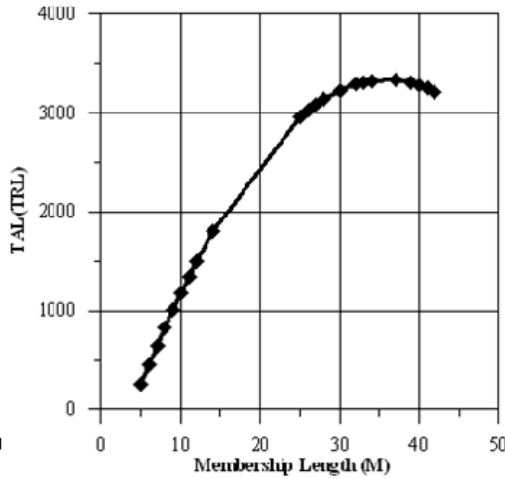
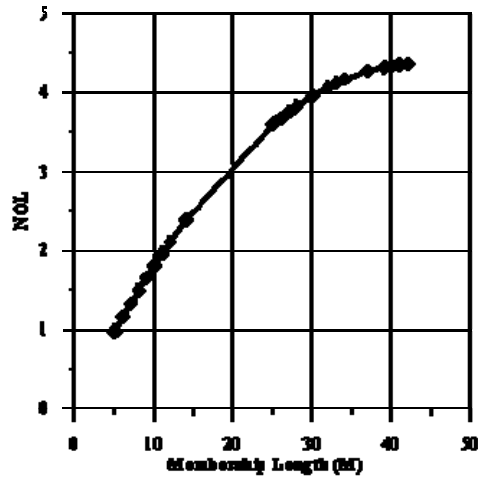
Model Types	Model 1	Model 2	Model 3	Model 4
Dependent Variable	TAL	NOL	NOL	TAL
Independent variables	M	M	M, M^2	M, M^2
Constant:				
Co efficient	419.982	0.922	0.039	-821.301
std. error	347.249	0.215	0.344	570.479
t-ratio	1.209	4.288	0.114	-1.44
p-value	0.233	9.13e-05 ***	0.91	0.1569
M:				
Co- efficient	83.27	0.094	0.200	232.697
std. error	11.847	0.007	0.034	57.406
t-ratio	7.029	12.8	5.778	4.054
P-value	8.23e-09 ***	9.09e-017 ***	6.66e-07 ***	0.0002 ***
M^2 :				
Co- efficient	-	-	-0.002	-3.254
Std.error	-	-	0.0007	1.226
t-ratio	-	-	-3.127	-2.653

P-value	-	-	0.0031 ***	0.0110 **
MDV	2670.146	3.458	3.458	2670.146
S.D. of DV	1328.529	1.219	1.219	1328.529
RSS	39993807	15.325	12.589	34583391
S.E. of regression	932.433	0.577	0.528	876.652
R ²	0.518	0.781	0.819	0.583
F	49.412 (F=1,46)	163.856 (F=1,46)	102.4521 (F=2,45)	31.470 (F=2,45)
P-value F	8.23E-09	9.09E-17	1.77E-17	2.82E-09
Akaike criterion	794.604	85.417	77.979	789.626
Schwarz criterion	7796.018	89.159	83.593	795.240

Source: Author's estimations using gretl (OLS) and Multiple Regression Using the Data Analysis Add-in of excel. *** and ** significant at 1% and 5% level respectively. Here, TAL means total amount of loans, NOL means number of loans, MDV: mean dependent variables, DV: dependent variables.

Figure-1:(a) Predicted NOL

Figure-1:(b) Predicted TAL



Source: Regression results from Multiple Regression Using the Data Analysis Add-in of excel

To show the direct effects of M on dependent variable C, the relationship between Predicted NOL and TAL as dependent variable and membership length (M) as independent variable can be seen from the figures (1.a and 1.b) computed for Model 3 and Model 4. It can be seen from the above figures that how the predicted values are changing with the changes of membership length (M). It shows a positive relationship between predicted values with M.

This study quantifies economic empowerment and graduation by deriving the time after which the members cease to take loans from TGMP. According to do that, the value of M to predict the optimal time period of achieving economic empowerment of TGMP members can be derived by taking the derivative of equation (3) with respect to M and setting it at zero. The point at which program participants stop taking loans can be solved by equation (4).

$$\frac{dC}{dM} = \alpha_1 + 2\alpha_2 M = 0$$

$$M = \frac{-\alpha_1}{2\alpha_2} \quad (4)$$

The optimal (before cease to take loans) membership length (M) for both NOL and TAL is derived from equation (4) by putting the estimated values of α_1 and α_2 in equation (4) for Model 3 and Model 4.

4. CONCLUSION

Depending on the poverty free indicators of TGMP, it has been observed from the study that TGMP can be able to maintain a success trend till recent year for uplifting women's socio economic conditions. From the regression results, a sharp increase of both predicted number of loans and total amount of loans has been observed between the membership periods of 12-24 months. That means the maximum success of members is achieving within a time span of 12-24 months. Since, the rate of increase in total amount of loans is more than the rate of increase in number of loans with membership length, the membership length has more significant impacts on total amount of loans compare to number of loans .On the other way it can be said that a member can be more successful by taking a large amount of loans in few times (number of loans) than small amount of loans in more times (number of loans). Also time period of achieving economic empowerment to eradicate extreme poverty is less in case of total amount of loans (36 months or 3 years) compare to number of loans (43.5 months or nearly 3.5 years). In this study it has been also observed that the new members compare to the old members are more active in loan performance. From this empirical study it can be concluded that TGMP example can be applicable in other poor parts of the world by using the experience of how quickly within a time span women can

achieve economic empowerment and get rid of extreme poverty by their loan performance.

BIBLIOGRAPHY

Hamida, Essma B. (2000), "Empowering Women Through Micro-Credit: A Case Study from Tunisia", *Paper Presented at MDF3, Civil Society Workshop*, Cairo, Egypt.

Hoque, Mahmuda and Yoshihito Itohara (2009), "Women Empowerment Through Participation in Micro-Credit Programme: A Case Study from Bangladesh", *Journal of Social Sciences* 5(3), ISSN 1549-3652, pp. 244-250.

Kay, Thelma (2002), "Empowering Women Through Self-help Microcredit Programmes" *Bulletin on Asia-Pacific Perspectives 2002/03*, Gender and Development Section, Emerging Social Issues Division, ESCAP. Available at <http://www.unescap.org/pdd/publications/bulletin2002/ch6.pdf> [Accessed 20.03.2011]

Khandker, Shahidur R. and Osman H. Chowdhury (1996), "Targeted Credit Programs and Rural Poverty in Bangladesh" *World Bank Discussion Paper* 336. Washington D.C.: World Bank.

Latifee, H.I. (2007), "Grameen Trust Build-Operate-Transfer (BOT) Projects", *presented by Managing Director, Grameen Trust*. Available at <http://www.authorstream.com/Presentation/Callia-29511-gt-bot-Grameen-TrustBuild-Operate-Transfer-Projects-Trust-Programs-Bank-Approach-Professor-Yunus-Ms-as-Entertainment-ppt-powerpoint/> [Accessed 20.03.2011]

TGMP (2006-2009), *Turkish Grameen Micro Credit Program, Yearly Annual Reports*, <http://www.tgmp.net/eng/Financial.html>, [Accessed 24.03.2011]

Turkish Grameen Micro Credit Program (2008), *TGMP English Slide*, <http://www.tgmp.net/eng/index.html>, [Accessed 24.03.2011]