Chapter 4

Empirical Results

4.1 Characteristics of the Sample

4.1.1 Characteristics of Borrower

In this study, the sample is largely comprised of female borrowers. Female borrowers are 99.25 % of the sample and male borrowers are 2%. It's appears that female borrower is more willing to participate in the group lending. The average age of the borrower is 42 years. The number of working age family members (15 to 64 years old) is separated into two groups: "one to five family members" and "six to ten family members". According to the survey result, the "one to five family members" group is 72.5 % and "six to ten family members" is 27.25 %. Seventy-five percent of the respondents are married and 8% are single. Divorcees are 3.25 % of the sample and the remaining 13.75% are widowers.

Regarding the age level of borrower, majority of borrowers are between 20-40 years old. It can be assumed that young members are interested in group lending mechanisms and they need credit to do business or other purposes. The educational background of borrows is primary level (one to four grade) 32.75%, secondary level (five to eight grade) 35.75%, tertiary level (above nine grade) 21.75% and university level is 1.75%. Graduate borrowers are 2% and non-formal education borrowers are 6%. This 2% for graduate respondents illustrates the extremely low educational level of total borrowers. Those borrowers can continue their education because they are not

actually poor household. They have relatives that can support them and also have owned wealth to some extend.

The majority of borrowers are uneducated especially the poor and poorest families. At the grassroots level, the people's primary concern is for credit provision to support their daily survival and uplift their living standard. In terms of occupation of borrowers, those who are small-scale sellers represented 53.25% of the respondents. This group is referred to as street vendors. These borrowers are the poorest households when compared to the other five kinds of income generating activities. The casual labor group is the second poorest level of occupation in this sample. Those borrowers do not have regular income for their daily survive. These two situations imply that their income gap is slightly the same. Specifically, 26.25% or 105 borrowers do not have occupation. Among them, 17 were bad borrowers out of 105 non-occupation borrowers. It implies that, although those borrowers are unemployed, they have family income from other members of the household. Therefore, they are not a bad borrower.

The number of borrowers who faced difficulties of late repayment or default was 123 persons. Among them, 41.46% of the late repayment members have health problems themselves or within their family, 6.5% used the money for education, 2.23% faced bad weather especially in the raining season, and subsequently, their business was not good since most of these borrowers are street vendors. Natural disaster was the reason that 8.13% were bad borrowers and other situations were noted by 34.95%.

Members who utilized the loan for education were 11.75% of the sample. Those who used it for business were 56.25%. Other uses comprised 19.5%, and 12.5% used the loan to pay for other debt. Borrowers who borrowed the loan from money lenders or borrowed other loans were 138 persons or 34.5% and those who only borrowed one loan from YWDP project were 262 persons or 65.5%. One hundred twenty-three out of 400 borrowers had late repayment or default, and 277 had no late repayment and default history.

According to the results of loan utilization, over half of the borrower used the loan for the business, and 138 borrowers have outside loans. It is estimated that even though the borrower has credit, the excess demand of loan is high. We can see the cause of late repayment from the data collected from the 123 bad borrowers. There are 51 bad borrowers 41.46% of who had health problems. From this we can conclude that the main reason for late repayment is health emergency.

4.1.2 Characteristics of Family

The older borrower is 61year old and above. This group represents only 6.75% of the sample population. Most of the borrowers' ages are between 20 to 40 years old. This group represents 50.75%. The middle age group, 41 to 60 years old, is 42.5 % of total borrowers. Borrower family size in "one to five family members" groups is 72.5% of total borrowers and "six to ten family members" group is 27.25%. The number of children who are attending school in the family was separated into three groups: "one to five" group, "six to ten" group and "out of school" group. Figure 4.2 shows that, in terms of the number a students in the borrower's family, 75.25% of respondents have one to five students in their family and only 1.25% of

total borrowers are in the "six to ten student" group. Borrowers with school-aged children who are not attending school are 23.5% of total borrowers. According to this result, some of the households are not able to support their children's education because they need their children to work so that they all can survive for daily life. In addition, the majority of the children in the school group are at the primary and secondary level. This is the highest that they can afford, as tuition fees are quite inexpensive at these levels.

The number of family dependents is another factor explored in this research. Borrower who had one to four dependents represented 98.5% of all respondents and borrowers with five to eight dependents were 1.5 %. The number of workers in the borrower's family was split between the "one to four members" group, which was 84.25% of respondents, and the "five to eight members" group which was 9.75%. If we compare these two factors, dependency and number of workers in the household, it seems that the number of dependants is greater than the number of workers. As for occupation of the borrowers, home business was 0.75%, casual labor 10.75%, government employment 3.25%, non government employment 1.75%, animal breeding and agriculture group was 4% and no occupation was 26.25%. Home businesses include slipper making, small restaurants, and grocery shops. Those households' income is higher than street vending, casual labor, animal breeding and agriculture occupation.

According to the different kinds of occupation of borrower, the selling group like street vending income generating activities was the most pervasive and breeding and agriculture occupation was a smaller group. Moreover most of households were poor and working as casual labor. In the borrowers' families, 22.25 % of household

heads were working mostly as casual labor and 23.75% of them had no occupation. Household heads who were selling goods were 18.75% and those with home businesses were 17.75%. Government employment was 25% and non government organization employment was 36% of total borrowers. The breeding and agriculture household head occupation group was only 9%. Main income business of family in selling was 51.75%, home business was 20.25%, and casual labor was 11.75%. Government employment was 4% and non-government organization employment was 10.5%, breeding and agriculture were 2% and no main income or business of household was 2%.

Monthly income of the household is another variable. Respondents with a household monthly income between 10,000 kyat to 80,000 kyat were 24.75%. The income group of 80,001 kyat to 160,000 kyat were 60.5% and the 160,001 kyat to 240,000 kyat group was 14.5%. The group that earned 240,001 kyat to 320,000 kyat was 0.25%. The monthly expenditure of the household is another related variable. Household monthly expenditure from 10,000 to 80,000 kyat represented 26.5% of the sample population. Households spending 80,001 to 160,000 kyat per month were 67.75%. The range of 160,001 to 240,000 kyat per month were 5.5% and 0.25% of the respondents had a monthly household expenditure of 240,001 to 320,000 kyat.

4.1.3 Characteristics of Group Members

In the policy of MFI, group members must live in the same ward or near each other so that their physical proximity can help to decrease the default problem. Neighboring households can inform each other to come to the meeting or they can monitor what their neighboring member is doing. In the same ward, if the group has

some problem which group members cannot handle by themselves, they can go and ask the local authority to resolve the problem. Thus, members select their neighboring households to form the group. In our studies, 95% of members were living in the same ward and, only 5% were living in different wards than their fellow group members.
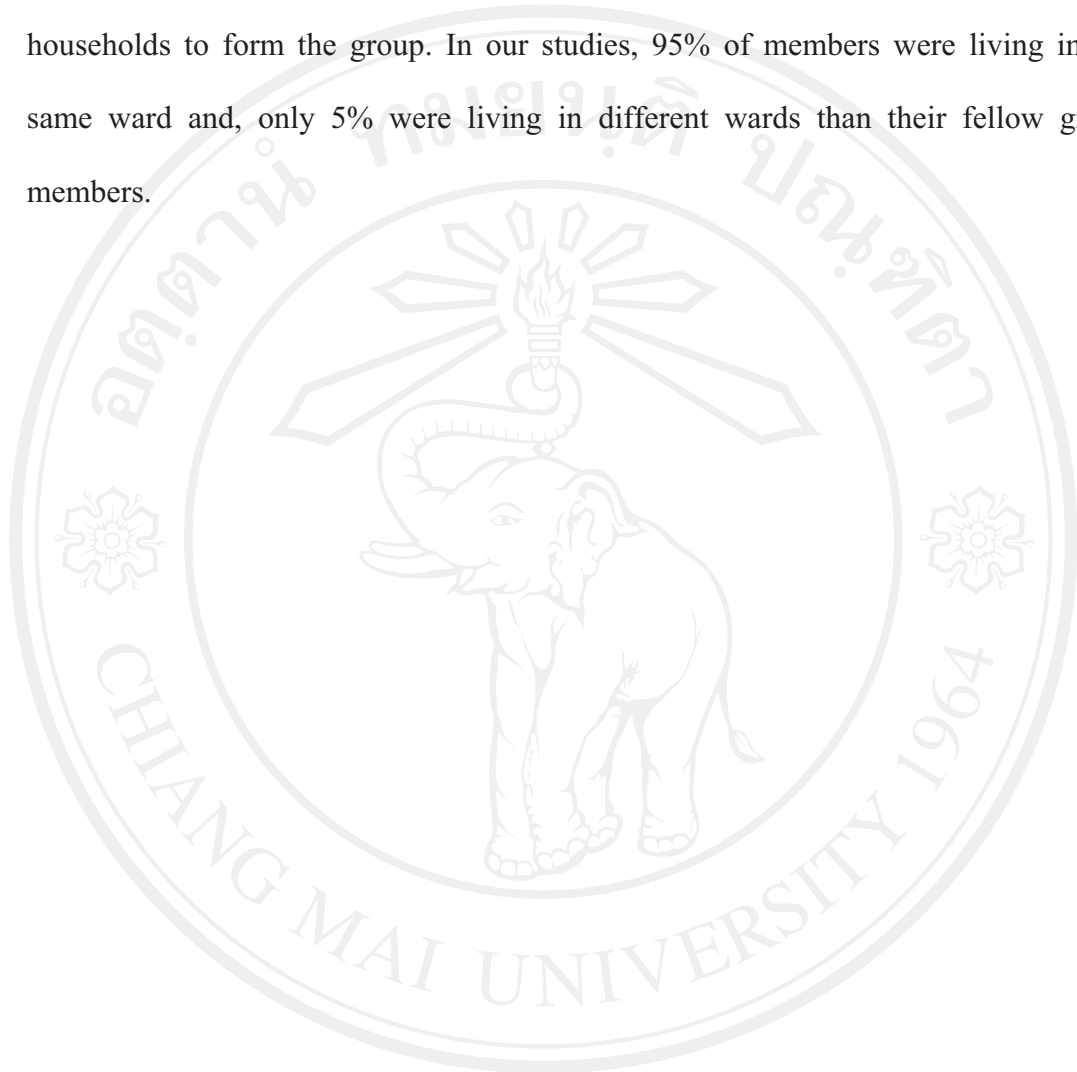
Table: 4.1Borrower's Characteristics

No	Categories	No. of people	Population (%)
1	**Township**		
	North Okkalapa	310	77.50
	Insein	49	12.25
	Hlaing Tha Yar	41	10.25
	Total	**400**	**100**
2	**Sex**		
	Female	397	99.25
	Male	3	0.75
	Total	**400**	**100**
3	**Age (years old)**		
	20-40	203	50.75
	41-60	170	42.50
	>61	27	6.75
	Total	**400**	**100**
4	**Marital status**		
	Married	300	75.00
	Single	32	8.00
	Divorce	13	3.25
	Widower	55	13.75
	Total	**400**	**100**
5	**Working age(15-64)**		
	One-five	347	72.5
	Six-10	47	27.25
	Total	**394**	**100**
6	**Borrower educational background**		
	Primary	131	32.75
	Secondary	143	35.75
	Tertiary	87	21.75
	University	7	1.75
	Graduated	8	2.00
	Non-formal education	24	6.00
	Total	**400**	**100**

Source: Survey

Table 4.2: Shows the Family's Characteristics

No	Categories	No of peoples	Population (%)
1	**Family size**		
	one-five	291	72.50
	six- ten	109	27.25
	Total	**400**	**100**
2	**In school**		
	one-five	301	75.25
	six- ten	5	1.25
	Out of school	94	23.50
	Total	**400**	**100**
3	**Dependents**		
	one-four	394	98.50
	five- eight	6	1.50
	Total	**400**	**100**
4	**No of worker**		
	one- four	337	84.25
	five-eight	39	9.75
	no worker	24	6.00
	Total	**400**	**100**
5	**Monthly income**		
	40000-80000	99	24.75
	80001-160000	242	60.5
	160001-320000	58	14.5
	320001- 480000	1	0.25
	Total	**400**	**100**
6	**Monthly expenditure**		
	40000-80000	106	26.5
	80001-160000	271	67.75
	160001-320000	22	5.5
	320001-480000	1	0.25
	Total	**400**	**100**

Source: Survey

Table 4.3: Job Characteristics of Borrower and Family

	Categories	No of borrower	percentage
1	**Borrower's occupation**		
	selling	213	53.25
	home business	3	0.75
	casual labor	43	10.75
	government employment	13	3.25
	non government organization (or)company worker	7	1.75
	breeding or agriculture occupation	16	4.00
	no occupation	105	26.25
	Total	**400**	**100**
2	**Household head occupation**		
	selling	75	18.75
	home business	71	17.75
	casual labor	89	22.25
	government employment	25	6.25
	non government(or)company worker	36	9
	breeding or agriculture occupation	9	2.25
	no occupation	95	23.75
	Total	**400**	**100**
3	**First priority business**		
	selling	207	51.75
	home business	81	20.25
	casual labor	47	11.75
	government employment	16	4
	non government(or)company worker	36	9
	breeding or agriculture occupation	5	1.25
	no occupation	8	2
	Total	**400**	**100**
4	**Second priority business**		
	selling	81	20.25
	home business	39	9.75
	casual labor	58	14.5
	government employment	15	3.75
	non government(or)company worker	42	10.5
	breeding or agriculture occupation	14	3.75
	no occupation	151	37.75
	Total	**400**	**100**

Source: Survey

Table: 4.4 Characteristics of Group Member

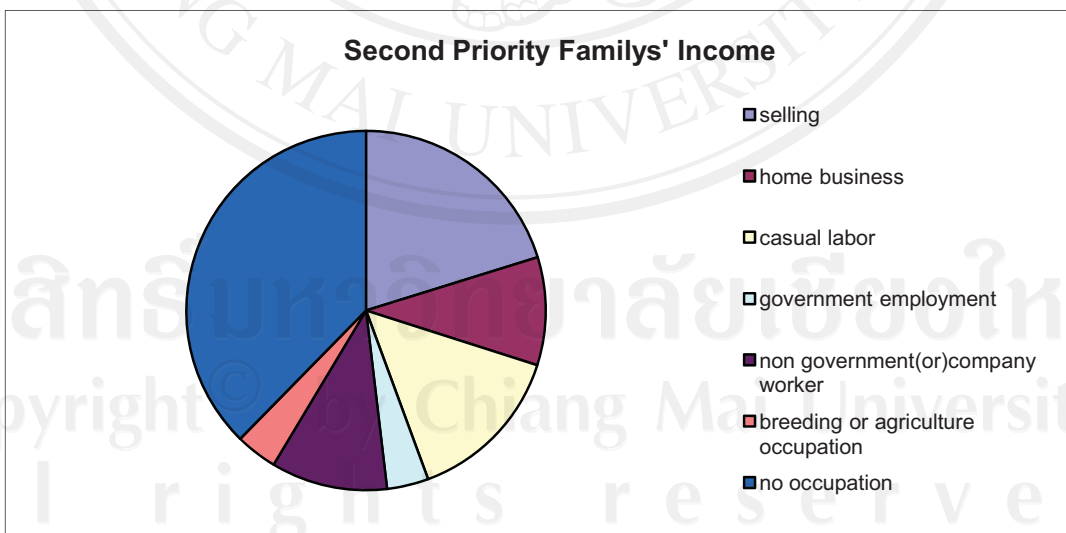| No	Categories	No of borrower	Percentages
1	member lived same ward	380	95
	member lived different ward	20	5
	Total	**400**	**100**
2	**Cause of being late repayment**		
	health	51	41.46
	education	8	6.5
	weather	11	2.23
	disaster	10	8.13
	others	43	34.95
3	**Total**	**123**	**100**
	Utilization		
	education	47	11.75
	business	225	56.25
	other	78	19.5
	debt	50	12.5
	Total	**400**	**100**
4	**Outside loan**		
	other loan	138	34.5
	no other laon	262	65.5
	Total	**400**	**100**
5	**Adoption**		
	yes	123	30.75
	no	277	69.25
		400	**100**

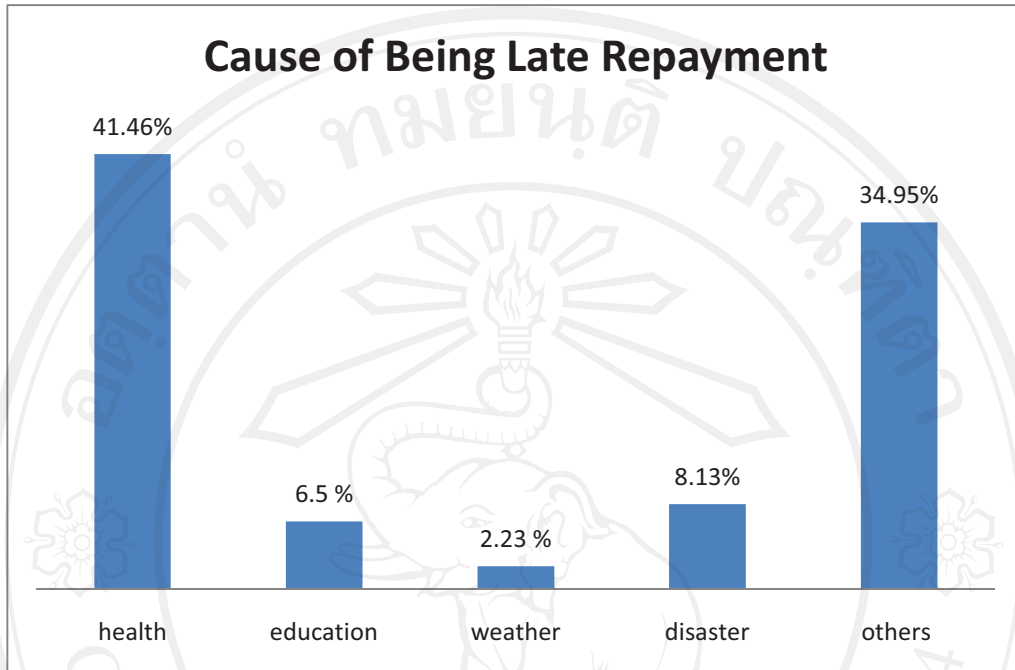Source: Survey

Figure 4.5: Job Characteristics of Household Head
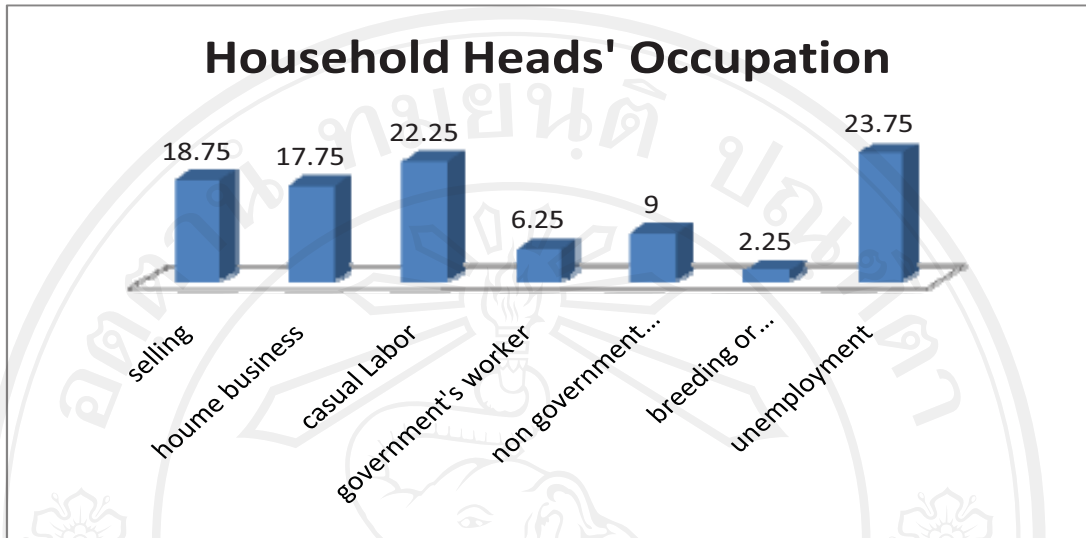
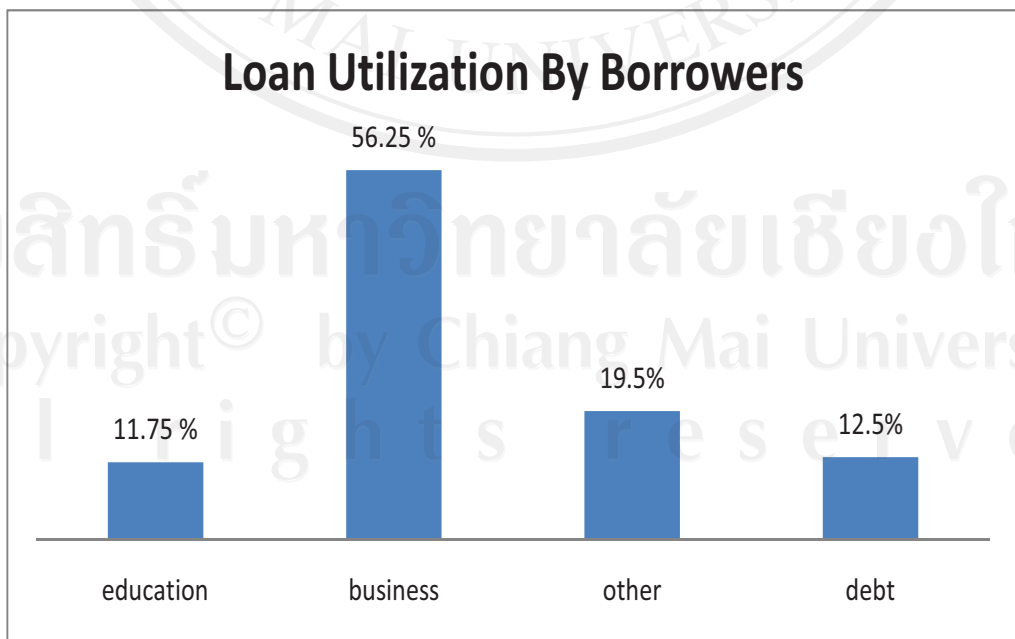Source: Survey

Figure 4.6: First Priority of Family Business

Source: Survey

Figure: 4.7: Cause of Being Late Repayment

Cause of Being Late Repayment

- health: 41.46%
- education: 6.5 %
- weather: 2.23 %
- disaster: 8.13%
- others: 34.95%

Source: Survey

Figure: 4.8: Loan Utilization By Borrowers

Loan Utilization By Borrowers

- education: 11.75 %
- business: 56.25 %
- other: 19.5%
- debt: 12.5%

Source: Survey

4.2 Factor Affecting the Adoption of Borrower's Repayment Performance

The purpose of this study is to predict the factors that play a role in the repayment performance of borrowers and to offer applicable policies and recommendations based on the findings. In total, the model used 31 variables that relate to the adoption of the borrower's repayment performance. There are female borrower (X_1), age between 20 to 40 (X_2), marital status (X_3), family size is five to eight (X_4), six to eight family member are age between 15 to 45 (X_5), six to eight number of children in school above 4(X_6), number of worker in family is 5 to 8 (X_7), number of family dependency is 5 to 8 (X_8), seller or street vendor occupation of borrower (X_9), animal breeding business of borrower (X_{10}), seller or street vendor occupation of household head (X_{11}), NGOs or company worker of household head (X_{12}), first priority business is animal breeding (X_{13}), second priority business is grocery shop or small home business (X_{14}), family monthly income is between 90000 to 150000 (X_{15}), family monthly expenditure is between 90000 to 150000 (X_{16}), primary level education of borrower (X_{17}), three year experiences of loan borrowing (X_{18}), first to firth loan cycle (X_{19}), loan amount under 100,000 (X_{20}), far distance of borrower's home (X_{21}), same ward (X_{22}), owned house and land (X_{23}), group pressure on late repayment (X_{24}), health problem (X_{25}), percentage of utilization amount in business (X_{26}), group team spirit (X_{27}), 100% of loan utilization (X_{28}), strong agreement for default repayment (X_{29}), loan recognition for next loan or new member (X_{30}), outside loan (X_{31})

Table 4.5: The Results of the Logit Model by Maximum Likelihood of Borrower

Repayment

Variable	Maximum Likelihood			
	Coefficient	Standard Error	T-ratio	Prob
X_1	2.22756819	.88602067	2.514 **	.0119
X_2	.90169507	.34799517	2.591 **	.0096
X_3	.66522186	.43644066	1.524	.1275
X_4	-.22984800	.36245334	-.634	.5260
X_5	.00096542	.66122888	.001	.9988
X_6	.00772128	.11461125	.067	.9463
X_7	-.00491363	1.03133334	-.005	.9962
X_8	.25711926	.61513843	.418	.6760
X_9	.64402464	.36441104	1.76 *	.0772
X_{10}	-1.17278814	4.61627900	-.254	.7995
X_{11}	-.34668646	.41611755	-.833	.4048
X_{12}	-1.27570461	.76755322	-1.662 **	.0965
X_{13}	.00426326	.03646104	.117	.9069
X_{14}	-.94277053	.68861088	-1.369 *	.1710
X_{15}	.40237068	.39674811	1.014	.3105
X_{16}	-.62324688	.41330340	-1.508	.1316

Table 4.5: Continued

Variable	Maximum likelihood estimates			
	Coefficient	Standard Error	T-ratio	Prob
X_{17}	1.00494174	.35555085	2.826**	.0047
X_{18}	.27835018	.39019374	.713	.4756
X_{19}	-1.24486528	.381111252	-3.266***	.0011
X_{20}	-.22428903	.45671866	-.491	.6234
X_{21}	.64579428	.40103066	1.610	.1073
X_{22}	-.85762597	.82910283	-1.034	.3009
X_{23}	-.21371993	.38884691	-.550	.5826
X_{24}	1.53983429	.53842839	2.860***	.0042
X_{25}	6.09286945	1.11363119	5.471***	.0000
X_{26}	-.0000907023	.0000381997	-2.374 **	.0176
X_{27}	-.45177526	.44101501	-1.024	.3056
X_{28}	-.00990862	.02638763	-.376	.7073
X_{29}	-3.95792398	1.69267283	-2.338***	.0194
X_{30}	-.70691060	1.30263280	-.543	.5874
X_{31}	1.92971678	.34851213	5.537***	.0000

Source: Calculated

Note ***   Significant at 1 percent level   restricted log likelihood   -246.8343

      **   Significant at 5 percent level   Chi-squared   231.6708

      *   Significant at 10 percent level   McFadden R^2 .4692841

    Log likelihood function -130.9989   Accuracy of Perdition   86.50

The analysis of the factors influencing the repayment performance of a borrower is based on the logit model which is estimated by the maximum likelihood method. The logit model uses dependent variables as a binary choice to find out whether the independent variables are affecting the dependent variable (observed value) of good borrowers or bad borrowers. The result of the MLE predicted that the marginal effect of log likelihood function is -130.9989 and restricted log likelihood is -246.8343. Chi square is 231.6708 and McFadden Pseudo R squared is .4692841.

The result of actual 1s and 0s are correctly predicted at 86.5%. The factor at the 1% significant level were X_{19}, X_{24}, X_{25}, X_{29}, X_{31} and significant at the 5% level were X_1, X_2, X_{12}, X_{17}, X_{26} and was significant at the 10% level are X_9, X_{14}.

The following X variables are presenting a marginal effect of explanatory variables are ranked from the higher significant outcome to the lower significant outcomes. According to the empirical analysis, there are 12 variables have been adopted significantly out of 31 variables in the model. According to the finding, following the factors are separated into increasing the probability of bad repayment and decreasing the probability of bad repayment by borrower.

4.2.1 Factors Influence to be Bad Borrower

1) Health Problem (X_{25})

Default or loan delinquency cases were severely affected by health problems. The health problems can happen to the borrower themselves or to their family members. Since 75% of women are married, they have been giving birth over and over again. Some poor women cannot afford or access pharmaceuticals and medical centers; they give birth at home with traditional midwife who is not formally

trained in medicine, but has experience of helping many women with giving birth. The cost of a midwife is relatively inexpensive when compared to a nurse but women who chose these midwives may have a higher risk of losing their life, if there are complications.

Other health cases are serious illness, funeral and an unexpected accident within the family. If a borrower's family member came down with a serious illness in other province, she would have to travel on the repayment day. It is assured that she will absent to pay her repayment. On the other hand, if the cost of health is higher than her savings, she will not prioritize to pay for repayment. In this case, the member was not just absent on repayment day, but also had a financial problem to come up with the health cost. Since the group members are poor, they can not afford to repay the loan and to spend on health cost simultaneously.

It is not only this finding of this research, YWDP themselves has highlighted this issue in their project assessment. If a health problem occurred, that person had no income and he or she has to use large amount of money for medical care. If the health problem happened, borrowers were absent from paying the loan repayment. The finding from this study indicates that if the health problem occurs, then the probability of being a bad borrower will increase by 85%.

2) Sex of Borrower (X_1)

Many of studies found that females are a less risky group than males in group lending activities such as management of the loan repayment of MFIs. In the finding of researcher Rafael Gomez, 2003 found out that delinquent borrowers were mostly male, single with less education and lower levels of business-related skills

training (Rafael Gomez and Eric Santor, p 58). However, in this analysis found that different sex of borrower, female with less education and lower level of business skills. The microfinance program is one such program aimed to empower by lending loans to women's groups, so that those women can be self-reliant. In the case of YWDP, women are empowered by being given the freedom to choose what kind of career that they would like to do. However, women still exhibit risk behavior for the loan repayment more than male borrowers. In this analysis, focusing on the YWDP project, women have a higher tendency to be a bad borrower than men. When discussing gender, the differences of political, economical and cultural elements related to gender change depending on the context of different countries. This study may have different behavior and characteristics of borrower in the selected townships. If the family is poor, parents will favor the boy for schooling and the girl may become a house helper to assist her mother in housework and to take care of young children. In this way, women become marginalized in the family. Thus, MFIs prioritize those poor women to become empowered by borrowing small loan to gain economic independence. They have a lack of knowledge and opportunity for obtaining a job. In this collected sample population, only three borrowers are men, but, we cannot compare the different proportion of men and women in this study. According to the high inflation and the effect of outside loan, those women are still risk subject by MFI. Specifically, in this selected sample, 104 out of 400 members, do not have their own businesses and rely on their husband's and family members' income. Interestingly, among the 104 non-occupation respondents, only 17 were bad borrowers. The rest of the 106 bad borrower members have earned a living by running their own business especially street vending to support the family.

However, this project has an impressive repayment rate of 98%. It doesn't mean that women should not be a client of credit institutions. It means that women require a lot of support to be able to properly use their loan and follow the repayment plan. It is also indicated that poor women need more assistance to strengthen their skill. This study is predicting women to have higher tendency to be a bad borrower. The results came out that female borrowers can increase the probability of being a bad borrower by 41%.

3) Outside Loan (X_{31})

Group with more outside loan options will increase the effect of riskiness of the lender because other debt may effect declining repayment. The more loans that borrowers, from various sources, the more loan burden they will face. If the borrower who borrowed the loan is borrowing not only from the credit institution but also from the outside, those peoples will have trouble to manage the repayment. The researcher Moh'd Hasan Al-Azam (2006), also found out that outside borrowing options have greater tendency for risky repayment. Moreover, if one borrower who has an extra loan even in another formal credit institution, (as compared to informal money lender), he or she will face difficulties to repay the loan on time. In the case of YWDP, the result shows that if the borrower has other loans it will increase the probability of being a bad borrow by 39%.

4) Lack of Group Pressure on late repayment (X_{24})

Numerous theories indicate that peer scan affect borrowers' repayment judgment through peer pressure, peer selection, and peer monitoring (Shanjun Li, Yanyan Liu, Klaus Deininger, 2009). Peer pressure is less costly than the monitoring

done by a formal bank and have been successful in reaching the same goals. (Stglizt, 1990, Banerjee et al, 1994, Besley and Coate 1995, de Aghion 1999, Morduch, 1999, Conning,2005,Shanjun Li, Yanyan Liu, Klaus Deininger, 2009).

But some studies found that there is a negative effect of peer pressure. Although the borrower is able to repay her loan, but because she is not satisfy with the peer pressure of her group members, so she let other members to pay her loan wile she is more willing to pay the individual loan outside (Besley and Coat,1995).Also, Moh'd Hasan and Al.Azzam found out that a greater degree of pressure among group member's reduced the number of days of late repayment.

Nevertheless, it depends on the culture dominance and awareness of the society. Among the group members if they pressure each other socially about being a bad borrower, those bad borrowers will take care of the loan delinquency or default. Since they are neighbors, peer pressure is highly affective in reducing unethical behavior. Although, peer pressure has a positive coefficient to increase loan repayment, it is not used in most groups. This may be because those members are living in the same ward and they are close neighbors, they have others social or business relationship in their daily lives.

These other aspects of their relationship inhibit them from acting negatively towards each other for the loan. Members are not willing to pressure the default members by using social sanction; they want the project loan officer to give pressure on the delinquent and defaulting members so that the other unethical members will not imitate the defaulter who received penalties of social sanction. Nevertheless, there is no doubt that peer pressure has significant affect to strengthen the loan repayment (Julia, Anne, 1996). The result also estimated that if the group

does not have peer pressure or social sanction on default cases, then the probability of being a bad borrower will increase by 22%.

5) Primary Level Education (X_{17}).

People who have higher education are able to get a higher level of job opportunity or they may have gained a certain level of knowledge about how to run a business. In the analysis of Ahlin and Townsend (2005) found out that, in term of the education of borrower, literate borrowers are likely to use the loan affectively and have more tendency of better repayment. Since the credit institution is trying to empower vulnerable people, almost all the target beneficiaries are uneducated. Thus, a microfinance institution must be concerned with what kind of policy or what kind of training should be provided for community development. The result shows that being a borrower with a primary level education will increase the probability of being a bad borrower by 19%.

6) Age level 20 to 40 (X_2)

It is expressed that the age group between 20 to 40 has the most bad repayment behaviors when compared to the group that is above 45 years old. It is implied that the older borrowers have more awareness and accountability to do their responsibilities. Older borrowers put emphasis on the importance of credit consciousness and are risk adverse due to the concern of social reputation, maturity and personal characteristics. This implies that the older borrower may have more awareness and accountability to do their responsibilities. This analysis implies that if the borrowers are age 15 to 45, the probability of being a bad borrower will increase by 16 %.

7) Seller or Street Vending Business(X_9)

The occupation of street vending is mostly done by poor households. For most of the borrowers who are working in this business type, the level of income is just barely enough to meet their daily survival. The result shows that if the borrowers are street vendors, the probability of being a bad borrower is increased by 11%. This probability is the smallest one out of the 31 variables.

4.2.2 Factor Influence to be Good Borrower .

1) Solidarity Group Agreement (X_{29})

According to the Gramen Bank Model, all members have a responsibility for helping members of their group who had difficulty to repay her loan on the repayment day. It is more favorable than using pressure on the absent person. It also encourages sympathy and helping behavior. Basically, group lending uses a solidarity group agreement to guarantee against arrears. Karlan (2003) shows that higher levels of social relationship are positively correlated with better repayment. Also, Whdick(1999) suggested that greater level of social cohesion such as members are living in the same neighbor hood and knowing each other steers to lower level of borrower default.

Group formation is the basic first stage to build the solidarity of the group. Group members must use a scanning technique when they form the group (Jameel Jaffar, 1999). They must guarantee, through a formal or informal contract, that they are liable to fill up the arrear if one member fails to meet the repayment. It is the way to get the high repayment rate of the MFI. If the group members are united in solving the delinquency or loan default, next future loan can be used as a reward

for the group. Otherwise, next loan will be halted by the MFI. This technique is used by loan officers before the time period of loan disbursement.

All members must make the commitment and take accountability to follow this procedure by oral or informal contract on the meeting day. Delinquency or default will be covered by the rest of group according to their contract. In this study, the analysis shows that if the group has a solidarity agreement for delinquency and default, the probability of late repayment will decrease by 70%.

2) First Times to Fifth Time Loan Cycle (X_{19})

First time to fifth time loan reveals that they are less experience (under three years' experiences) than other higher loan cycle. According to the survey data, those borrower's loan amount is not higher than 100,000 kyat (USD 100 $). However, we could not compare the lower loan amount and higher loan amount according to the survey data. Because, other higher experience borrowers with lower loan amount may had default in the past. Then, that bad repayment affected to reduce their present loan. It means that less experience borrower has less tendency of being a bad borrower. It can also conclude that less experience borrower has less amount of loan. Since a higher loan has a higher tendency of risk; those members will have a burden for repayment, if their income is not stable. It is indicated that if the repayment amount of the first cycle to fifth cycle loan group is under the manageable level, then the borrowers can handle repayment without a burden and can proceed to get next higher loan. The result shows that the first time to fifth time group of loan amount will decrease the probability of being a bad borrower by 20%. But in the

analysis of Bekele et.al. (2003) found out that borrower who took larger loans had better repayment performance than those who borrowed smaller loan.

3) Occupation of household head (X_{12})

In the borrower's family, the household head who works at a non-governmental organization or company which has regular income is better of since these positions need a certain level of education or skill. So, if the borrower's household head has that kind of occupation, he or she can be manage to repay the loan on time. Household head occupation is expressed as non-governmental organization work or company work. These kind of careers assured the worker of a certain level of income. In the Figure (4.5), this kind of household head was only 36 out of the 400 borrowers. Only people who have graduate level education can obtain this kind of occupation. The result shows that borrowers who have a household head who works at a non governmental organization or at company, will have a decreased the probability of late repayment by 17%.

4) Utilization Amount in the Business Investment (X_{26})

Utilization of loan amount is also affected on loan repayment rate. If borrower used the loan amount is higher in the business, the return will also high and borrower can manage vary well for the repayment. The analysis has shown that if the borrower used the loan amount is 1000 increased in the business, the probability of being a bad borrower will decrease by 1.6%.

5) Second Priority of Small Home Business (X_{14})

"Second Priority of Small Home Business" means that a household has

other income which is their second priority and that the type of business is groceries or other family home business. This factor emerged when the researcher interviewed the borrowers about the jobs that were held by members of their household. At first, the respondents would only mention the most important family business, but there were usually other income generation activities that the household was involved in. These were also important to document and thus they become the "second priority business of the family" meaning that they are not the most important business activity, but are a secondary supplement to the family's livelihood.

This business is usually a small food stall or grocery shop. Interestingly, it was found that the presence of this second priority business affected borrowers' repayment rate. If the household has this kind of business, they are not included in the poor level and their income is quite stable. The result shows that if the borrower family has small home business, the probability of being a bad borrower will decrease13%. Also, Bekele et al. (2003) found out that famers who owned more livestock were able to repay their loans even when their crops failed due to natural disaster.

Table 4.6: The result of Logit Model by marginal effect of borrower repayment performance

Variable	Marginal effect			
	Coefficient	Standard Error	T-ratio	Prob
X_1	.41003122	.17894235	2.291 **	.0219
X_2	.16481009	.06884824	2.394 **	.0167
X_3	.11184434	.06973888	1.604	.1088
X_4	-.04239821	.06732077	-.630	.5288
X_5	.00017774	.12175969	.001	.9988
X_6	.00142127	.02088859	.068	.9458
X_7	-.00090337	.18938383	-.005	.9962
X_8	.04977411	.12509786	.398	.6907
X_9	.11698064	.06728163	1.739*	.0821
X_{10}	-.15425145	.38848405	-.397	.6913
X_{11}	-.06022065	.06886670	-.874	.3819
X_{12}	-.17352388	.08166459	-2.125**	.0336
X_{13}	.00078474	.00667723	.118	.9064
X_{14}	-.13985701	.08213899	-1.703 *	.0886
X_{15}	.07237358	.07119101	1.017	.3093

Table 4.6: Continued

Variable	Marginal effect			
	Coefficient	Standard Error	T-ratio	Prob
X_{16}	-.12082064	.08524584	-1.417	.1564
X_{17}	.19934038	.07980254	2.498**	.0125
X_{18}	.05333191	.07772163	.686	.4926
X_{19}	-.20642406	.06831328	-3.022***	.0025
X_{20}	-.04180825	.08608355	-.486	.6272
X_{21}	.12844247	.08744167	1.469	.1419
X_{22}	-.18517825	.20079898	-.922	.3564
X_{23}	-.04050848	.07614906	-.532	.5948
X_{24}	.22007509	.07329447	3.003***	.0027
X_{25}	.85468162	.04449171	19.21***	.0000
X_{26}	-.0000166957	.00000730203	-2.262**	.0237
X_{27}	-.08315883	.08225871	-1.011	.3120
X_{28}	-.00182389	.00499112	-.365	.7148
X_{29}	-.70449607	.10886195	-6.471***	.0000
X_{30}	-.15075776	.30942674	-.487	.6261
X_{31}	.39043318	.08073793	4.836***	.0000

Source: Calculated   **   Significant at 5 percent level

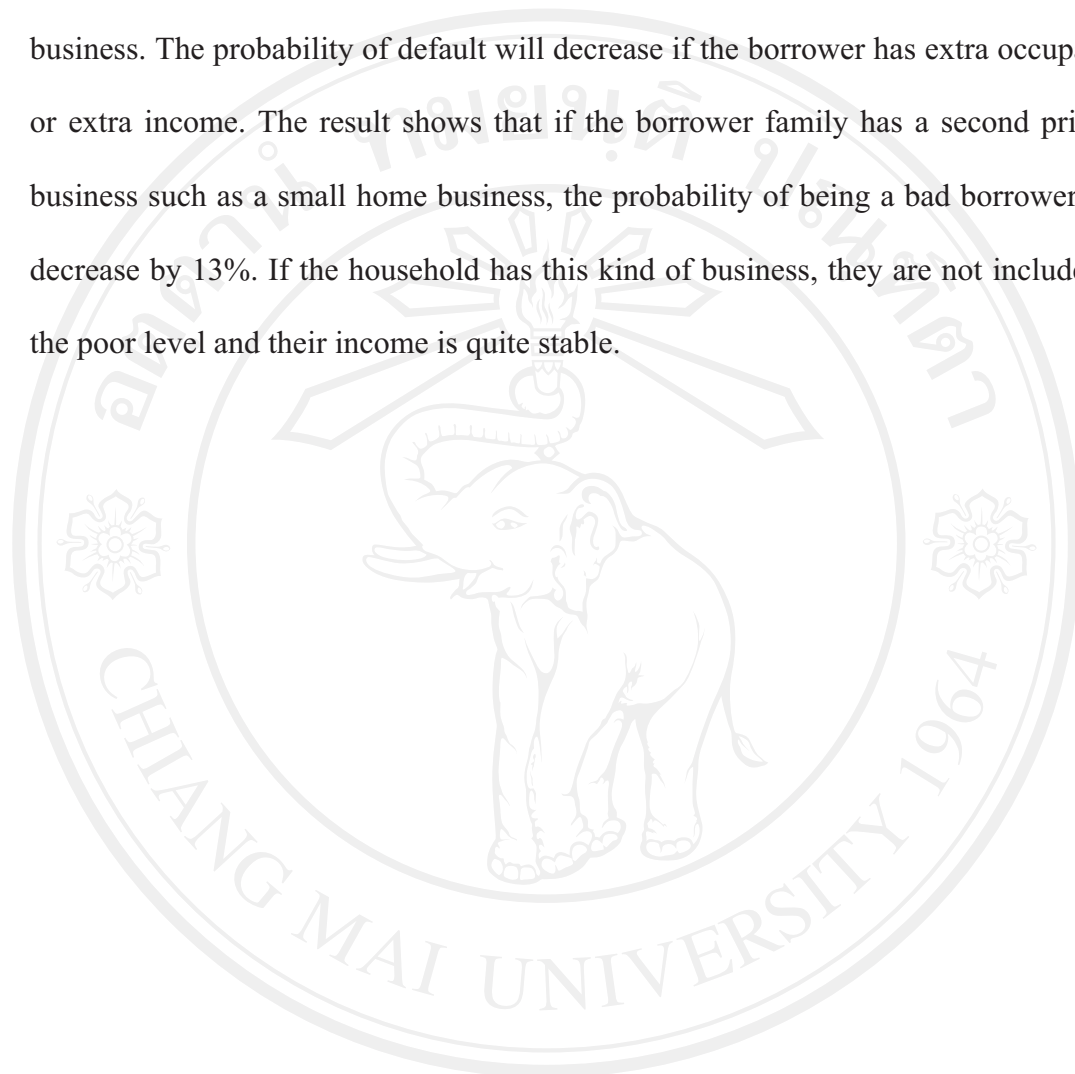Note   ***   Significant at 1 percent level   *   Significant at 10 percent level

4.4 Summary of Delinquents versus Successful Borrowers

In terms of unplanned health expenditure, which can be increased the probability of being delinquent member by 85%. Health problems can happen unexpectedly and it is uncontrollable circumstance for poor people. In term of the gender, in this empirical result, the probability of delinquent borrower tends to be female. The women's lack of knowledge about business skills and weakness of loan monitoring of YWDP is also factors that promote bad borrowing. The study found that women to have higher tendency to be a bad borrower. This factor increases the probability of being a bad borrower by 41 %. With respect to the additional loan from outside most of the informal local money lenders charge daily usurious rates. If we looked back at Figure (4.7), 138 borrowers have another loan from outside moneylender. If a borrower has another loan at a usurious rate, they may have a heavy burden to pay for the repayment. The result shows that if the borrower has other loan the probability of being a bad borrower by 39%. In term of peer affect on repayment, if the group does not use peer pressure to encourage repayment, then the probability of being a bad borrower will increase by 22%. According to the group formation, in the selected townships, members frequently choose their neighbors for their groups. For this reason, they all know each other well and may have social and business relationships that are external to the loan group. Hence, they may have awareness of that their activities within the group and it can influence their broader social reputation. Regarding the experiences of borrower, the analysis shows that less than 3 years experiences borrowers have better repayment. In term of the level of borrower education, there were five level of educations included as variable in this study: primary, secondary, tertiary, under graduate and graduated level. In the figure (4.3),

131 borrowers had a primary level educational background. This factor can increase the probability of being a bad borrower by19%. Young borrowers, ages 20 to 40, have the bad repayment behaviors when compared to that borrower group that is above 41 years old. The result implies that if the borrowers are between the ages of 20 to 40, the probability of being a bad borrower is increased by 16 %. Lastly, influential factor is street vending business. This group has an economic hardship in their daily live. The empirical analysis shows that if the borrower a street vendor, then the probability of being a bad borrower will increase by 11%.In terms of loan guarantee, a solidarity group agreement shares the risk among the group and relieves the lender of the risk. Ideally, group lending does not need collateral but it is based on the social collateral in every single group. The result is that if the group has a solidarity group agreement, then the probability of being a bad borrower will decrease by 70%. Regarding the experiences of borrower, the analysis shows that less than 3 years experiences borrowers have better repayment. If the borrower has less experience (compared with above 3 years experiences borrower) the probability of being a bad borrower will decrease by 20%. Regarding the occupation of household head, the result shows that if the household head, in the borrower's home, works at a non-governmental organization or at a company, it can decrease the probability of late repayment by 17%. On the other hand, under the three years experiences, the amount of loan is not higher than 100,000 kyat ($ 100 USD). Thus, borrowers can manage the loan and have fewer burdens for the weekly or monthly repayment. The amount of loan used in the business also statistically significant on better repayment. It was found that for 1000 kyat which the borrower used in their business, the probability of that person being a bad borrower decreased by 1.6%. But, if the amount that they use for business

goes down by 1000 kyat, then their probability of being a bad borrower will increase in the same way. This shows the importance of using the loan towards the intended business. The probability of default will decrease if the borrower has extra occupation or extra income. The result shows that if the borrower family has a second priority business such as a small home business, the probability of being a bad borrower will decrease by 13%. If the household has this kind of business, they are not included in the poor level and their income is quite stable.