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EXAMINING THE EFFECT OF MALAYSIA'S AMANAH IKHTIAR MICRO-CREDIT PROGRAM ON HOUSEHOLD ASSETS IN RURAL MALAYSIA

The main objective of this study is to measure the impact of Amanah Ikhtiar Malaysia's microcredit program on household assets possessed by clients of rural households in Peninsular Malaysia. This study utilized a cross-sectional design with a quasi-experimental approach. Findings of this study reveal that participation in microcredit program would lead to an increase in the net worth of household assets. AIM should, therefore, render emphasis on reviewing and reorganizing the existing credit policies and designing precise skill development training to increase clients' ability to optimize benefits from credits.

Keyword: microcredit; rural poverty; household assets; Amanah Ikhtiar Malaysia.

JEL Classification: O12, O16, G21, I31.

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ДОСЛІДЖЕННЯ ВПЛИВУ МАЛАЙЗІЙСЬКОЇ ПРОГРАМИ МІКРОКРЕДИТУВАННЯ “AMANAH IKHTIAR” НА СТАТКИ ДОМОГОСПОДАРСТВ У СІЛЬСЬКІЙ МАЛАЙЗІЇ

У статті оцінено вплив програми малайзійського мікрокредитування “Amanah Ikhtiar” на статки сільських домогосподарств півострова Малайзія. У дослідженні використано крос-секційний аналіз із квазі-експериментальним підходом. Результати дослідження показали, що участь у програмі мікрокредитування приведе до збільшення чистої вартості активів домогосподарств. Отже, при реалізації АІМ слід приділити увагу перегляду і реорганізації існуючої кредитної політики і розробці системи підготовки та підвищення здатності клієнтів оптимізувати свої вигоди від кредитування.

Ключові слова: мікрокредитування; сільська бідність; статки домогосподарств; Amanah Ikhtiar Malaysia.

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ИССЛЕДОВАНИЕ ВЛИЯНИЯ МАЛАЙЗИЙСКОЙ ПРОГРАММЫ МИКРОКРЕДИТОВАНИЯ “AMANAH IKHTIAR” НА СЕМЕЙНЫЕ БЮДЖЕТЫ В СЕЛЬСКОЙ МАЛАЙЗИИ

В статье оценено влияние малайзийской программы микрокредитования Amanah Ikhtiar на доходы сельских домашних хозяйств полуострова Малайзия. В данном исследовании использованы кросс-секционный анализ с квази-экспериментальным подходом. Результаты исследования показали, что участие в программе микрокредитования приведет к увеличению чистой стоимости активов домохозяйств. Следовательно, при реализации АІМ следует уделить внимание пересмотру и реорганизации существующей кредитной политики и разработке системы подготовки и повышения способности клиентов оптимизировать свои выгоды от кредитования.

Ключевые слова: микрокредитование; сельская бедность; семейный бюджет; Amanah Ikhtiar Malaysia.

1. Introduction. The apparent objective of microcredit is to improve the socio-economic well-being of poor households through better access to different scales of

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financial services, commonly collateral free credit and saving. Microcredit is referred by the Consultative Group to Assist the Poor (CGAP) as the provision of formal financial services to poor and low-income people, as well as others systematically excluded from the financial system (Christen, Lauer, Lyman and Rosenberg, 2011). Microcredit organizations provide a wide range of services, i.e., working capital, consumption loan, educational loan, recovery loan and other types of loans to fund social obligations; and services, i.e. savings, money transfers and insurance. Many microcredit organizations also provide skill-building trainings to improve poor underprivileged households' ability to generate income and move out of poverty. Microcredit programs are targeted at poor households who represent nearly half of the total population of the world (Abed, 2000). As reported in the Microcredit Summit Campaign Report by Harris (2009), as of December 31, 2007, about 3,552 microcredit institutions have access to 154,825,825 clients, out of which 10,6584,679 clients or 68.84% of them are hardcore poor. The growth rate of the hardcore poverty has increased significantly from 7.6 mln. hardcore poor households at the end of 1997 to 106.6 mln. at the end of 2007, portraying 1,302% growth in 10 years (Harris, 2009). Poorest or hardcore poor are the bottom of those living below their country's poverty line income or living below 1 USD a day.

Microcredit revolution in Malaysia started in 1986 when David Gibbons and Sukor Kasim from the Centre for Policy Research, University Science Malaysia, initiated the project titled "Projek Ikhtiar" to examine the suitability of Grameen Bank's microcredit approach in Malaysia. After the initial success, this applied research was institutionalized as a registered private trust named "Amanah Ikhtiar Malaysia" in 1987. AIM's establishment was sponsored by the regional agency of Asia and Pacific development Center (APDC), a government agency through the Economic Developing Planning Unit (EPEN), University Science Malaysia (USM), and Islamic Economic Development Foundation (YPEIM). The objective of this trust is to reduce rural poverty through provision of small loans for income generating purposes with priority given to very poor households with special emphasis on poor women. AIM is a nongovernmental organization which provides microcredit services to poor and hardcore poor households in Malaysia, irrespective of race, religion and political ideology (Gibson and Kasim, 1990).

AIM provides small amounts of collateral free credit based on a small repayment system to be paid on a weekly basis through the center meetings. Since all transactions take place at the center meetings which are usually held near the client's premises, therefore, the expenditure for receiving a loan is almost zero. AIM provides 3 types of loans, namely, I-Mesra, I-Srikandi, and I-Wibawa. AIM also provides I-Penyayang loan as a recovery loan, I-Bistari for education and housing' multipurpose loan known as I-Sejahtera. In addition, AIM facilitates the "Welfare and Well-Being Fund" to reduce members and next of kin's burden when they face problems and to reduce members problems related to destruction of projects. AIM extended their outreach to 87 branches in March 2010. There are 60497 groups in 6646 centers currently serving a total of 254116 clients. AIM provides financial services to 82% of the total poor and hardcore poor households in Malaysia (AIM, 2010). AIM is the only microcredit organization providing small scale financial services to poor women at the national level to reduce the existing poverty by acquiring and/or holding assets or

wealth. Therefore, this study was undertaken to investigate the impact of AIM's microcredit on household assets in rural Peninsular Malaysia.

2. Literature Review. The studies conducted to measure the effectiveness of group based microcredit programs commonly focused on how participation in microcredit program affects borrower's income and assets. The study of Hossain (1988) found that Grameen members' investment in fixed assets was about 2.5 times higher for borrowers with more than 3 years' membership than for those who joined during the year of the survey. Mustafa et al. (1996) stressed that BRAC's (Bangladesh Rural Advancement Committee) client's household assets increased from an average of BDT 10959 to BDT 23230 after a participation. Kamal (1999) in his study on ASA's (Association for Social Advancement) member clients noted that 90.42% of members reported an increase in their business capital; 88.41% of the respondents had better access to medical services; 38.93% of the respondents reported a significant increase of household assets; 59.66% reported an increase in value of livestock and 30.32% reported that their ownership of ornaments had increased after participating in microcredit programs. Uotila (2005) who carried out an impact study in Rwanda mentioned that participation in microcredit programs increased respondents' enterprise income, household income, household assets, and level of household welfare over time. Dunn (2005) who conducted an impact study in Bosnia and Herzegovina reported that microcredit had a significant positive impact on household income, employment, business investment, business registration, and post-war transition. Hussain and Nargis (2008), in their study on several MFO's clients in Bangladesh, mentioned that household income had increased across all income percentiles including all regular, occasional and non-participant groups. The average annual household income grew at the annual compounded rate of 3.88% from BDT 48195 in 1998 to BDT 60546 in 2004. A study conducted by Rahman, Rafiq and Momen (2009) mentioned that age, education and number of employed members had a significant positive effect on household income and asset. Panda (2009) who conducted a study in India found there was a significant increase in borrowers' household income (11.41%); asset position was 9.75% higher than that of non-participants and the savings increased by 42.53%. This study also found an increase in annual employment days among the clients. Another study conducted by Swain and Varghese (2009) among the Self-Help group members in India reported that the total amount of savings increased with the length of participation in microcredit programs. Their study also found a positive impact on livestock accumulation, but no impact on land value, business wealth or physical assets. Their study also indicated that credit and training together had a positive impact on asset creation. Most recently, a study conducted by Montgomery and Weiss (2011) to assess the impact of Khushhali Bank in Pakistan reported that although around 2/3 of the total participants took microcredit for livestock raising, agricultural activities or microenterprise, there was no significant positive impact on sales or profit from those activities.

The impact of AIM's microcredit schemes followed a similar pattern. The first impact study conducted by Gibbons and Kasim (1990) showed a significant increase of client's monthly household income from an average of RM 142 per month to RM 220. This study also showed that the female participants experienced a higher increase

in monthly household income compared to male participants. The overall repayment rate was 78%, which was much lower than the cumulative repayment rate achieved by Grameen Bank (97-98%). The target repayment rate set by AIM was 90%. However, the repayment rate was 95% among the women borrowers. The Second Internal Impact Study (1990) carried out by AIM's research and development unit showed a further overall improvement among participating households. The government of Malaysia initiated an impact assessment study on AIM's microcredit schemes by a team from the Social Science and Economic Research Unit (SERU) of the Prime Minister's Department in 1990. SERU (1990) noted that the overall household income was more than double for those households who participated in AIM's microcredit schemes. The Third Internal Impact Study (1994) reconfirmed the earlier findings about the non-monetary impact of microcredits on poor households. This study showed an improvement in the percentage of owner occupied house to 85% compared to 80% prior to participation. The use of electrical household appliances also showed some slight improvements. On the perception of nutritional quality, 58% felt there was an improvement, 34% felt no change and the remaining 8% responded as "not sure". Salma (2004) noted that the household income, expenditure, savings and assets had increased and was higher for both AIM and PPRT (Projek Perumahan Rakyat Termiskin) participants compared to non-participants. It was noted that these increases were higher for AIM clients compared to PPRT clients. This study concluded that microcredit programs resulted in direct and higher contribution to generate income than non-microcredit programs.

3. Research Methodology. Assets are the stock of wealth for households. Assets are also the factors in generating flows of income and expenditures, and the base for future potential wealth and consumption (Barnes, 1996). The accumulation and consumption of assets reflect poor households' strategies for maximizing economic benefits, such as income generation, internal consumption, need for liquidity, and a tool to cope with vulnerable economic and natural conditions. In the literature on microcredit, household assets are categorized as financial, physical and human assets. Further classifications of household assets are productive and non-productive assets.

Assets are considered to be an important category to assess the impact of microcredit programs. When a loan is used to accumulate assets, it directly increases the net value of household assets. However, to measure the impact precisely, studies also addressed the issue of liabilities which included unpaid debts. The additional asset obtained may lead to increases in income and further accumulation of assets, which are the indirect effects of loans. Moreover, funds from a loan may assist a household to better manage its existing asset base or reduce its liabilities (Barnes, 1996).

3.1. Operational Definition. Household assets in this study are measured as the net value of household asset. The net value of the unit is gross wealth minus liabilities. Gross wealth includes both financial and physical assets. Liability includes all formal and informal debts. The financial assets for households include cash savings and deposit accounts. Productive assets include the total value of livestock (goats/sheep, cows/buffalos/poultry); agricultural and/or other equipment; agricultural stock and/or other raw materials; enterprise assets; motor vehicles and an orchard. The net value of productive assets is the market value of all productive assets minus current liability. Physical assets include the value of land minus the transaction cost. Other

non-productive physical assets include the total market value of house, stove/cooker, chairs, benches, tables, wooden cots, other furniture, bed/mattress, bicycle, telephone, radio/television, tape recorder, sewing machine, clock/watch, jewelry, and other valuable household assets. Current liability includes all unpaid debt of AIM and other persons or organizations.

3.2. Research Hypothesis. The conceptual model of impact chain presents a complex set of links as each “effect” becomes a “cause” generating further effects. One of the most complex conceptual models for impact assessment was presented by Chen and Dunn (1996), called the Household Economic Portfolio Model (HHEP). The researchers confirmed the usefulness of this model in addressing fungibility and attribution issues. The key advantage of the model is that it helps in the formation of research design and hypothesis. HHEP has many implications for microfinance impact analysis. The research model of this study is based on those implications.

In this research, hypotheses were used to test only a portion of the implications given by the model. In support of the research objective of investigating the effects of AIM's microcredit program on household assets in rural Peninsular Malaysia, the following specific alternative hypothesis was investigated:

Hypothesis 1 (H_1): Participation in AIM's microcredit program leads to an increase in the current market value of household assets owned by low-income rural households in Peninsular Malaysia.

3.3 Research Design. This study employs a cross-sectional design to measure the impact of AIM's microcredit program in rural Peninsular Malaysia. The cross-sectional design was utilized instead of the time series design and longitudinal design. This attempt was carried out not only because it requires less time and is of low cost, but it is also because cross-sectional design has the proven capability of measuring the impact of microcredit accurately. This study adopted the group statistics that is usually known as “average effect of treatment of treated”, which connotes the impact on the outcome of one group compared to others. The average program impact is estimated by comparing the average outcome of the members of the treatment group (old respondents) with the same average outcome of the members of the control group (new respondents).

3.4. Sample Selection. A stratified random sampling method was followed to collect data through face-to-face structured interviews. AIM's microcredit program currently offers financial services through 87 branches in 13 states in Malaysia. Among 87 branches, 7 branches were randomly selected from 5 states where the poverty rate is relatively higher than in other states. Out of 7 branches, 2 were from Kedah (Cawangan Baling and Cawangan Pendang), 2 from Kelantan (Cawangan Machang and Cawangan Tumpat) and one branch each from Perlis (Cawangan Perlis), Perak (Cawangan Batang Padang) and Terengganu (Cawangan Besut). A team of 9 research assistants together with the project manager then visited each of the branches from 18th April, 2011 to 9th May, 2011. Respondents were randomly selected during the centre meetings. After the data collection team had explained the purpose of the study, a total of 286 respondents agreed to be interviewed and complete data was collected from a total of 281 poor rural clients, of whom 99 were new clients (participating in AIM's microcredit program for less than or equal to 60 months) and 182 were old clients (participating in AIM's microcredit program for more than 60 months).

4. Summary of Findings.

4.1. Demographic Characteristics of the Respondents. Demographic characteristics of both new and old respondents addressed in Table 1 provide an indepth understanding about the clients and their households. Since impact of microcredit was measured by comparing the mean value of household assets owned by new and old respondent's households, it is, therefore, vital to find respondents within a similar age group, education and household size. This part of the findings also showed the mean number of both school-aged children and school attending children. Comparisons are done using non-parametric tests because of the violations of normality assumptions.

As presented in Table 1 below, the mean age of 99 new respondents (those who are participating in AIM's microcredit program for less than or equal to 60 months) in rural areas is 41.11 years with a standard deviation of 10.15. While the mean age for old respondents (those who are participating in AIM's microcredit program for more than 60 months) is 47.96 years with a standard deviation of 10.61. The p-value for non-parametric Mann-Whitney test is 0.000, which is less than the chosen 5% level of significance, indicating that the mean age of old respondents is significantly higher than that of new respondents.

Table 1. Characteristics of the Respondents

		New Clients	Old Clients	Total Clients
Age of the Respondents	Mean	41.11	47.96	45.54
	S. D.	10.15	10.61	10.94
Respondents' Number of Years in School	Mean	5.19	4.49	4.47
	S. D.	4.60	4.51	4.55
Household Size of the Respondents	Mean	5.60	5.62	5.61
	S. D.	1.80	2.31	2.14
Number of School-Aged Children's	Mean	1.28	1.35	1.32
	S. D.	1.34	1.39	1.37
Number of School Attending Children's	Mean	1.24	1.32	1.30
	S. D.	1.35	1.37	1.36

In regard to the marital status, among 281 rural respondents, 6 (2.1%) are single, 238 (84.7%) are married, 6 (2.1%) are divorced or separated and 31 (11.0%) are widowed. It is also noted that there is no association between respondent's marital status with their participation status — new and old (Pearson's chi-square test, p-value = 0.318).

The mean number of years in school by all the respondents is 4.47 years with a standard deviation of 4.55 years. The mean number of years in school by new and old respondents is 5.19 and 4.49, respectively. Although the mean number of years in school attended by new respondents is relatively higher than that of new respondents, the data do not provide clear evidence to conclude that the mean number of years in school attended by new and old respondents differ significantly (Mann-Whitney test, p-value = 0.225).

In regard to the household size, as presented in Table 1, the mean household size among 99 new respondents is 5.60 members with a standard deviation of 1.80; whereas the mean household size among 182 old respondents is 5.62 with a standard deviation of 2.31. The p-value for Mann-Whitney test is found to be 0.992, which is higher than the chosen 5% level of significance, indicating that the mean number of members per household of new and old respondents does not differ significantly.

The mean number of school-aged children among new respondent's households is 1.28 with a standard deviation of 1.34. While the mean number of school-aged children among old respondents is 1.35 with a standard deviation of 1.39. It can be noted that the difference in mean number of school-aged children among new and old respondents is not statistically significant (Mann-Whitney test, p -value = 0.72). The mean number of school attending children among new and old respondents is 1.24 and 1.32, respectively. However, the data do not provide enough evidence to conclude that the mean number of school-attending children among new and old respondents are statistically significant (Mann-Whitney test, p -value = 0.225). However, the mean number of school-aged children is significantly higher (Wilcoxon Signed Ranks test, p -value = 0.033) than mean number of school attending children, indicating that a significant proportion of rural respondents' children do not attend school.

Table 2 presents new and old respondents' main economic activities (including both full-time and part-time). It shows that 28.4% of the total rural respondents still depend on wage or salaried work. The proportion of the respondents involved in self-employed production, trade and services are 26.3%, 31.7% and 12.8%, respectively. The proportions of new and old respondents and their involvements in different types of economic activities are found to be non-identical. However, the p -value for Pearson's chi-square test appears to be 0.494, indicating there is no association between proportions and activities of new and old respondents at the 5% level.

Table 2. Respondents' Main Economic Activity

	New Clients		Old Clients		Total Clients	
	N	%	N	%	N	%
Self-employed production	27	27.3%	47	25.8%	74	26.3%
Self-employed trade	34	34.3%	55	30.2%	89	31.7%
Self-employed service	12	12.1%	26	14.3%	36	12.8%
Wage work	10	10.1%	26	14.3%	40	14.2%
Salaried work	13	13.1%	27	14.8%	40	14.2%
Others	3	3.0%	1	0.5%	4	1.4%
	99	100%	182	100%	281	100%
Pearson's Chi-Square test, p -value = 0.494 > 0.05						

4.2. Participation in AIM's Microcredit Program. The participation in AIM's microcredit program has been operationalized by two indicators, number of months as clients and total amount of credits received. Since the impact of microcredit is assessed based on comparing the control and treatment groups (for this study, new and old clients), the treatment groups or old respondents' participation status — number of months as client and total amount of credit received — has to be significantly higher than that of the control group or new respondents.

Table 3 presents the mean, standard deviation and the p -value for Shapiro-Wilk test of normality and non-parametric Mann-Whitney test to demonstrate new and old respondent's participation status. The mean number of months as client from 99 new respondents is 26.42 months with a standard deviation of 19.07 (Table 3). While the mean number of months as client is 129.51 months among 142 old respondents with a standard deviation of 60.09. The p -value for Shapiro-Wilk test of normality resulted in 0.000, which is less than the chosen 5% level of significance, indicating that the normality assumption has been violated. A non-parametric Mann-Whitney

test is, therefore, conducted to measure the mean difference between new and old respondents. The p-value for Mann-Whitney test is found to be 0.000, indicating that the mean number of months as clients among old respondents is significantly higher than that of new respondents at the chosen 5% level of significance.

Table 3. Respondents' Participation Status

		New clients	Old clients	Total clients
Number of months as client	Mean	26.42	129.51	93.19
	S. D.	19.07	60.09	70.52
Shapiro-Wilk test of normality, p -value = 0.000; Mann-Whitney test, p -value = 0.000				
Total amounts of credit received	Mean	8347.47	24939.01	19093.59
	S. D.	8916.05	28617.48	24905.07
Shapiro-Wilk test of normality, p -value = 0.000; Mann-Whitney test, p -value = 0.000				

In regard to the total amount of credit received, the mean and standard deviation for new respondents are 8347.47 and 8916.05, respectively. The mean amount of credit received by old respondents is 24939.01 with a standard deviation of 28617.48. It is worth to note that the deviation in the distribution of total amount of credit received by rural respondents is very high. The p-value for Shapiro-Wilk test of normality appears to be 0.000, indicating the violation of normality assumption. The p-value for non-parametric Mann-Whitney test is 0.000, indicating that the mean amount of credit received by old respondents is significantly higher than that of new respondents at the chosen 5% level of significance.

4.3. Impact on Household Assets. As presented in Table 4, the mean value of household assets owned by new respondents is RM 28338.41 with a standard deviation of 15228.21; whereas the mean value of household assets owned by old respondents is RM 34.850.23 with a standard deviation of 29403.52. It is noted that the mean value of household assets owned by old respondents is much higher than that of new respondents.

Table 4. Household Assets

		New Clients	Old Clients	Total Clients
Net value of household assets	Mean	28338.41	34850.23	32556.03
	S. D.	15228.21	29403.52	25490.31
	Mean rank	121.65	151.52	-
Shapiro-Wilk test of normality, p -value = 0.000; Mann-Whitney test, p -value = 0.003				

The Shapiro-Wilk test of normality gives a p-value of 0.000, which is less than the chosen 5% level of significance, indicating that the normality assumption has been violated. A non-parametric Mann-Whitney test was, therefore, conducted to measure the mean difference between new and old respondents. The mean rank for net value of household assets owned by new respondents is 112.36, while the mean rank for net value of household assets owned by old respondents is 133.22. The p-value (0.003) for Mann-Whitney test is indicating that the mean value of household assets owned by old respondents is significantly higher than that of new respondents at the chosen 5% level of significance. Therefore, we can conclude that participation in AIM's microcredit program does increase the net value of household assets among their low-income rural client's households in Peninsular Malaysia.

5. Conclusions and Recommendations. Based on the findings above, it is evident that participation in AIM's microcredit program leads to an increase in net value of household assets owned by low-income rural households in Peninsular Malaysia.

These findings are consistent with earlier research findings conducted on measuring the impact of AIMs microfinance schemes. For AIM policy makers, these findings indicate the effectiveness of the microcredit program they started in 1986. The findings indicate that participation in AIM's microcredit program can be a useful mechanism to increase the net value of household assets which is expected to increase their income and become less vulnerable to any economic and natural crisis. Rural low-income households and the economic and rural development policy makers would benefit from the findings of this study. This study also suggests that AIM should focus on increasing their outreach among rural low-income households. The current rural microcredit program is very stiff and the options are limited. In order to attract a larger number of low-income households in rural Peninsular Malaysia, it is, therefore, recommended to review the current microcredit products and methodology and organize it in a way which can benefit their clients the most.

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