The Microfinance Contributions on the Household Income of the Borrowers of Amanah Ikhtiar Malaysia (AIM) in Malaysia

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Abstract

The main aim of the study is to investigate the impact of Amanah Ikhtiar Malaysia (AIM) microcredit on the total income of borrower's households in East Coast Region, Malaysia. The present study utilizes descriptive statistical and econometric techniques. The multiple regression models are used to estimate how microcredit as well as demographic and socioeconomic factors influence the total income of borrower's households. Based on the multiple regression techniques the study concludes that there are strong and significant positive influences of AIM's microcredit towards the increase of household total income of the respondents. The present study recommends policy considerations for the successful and effective operation of microfinance programs through the increase of proper income generating activities, sufficient amount of access to credit, creation of self-employment opportunity in Malaysia.

Keywords: Microfinance, Microcredit, Households Income, Amanah Ikhtiar Malaysia (AIM), and Malaysia

1.0 Introduction

Microfinance has been recognized as a powerful and effective tool in combating poverty, and thus, access to credit for the poor has been rapidly expanding in helpless societies all over the world over the past few decades (Basher, 2010; Kabir Hassan & Tufte, 2001; Morduch, 1999; Schreiner, 1999; Hossain, 1988). The Nobel Prize Committee awarded the 2006 Nobel Peace Prize to Muhammad Yunus and the Grameen Bank for their efforts in creating economic and social development from below. The microfinance revolution has come a long way since Yunus first provided financing to the poor in Bangladesh. The committee has recognized microfinance as "an important liberating force" and an "ever more important instrument in the struggle against poverty."

Several authors have provided comprehensive surveys of microfinance. For instance, group formation has a great potential to empower and to raise the income of poor people. However, the chronically poor are disadvantaged in group formation, which may result in a vicious circle and dynamics of chronic poverty. These disadvantages include lack of assets, isolation, and low levels

of access to political institutions. Successful groups of the poor often exclude the even poorer, particularly those associated with market functions. The most important political function of groups is to help overcome marginalization and social exclusion experienced by the poorest (Thorp et al., 2005).

Malaysia is doing well in making a reasonable and necessary economic policy, and development all over the country over the past few decades. However, ensuring women empowerment prevent Malaysia from becoming a completely developed country by 2020. Since 1987, Amanah Ikhtiar Malaysia (AIM) has been the major and largest microfinance institution (MFIs) in Malaysia that has adopted the Grameen Bank microcredit approach for providing credit to poor women who can use it for Income generating Activities (IGAs) that can help them move out of the poverty group. However, the success story of AIM does not reflect the remarkable positions for empowering the hard-core poor women and the reduction of poverty in the economic growth in Malaysia. This paper conducts a rigorous study to have a look of AIM contribution to the household of women poor borrowers in Malaysia. The research output will be able to draw out a future direction for effective use of credit for income generating activities and ensure development of poor women in Malaysia.

2.0 Background

Malaysia is touted as an Asian miracle because of the remarkable economic growth within the last three decades. Microcredit is a proven tool against poverty in developed and developing countries. It has launched a challenge to the formal financial system with the hope of development for the poor, which comprises a large part of the world population. Microfinance is not new in Malaysia. This program has been operated by credit unions, cooperative banks, and the specialized credit windows of banks. The formal microcredit institutions were developed in Malaysia when Majlis Amanah Rakyat (MARA) was formed by an act of parliament in 1966. It originally began as the Rural Industrial Development Authority (RIDA), that was established by the British colonial administration in 1951. As a program, RIDA aimed to provide economic assistance and to support Malay farmers and rural inhabitants. This organization was later expanded and became MARA in 1966.

The council of trust to the Bumiputera and Credit Guarantee Corporation (CGC) introduced microfinance loans to its borrowers. Currently, several government and non-government organizations (NGOs), such as Yayasan Usaha Majuin Sabah, Koperasi Kredit Rakyat in Selangor, Tabung Ekonomi Kumpulan Usaha Neaga (TEKUN), Credit Guarantee Corporation (CGC), National Savings Bank (BSN), and AIM, engage in national and local microfinance in Malaysia. Moreover, a few remarkable institutions that have been providing microcredit in the agricultural sectors are the Agriculture Bank of Malaysia (BPM), Farmers Organization Authority (LPP), Federal Land Development Authority (FELDA), and agro-based Cooperative Societies. Recently, several commercial banks, for example, CIMB, are also engaged in microcredit activities. However, these banks do not operate their activities directly as microfinance providers. Their involvement is limited to expanding the lines of credit to AIM and other MFIs as a mediator for the schemes (APEC, 2005). Some of the MFIs of the government and NGOs in Malaysia are described in Table 2.1.

Table 2.1 Active MFIs in Malaysia

Name of MFIs	Date of Birth	Status	Locations/Scale
Federal Land Authority (FELDA)	1956	Governmental	National
Majlis Amanah Rakyat (MARA)	1966	NGO	National
Credit Guarantee Corporation (CGC)	1972	Governmental	National
Farmers Organization Authority (LPP)	1973	Governmental	National
National Savings Bank (BSN)	1974	Governmental	National
Amanah Ikhtiar Malaysia (AIM)	1987	NGO	National
Koperasi Kredit Rakyat (KKR)	1988	NGO	Selangor
Tabung Ekonomi Kumpulan Usaha Negara (TEKUN)	1998	NGO	National
Yayasan Usaha Maju (YUM)	2002	NGO	Sabah
Bank Pertanian Malaysia (BPM)	2003	Governmental	National

Sources: (APEC, 2005)

The Malaysian government acknowledges the importance of the poor having access to financial services they need. Thus, MFIs, particularly NGOs, have generally been supported. Acknowledging the important role played by the MFIs, the government launched a microcredit scheme in 2003 as part of a comprehensive strategy to stimulate the economy, particularly agricultural production activities, and to expand the activities of small and medium enterprises. Moreover, the Malaysian government also expresses that the goal of fighting poverty remains to be a major emphasis of the Ninth Malaysia Plan (9th. Malaysia.Plan, 2006).

2.1 Poverty and Livelihood in Malaysia

In the last three decades, the Malaysian economy has experienced a rapid macro-economic development and a strong record of accomplishment of tackling poverty. In 1971, the country declared war against poverty with the New Economic Policy. The rapid growth of the economy reflected in the rising per capita income. The GDP per capita income increased from RM1022.00 in 1970 to RM 3599.00 in 1985, RM4426.00 in 1990, RM14582.00 in 2000, RM 18,840 in 2005, and RM 23,066 in 2006. Consequently, the poverty rate declined year by year. The poverty was 49.3 percent in 1970, and it lowered to 16.5% in 1990 and 6.7% in 1997. The number of poor households declined significantly from 1,000,000 households in 1970 to 274,200 households in 1997.

The East Asian financial crisis that started in July 1997, affected the Malaysian economic growth in 1998. Thus, poverty rose from 6.1% in 1997 to 7.5% in 1999, while the number of poor households increased from 274,200 to 360,100. In 2002, the economy recovered, and the poverty declined from 5.1% in 2002 to 3.6% in 2007, while the number of poor households decreased from 267,900 to 209,000 (Table 1.2) (Mid-term Review of Eighth and Ninth Malaysia Plan 2003 and 2008, respectively). Hard-core poverty also decreased from 3.9% in 1990 to 1.4% in 1997[1]. The number of hard-core poor households also declined by 50%, from 137,100 in 1990 to 62,400 in 1997. However, in 1999, hard-core poverty remained at 1.4%, which is the same as in 1997.

[1] In Malaysia, households with income that is half of the defined poverty line income or less is considered hard-core poor HHs.

Nevertheless, the number of hard-core poor households increased from 62,400 in 1997 to 66,000 in 1999 because of the financial crisis. In 2007, hard-core poverty fell to 0.7% with 52900 hard-core poor households. Thus, Malaysia indeed succeeded in reducing absolute poverty.

Table 2.2 Poverty Incidences in Malaysia (%)

Year	Poverty Incidence		Incidence of Hard-core Poverty	
	Poverty rate %	Number of Households	Hardcore poverty rate %	Number of households
1970	49.3	1,000,000	-	-
1976	42.4	9,75,800	-	-
1984	20.7	6,49,400	-	-
1990	16.5	5,74,500	3.9	1,37,100
1995	8.7	3,65,600	2.1	88,400
1997	6.1	2,74,200	1.4	62,400
1999	8.5	3,60,100	1.4	66,000
2002	5.1	2,67,900	.05	52,900
2004	5.7	311300	1.2	67,300
2007	3.6	209,000	0.07	40,638

Source: (9th.Malaysia.Plan, 2006; 10th.Malaysia.Plan., 2010)

Malaysia has successfully reduced the rate of overall poverty to a negligible percentage, but the specific threat from poverty is quite noticeable among certain groups in specific areas and states. For poverty reduction, the current Malaysian government is scaling up the income of the poor, particularly in the agricultural and rural sectors. In the 2006 budget, the government allocated RM 700 million for poverty reduction programs, which implied great opportunities for MFIs to play a vital role in helping the government reach their millennium goal and vision for 2020 by completely eradicating poverty and ensuring sustainable livelihood.

However, the present Malaysian government has also targeted to reduce the overall poverty to 2.8% by 2010. To reach these objectives, programs targeted at specific impoverished groups were pursued, including reaching out to the urban and rural poor. Specific programs were implemented to address poverty among the Bumiputera minorities in Sabah and Sarawak and to tackle the high poverty rate in the Orang Asli community. Existing programs and projects under the Skim Pembangunan Kesejahteraan Rakyat, The Integrated Development Programs for Urban Community, AIM, and various capacity building programs were enhanced and monitored the poverty-reduction programs to ensure the reduction of hard-core poverty and to eliminate the overall poverty according to the plan (10th. Malaysia. Plan, 2010; 9th. Malaysia. Plan, 2006)**.**

3.0 Review of Literature

Numerous studies were conducted on the relationship between microfinance and poverty alleviation in Malaysia. In 1990, Sukor and Gibbons carried out internal impact studies that discovered the significant performance of MFIs to help the borrowers for increasing household income. Particularly, 55% of the monthly household income of clients increased from an average of RM142 per month prior to participation to RM220 per month after the participation. The overall

repayment rate was 78%, which is lower than the cumulative repayment rate achieved by the Grameen Bank (97% to 98%) and the target repayment rate set by project Ikhtiar (90%). However, the repayment rate was 95% among the women borrowers (Gibbons and Kasim, 1990).

Furthermore, Chamhuri & Basri (2001) showed that the outreach performances of these MFIs are relatively low. AIM has the highest outreach compared with two MFIs. However, the study concluded that many poor women have benefited from the microfinance programs (Siwar & Abd.Talib, 2001). By contrast, Rahmah (2001) found in that the AIM loan was applied for engaging in trading activities, which were not very successful in moving households out of poverty. However, the level of income and expenditure for the experimental group was higher than those of the control group, implying that the standard of living of the former was higher (R. Ismail, 2001). Moreover, Salma (2004) reported that MFIs contribute to the increase of household income, expenditure, savings, and assets. These items were higher for both the participants of AIM and Projek Perumahan Rakyat Termiskin (PPRT) or Housing Project for the Poor than the non-participants. The study also revealed that AIM clients did better than the PPRT members especially in generating income (M. Salma, 2004).

On the other hand, Abdullah Al, & M., S. A. Wahab (2010) measured the impact of AIM microcredit schemes on the quality of life of hard-core poor households in Peninsular Malaysia. Their study employed a cross-sectional design with stratified random sampling, and aimed to examine whether participation in the microcredit programs of AIM improved the quality of life of the hard-core poor households. Their study found that older respondents live in better and bigger houses, use permanent housing materials, use environmentally safe cooking fuel, enjoy healthy toilet facilities, own refrigerators, washing machines, and televisions more than the new respondents (Abdullah-Al et al., 2010; Khandker, 2005). However, Chong & Morni (2010) investigated the demographic factors that affect the repayment performance of the customers of non-bank financial institution in Kuching, Sarawak.

The data that were required for analysis were collected by using a structured questionnaire from the existing customers of non-bank financial institutions for housing, personal, and business loans in Kuching. Their study reported that 55% of the respondents did not pay on time. Their sample comprised 62% male and 38% female respondents. Most respondents (67%) belonged to the age group of 30 to 39. In terms of education, 70% of the respondents possessed a diploma or a degree (Chong et al., 2010). In the same way, Ismail & Salamudin (2010) investigated the perceived effectiveness of microfinance program on the consumption effect and wealth of households. The target population of this study covered the clients of AIM in Kelantan. The study shows that microfinance contributed to smoothing the household consumptions. By referring to this relationship, microfinance programs might possibly change the wealth of households and improve the quality of life, including a positive change in household consumptions (M. K. A. Ismail et al., 2010).

Moreover, Ahmed & Siwar (2011) observed that microcredit programs provide small loans to the very poor to undertake self-employment and other financial and business activities. This opportunity gave the very poor the ability to care for themselves and their families and to achieve independence. Their study focused on the AIM loan program, financing scheme, loan disbursement, and the achievement indicators of AIM microcredit program to poverty alleviation in Malaysia (Ahmed et al., 2011). Abdullah & Adaikalam (2011) determined the current level of unsatisfied basic needs among poor and low-income women in Peninsular Malaysia. The study showed that poor and low-income women are mostly satisfied with the indicators of basic needs. The study also revealed a significant association between the quality of housing, the quality of

water supply, and safety condition. Daily living needs were associated with the location of respondents, namely, urban and rural areas (Abdullah Al & Adaikalam, 2011).

In the same way, Al-Mamun & Malarvizhi (2011) examined the effects of the microcredit program of AIM on the microenterprise income of hard-core poor households in Peninsular Malaysia. The study revealed that the microcredit program of AIM increased the microenterprise income of their clients in Peninsular Malaysia (Al-Mamun et al., 2011). Saad & Duasa (2011) used econometric models to evaluate the economic performance of clients participating in the microcredit program of AIM. Several proxies were used for the economic performance variable (dependent variables), such as the level of earnings/income, the ratio of spending to income, and the value of assets. Their study revealed that the amount of money borrowed from AIM significantly determined the economic performance of the participants of AIM.

The factors influencing the economic performance of respondents are education level, age, gender, assets owned before joining AIM, and the area of residence (Saad & Duasa, 2011). On the other hand, Al-Mamun & Adaikalam (2012) presented the impact of the microcredit program of AIM on microenterprise assets owned by poor women in the rural areas in Peninsular Malaysia. Their study showed that the current market value of livestock, agricultural/production equipment, agricultural stock/raw materials, enterprise assets, and motor vehicles owned by old client respondents were relatively higher than that of new client respondents (Al-Mamun et al., 2012).

4.0 Methodology

The study specifically analyses the effect of microcredit on participants (borrowers or clients). Primary samples of 384 have been collected through field survey method in the selected area such as Terengganu, Kelantan and Pahang through purposive stratified random sample method. This study uses inferential descriptive statistical and econometric tests. These include parametric tests of means (ANOVA and T-tests), correlations, and multiple linear regressions. The study also employs multiple regression analysis, to determine the relationship between borrowers' monthly household income and microcredit as well as others demographic factors.

4.1 Multiple Leaner Regression Model:

$$Y = \beta_o+\beta_1 X_1+\beta_2 X_2+\beta_3X_3 + \beta_4X_4 + \beta_5X_5+ \beta_6X_6 + \beta_7X_7 + \beta_8X_8+ \beta_9X_9 + \beta_{10}X_{10} + \beta_{11}X_{11} + \beta_{12}X_{12}+ u$$

Whereas:

Y = Total Monthly Income of Household Members

X1=Age (In year), X2=Marital Status (Female=1, Male=0), X3= Education up to Secondary (Up to Secondary =1 , Others=0), X4 = Education up to Secondary (Up to Secondary =1 , Others=0), X5 = Occupation in agriculture (Occupation in agriculture =1 , Others=0), X6 = Occupation in Business (Occupation in Business =1 , Others=0), X7=Household Earning (Actual Number), X8 = Household Members (Actual Number), X8= Number of Year Invoving with MFIs (In year), X10 =Total Amount of loan Received (In RM), X11= Purpose of used loan (IGAs=1, Others 0), X12=Total Assets

u = Error term βo = Constant (intercept term) $\beta_{1,2\ldots12}$ are the coefficients of explanatory variables

5.0 Findings

5.1 Status of Employment of Respondents

Table 5.1 shows the status of employment of respondents before and after joining AIM. Only 61.7% of the respondents were involved in self-employment or business before they joined AIM, and 23.4% were housewives. After joining AIM, the members who engaged in self-employment increased to 77.6%, whereas housewives comprised only 21.3% of the respondents. Therefore, the AIM credit has increased self-employment.

Table 5.1 Status of Employment Before and After Joining AIM

Types of Business	Types of Employment			
	Before		After	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Housewife	90	23.4	82	21.3
Business	237	61.7	298	77.6
Others	57	14.9	4	1
Total	384	100	384	100

Source: Primary Data from Survey

5.2 Respondents Involved in the Microcredit Scheme of AIM

Table 5.2 shows that the involvement of the respondents in credit is 5.42 years on average. The maximum and minimum involvement range is 19 years and 1 year, respectively.

Table 5.2 Number of Years Involved in AIM

Number of Years Involved in AIM	
Measurement Scale	Number of Years
Mean	5.42
Minimum	1
Maximum	19

Source: Primary Data from Survey

5.3 Range and Total Amount of Loan Received

Table 5.3 presents the range and total amount of loans received by respondents. Based on the survey, only about 7% of the respondents borrowed RM2000. Most respondents (28.4%) borrowed RM2000 to 4000. Table 4.8 also shows that 8.6%, 15.6%, and 6.5% of the respondents borrowed RM4001 to 6000, RM6001 to 8000, and RM8001 to 10000, respectively. Furthermore, 12.2%, 4.7%, 2.9%, and 8.3% of the respondents borrowed RM10001 to 15000, RM10001 to 20000, RM20001 to 25000, and RM20001 to 50000, respectively. The highest amount of loan is RM50000, which was lent to 5.7% of the respondents. The average amount of loan is RM11541.67, while the maximum amount of loan is RM100000 and the minimum amount of loan is RM2000.

Table 5.3 Range and Total Amount of Loan Received

Range and Total Amount of Loan Received		
Loan Ranges	**Frequency**	**Percentage (%)**
<RM2000	27	7
RM2000 to 4000	109	28.4
RM4001 to 6000	33	8.6
RM6001 to 8000	60	15.6
RM8001 to 10000	25	6.5
RM10001 to 15000	47	12.2
RM10001 to 20000	18	4.7
RM20001 to 25000	11	2.9
RM20001 to 50000	32	8.3
> RM 50000	22	5.7
Total	384	100
Mean	11541.67	
Minimum	2000	
Maximum	100000	

Source: Primary Data from Survey

5.4 Household Income of Respondents Before and After Joining AIM

The total income of household is based on what the respondents remember. The data from the survey shows that the average monthly household income of the respondents increased over the last five years.

Table 5.4 Household Income Before and After Joining AIM

Distribution of Household Income		
Measurement Scale	**Household Income**	
	Before	**After**
Mean	516.15	1765.86
Minimum	200	300
Maximum	3500	13500
Increase (%)	***242.12%***	

Source: Primary Data from Survey

Table 5.4 indicates that the average monthly income of the respondents is RM1765.86 at present and RM516.15 five years ago. Furthermore, the households of the respondents were able to increase their family income by 242.12% in five years.

5.5 Range of Income Before and After Joining AIM

Table 5.10 shows the range of income of borrowers before and after joining AIM. Before joining AIM, the income of 11.2% of the respondents was around RM500. After joining AIM, only 7.3% of the respondents retained having an income around RM500. Moreover, 29.9% of the respondents had incomes that ranged from RM501 to 1000, and only 26.8% had incomes within the same range.

Table 5.5 Range of Income Before and After Joining AIM

Ranges of Income Before and After Joining AIM				
Ranges of Income	**Before**		**After**	
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**
<RM 500	43	11.2	28	7.3
501 to 1000	115	29.9	103	26.8
1001 to 2000	99	25.8	105	27.3
2001 to 3000	94	24.5	113	29.4
3001 to 4000	17	4.4	19	4.9
>4001	16	4.2	16	4.2
Total	384	100	384	100

Source: Primary Data from Survey

Before joining AIM, 25.8% of the respondents earned RM1001 to 2000, and 27.3% of the respondents had the same range of income after joining AIM. Moreover, 24.5% of the respondents earned RM2001 to 3000 before joining AIM. The percentage of respondents who had the same range of income increased to 29.4% after joining AIM. Moreover, 4.4% and 4.9% of the respondents had income ranging from RM3001 to 4000 before and after joining AIM, respectively. Finally, 4.2% of the respondents earned approximately RM4001 before and after joining AIM.

5.6 Sources of Household Income Before and After Joining AIM

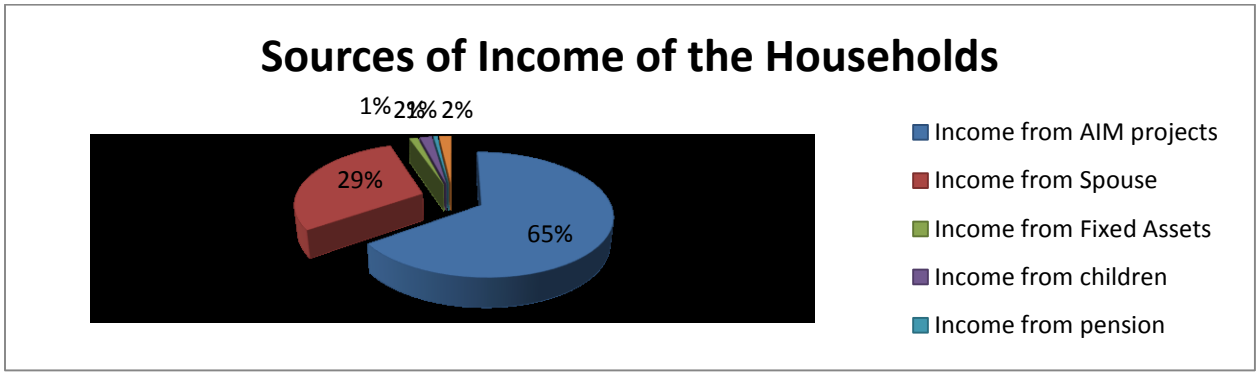
Table 5.6 and Figure 5.1 show the different sources of income of the respondents before and after they joined AIM. Before joining AIM, 82.32% of the respondents considered their spouse as the source of income, whereas 65.21% of the respondents obtained income from self-projects after joining AIM. The income from investments through the AIM loan increased dramatically to 59.77%. Therefore, the access to credit significantly contributed to the total household income of AIM borrowers.

Table 5.6 Sources of Household Income Before and After of Joining AIM

Sources of Household Income Before and After Joining AIM				
Sources	**Before**		**After**	
	Average Income	**(%)**	**Average Income**	**(%)**
Income from AIM projects	28.1	5.44	1151.59	65.21
Income from spouse	424.89	82.32	520.88	29.5
Income from fixed assets	12.63	2.45	21.35	1.21
Income from children	21.9	4.24	31.06	1.76
Income from pension	9.8	1.9	9.84	0.56
Income from other sources	18.82	3.65	31.12	1.76
Total Income	516.15	100	1765.86	100
Changes of income from AIM project (Increased)	59.77%			

Source: Primary Data from Survey

Figure 5.1 Distribution of Sources of Household Income



Source: Primary Data from Survey

5.7 Impact of Microcredit on the Total Household Income of Borrowers

The total household income is the prime indicator when measuring the level of living standard of the borrowers. Thus, identifying how microcredit positively or negatively affect the increase or decrease in the total household income is important. The present study employs multiple semi-log linear regression techniques to justify how significantly the total amount of loan affect the household income and socio-economic and other relevant demographic variables, such as age, education, occupation, family size, and number of earning family members, years of involvement in credit, and loans taken.

5.8 Multiple Regression Result on the Household Income of AIM Borrowers

Based on the summarized results in Table 5.7, the overall estimated result of multiple regression analysis is satisfactory. This result is based on the cross-section primary data where the adjusted R^2 is 0.495 and the observed R^2 is 0.511. The adjusted R^2 revealed that the dependent and independent variables have good relationship and all independent variables can explain about 50% of the present total monthly household income. The ANOVA table also reflects the goodness of

model, and the F-test estimated that the regression is quite meaningful because the dependent variable is related to each specific explanatory variable.

Table 5.7 Summarized Results of Multiple Regression Analysis of Household Income

Coefficients					
Model	**Unstandardized Coefficients**			**Collinearity Statistics**	
	B	**t**	**Sig.**	**Tolerance**	**VIF**
(Constant)	7.339***	29.96	0		
Age (In year)	-0.005***	-2.195	0.029	0.836	1.196
Marital status (Married=1, Others=0)	-0.338***	-4.856	0.00	0.879	1.138
Education up to secondary (Up to Secondary=1, Others=0)	-0.006NS	-0.041	0.967	0.113	8.825
Education above secondary (Above Secondary=1, Others=0)	0.148NS	1.025	0.306	0.113	8.842
Occupation in agriculture (Occupation in agriculture=1, Others=0)	-0.22***	-2.67	0.008	0.461	2.17
Occupation in business (Occupation in business=1, Others=0)	0.018NS	0.248	0.804	0.469	2.134
Household earnings:	0.114***	8.288	0.00	0.872	1.147
Household members	0.003NS	0.687	0.492	0.883	1.133
Number of years involved in MFIs	0.039***	6.225	0.00	0.717	1.394
Total amount of loan received	0.000007162***	3.492	0.001	0.702	1.425
Purpose of loan (IGAs=1, Others 0)	0.048**	1.909	0.057	0.964	1.037
Total assets	0.000002157***	2.998	0.003	0.874	1.145
Number of observations	384				
R Square	0.511				
Adjusted R Square	0.495				
Standard error of the estimate	0.46721				
Mean of dependent variable	9.0633				
F-Value	32.323				
Durbin-Watson	1.343				

Note: ***indicates significant at 0.01 level, **indicates significant at 0.05 level, NS indicates not significant at 0.10 level

Source: Primary Data from Survey

The linear relation of the model is highly significant as the p value for F is less than 0.0001% level. Furthermore, the estimated coefficient denoted that most variables are significantly related at the 0.01 and 0.05 levels, which is significantly different than zero. Moreover, this study employs

the technique of collinearity diagnostics to eliminate multicollinearity. Multicollinearity statistics confirms that multicollinearity is absent when the independent variables are not too highly related with one other. Moreover, multiple regression is strongly supported from the value of adjusted R^2, which is significant at 0.01 level (F-test confirms the significance of R^2) and measure the goodness of fit of the model. The adjusted R^2 value of the increase in the family income of the respondent can be explained by all independent variables in the model. Thus, the household income of AIM microcredit borrowers and the credit, including other socioeconomic and demographic characters, had significant relationships.

The adjusted R^2 and F-value indicate that most explanatory variables significantly increases the household income of AIM respondents as shown in Table 4.11. The major positive influence on monthly household income of respondents by the explanatory variables are likely to be their above secondary level of education (X4), occupation in business (X6), earning household members (X7), total household size (X8), number of years involved in AIM (X9), and total amount of loans received (X10). Moreover, the regression shows negative influences of the age of respondents (X1), marital status (X2), secondary level of education (X3), and occupation in agriculture (X5) on the total family income.

Overall, the results of this multiple regression analysis are strongly supported by the value of adjusted R^2, which is significant at 0.01 level (F-test confirms the significance of R^2), and measures the goodness of fit of the model. The adjusted R^2 value of the increase in the family income of the respondent can be explained by all the independent variables in this model. Thus, the household income and credit of AIM members have significant relationship as well as other socio-economic and demographic characters.

6.0 Conclusion

The present study determines the empirical evidence on the effect of microcredit on the household income of borrowers in Malaysia. In the current study, credit is observed to contribute in the increase of the average monthly household income of respondents over the last five years. Microcredit has provided enough scope to operate IGAs. Five years before joining AIM, only 61.7% of the respondents were self-employed or engaged in business. After joining AIM, 77.6% of the respondents become self-employed. Before joining AIM, 23.4% of the respondents were housewives, but the housewives comprises only 21.3% after the respondents joined AIM. Moreover, the average monthly income of the respondents five years prior to the study was RM516.15, whereas the average monthly income of the respondents at the time of the study was RM1765.86. Furthermore, the household income of the respondents increased by 242.12% in five years.

Based on multiple regression techniques, strong and significant positive effects of the microcredit of AIM are found to increase the total household income of the respondents. The adjusted R^2 is 0.495, whereas the observed R^2 value is 0.511. The value of adjusted R^2 reveals good relationships between the dependent and independent variables, where all independent variables can explain about 50% of the present total monthly household income. Finally, strong and significant positive effects of demographic and socioeconomic factors are found on the increase of the total household income of the respondents. Thus, the study recommends policy considerations for the successful and effective operation of microfinance programs by increasing proper IGAs and the sufficient amount of access to credit, and creating self-employment opportunities in Malaysia.

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References

9th.Malaysia.Plan. (2006). The 9th Malaysia plan: 2006-2010. *Unit Economic Planing, Putra Jaya, Malaysia: Prime Minister's Department*.

10th.Malaysia.Plan. (2010). 10 th Malaysia Plan, 2011-2015. *Unit Economic Planing, Putra Jaya, Malaysia: Prime Minister's Department*.

Abdullah- Al, M., Wahab, S. A., & Malarvizhi, C. A. (2010). Impact of Amanah Ikhtiar Malaysia's microcredit schemes on microenterprise assets in Malaysia. *International Research Journal of Finance and Economics, 60*, 144-154.

Abdullah Al, M., & Adaikalam, J. (2011). Examining the level of unsatisfied basic needs among low-income women in peninsular Malaysia. *International Research Journal of Finance and Economics, 74*, 89-96.

Ahmed, F., Siwar, C., & Idris, N. A. H. (2011). Impact of microcredit programme for the rural poor: Evidence from Amanah Ikahtiar Malaysia. *Journal of Applied Sciences Research, 7*(7), 1111-1116.

Al-Mamun, A., Adaikalam, J., & Mazumder, M. N. H. (2012). Examining the effect of amanah ikhtiar Malaysia's microcredit program on microenterprise assets in rural Malaysia. *Asian Social Science, 8*(4), 272-280.

Al-Mamun, A., Malarvizhi, C. A., Wahab, S. A., & Mazumder, M. N. H. (2011). Investigating the effect of microcredit on microenterprise income in Peninsular Malaysia. *European Journal of Economics, Finance and Administrative Sciences*(29), 122-132.

APEC. (2005). *The Need and Availability of Micro Finance Service for the Micro Enterprise: Bringing multi-level Good Practices into Local Context.* Retrieved from

Basher, M. (2010). Promotional role of microcredit: Evidence from the Grameen Bank of Bangladesh. *Journal of International Development, 22*(4), 521-529.

Chong, F., Morni, F., & Suhaimi, R. (2010). *Demographic factors and repayment performance of NBFI customers in Kuching*.

Gibbons, D. S., & Kasim, S. (1990). *Banking on the rural poor in Peninsular Malaysia*: Center for Policy Research, Universiti Sains Malaysia.

Hossain, M. (1988). *Credit for the Alleviation of Rural Poverty: The Grameen Bank in Bangladesh* (No.55). Retrieved from Washington DC: http://www.grameeninfo.org/dialogue/dialogue47/regularfl2.html

Ismail, M. K. A., Salamudin, N., & Ismail, N. (2010). Microfinance program effectiveness: A perspective of household's wealth and consumptions effects. *Malaysian Journal of Consumer and Family Economics, 13*(1), 102-113.

Ismail, R. (2001). Economic and Social Impact of Amanah Ikhtiar Malaysia (AIM) Scheme: A Case Study in Kedah and Terengganu. *Humanomics, 17*(1), 141-155.

Kabir Hassan, M., & Tufte, D. R. (2001). The X-Efficiency of a Group-Based Lending Institution: The Case of the Grameen Bank. *World Development, 29*(6), 1071-1082.

Khandker, S. R. (2005). Micro-Finance and Poverty Evidence Using Panel Data from Bangladesh. *The World Bank Economic Review*.

M.Salma. (2004). *A Comparative Case Study on Outreach and Impact of Ikhtiar Loan Scheme and Special Program for Hardcore Poor in Seberang Perai Pulau Pinang.* . (M.Phil), University Science Malaysia.

Morduch, J. (1999). The role of subsidies in microfinance: evidence from the Grameen Bank. *Journal of Development Economics, 60*(1), 229-248. doi:http://dx.doi.org/10.1016/S0304-3878(99)00042-5

Saad, N. M., & Duasa, J. (2011). An economic impact assessment of a microcredit program in Malaysia: The case of Amanah Ikhtiar Malaysia (AIM). *International Journal of Business and Society, 12*(1), 1-14.

Schreiner, M. (1999). *A Cost-Effectiveness Analysis Of The Grameen Bank Of Bangladesh*. Center for Social Development, Working Paper No. 99-5. Washington University in St. Louis.

Siwar, C., & Abd.Talib, B. (2001). Micro-Finance Capacity Assessment for Poverty Alleviation: Outreach, Viability and Sustainability. *Humanomics, 17*(1), 166-133.

Thorp, R., Stewart, F., & Heyer, A. (2005). When and how far is group formation a route out of chronic poverty? *World Development, 33*(6), 907-920.