

**Journal of Emerging Economies and Islamic Research
(JEEIR)**

**The Determinants of The Success of Microenterprise: A Case
Study of BRI Clients in Medan City, Indonesia**

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Abstract

This study focuses on the determinants of the success of microenterprise owners in receiving loan from one of the successful microfinance institutions in the world, namely BRI Unit in Medan city, North Sumatra, Indonesia. This study applies the methodology before and after approach for measuring the success. It utilizes some financial indicators to measure the success of the microenterprises such as income, fixed assets, and household expenditures. The findings found financing in terms of amount of loan accessed has positive relationship with success indicators in terms of changes in income and fixed assets. However, it does not have positive relationship with changes in household expenditures. In the meantime, firm characteristics in terms of dummy variable for type of business of food and household facilities and necessities have positive relationship with changes in income. In conclusion, financing, firm characteristics, and household characteristics are the factors that determine the success of microenterprise in terms of income, fixed assets, and household expenditures. It is expected that policy makers of microfinance institutions (MFIs), including BRI Unit and Indonesian government could solve the common problems faced by MSMEs such as financing, raw materials, marketing, advanced technology, and others, as MSMEs play crucial role in increasing economic growth in terms of reducing poverty and unemployment; and increasing GDP. In this respect, policy makers of MFIs including BRI Unit is also expected to provide the facilities besides credit services such as training, health programs, education, family planning, and other programs to render greater effectiveness of the microfinance on the performance of microenterprise.

Keywords: microfinance, BRI Unit, KUPEDES, KUR, microentrepreneurs

1. Introduction

Countries around the world are giving attention to microfinance institutions (MFIs) because of their role in generating employment and hence economic growth (Bhasin and Akpalu, 2001; Santos, 2003). MFIs have spread throughout the world indicating their success in alleviating poverty and improving microenterprise performance, such as Grameen bank in Bangladesh, BancoSol in Bolivia, and BRI in Indonesia. This study focuses on the factors that determine the success of microenterprises that access microloans from the BRI Units in Medan City, the third biggest city in Indonesia. BRI is a world leader in

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commercial microfinance (Robinson, 2005), indicated by its success in improving the performance of microenterprises in almost every province in Indonesia, including Medan City. Microenterprise development plays an important role in supporting economic growth in Indonesia by generating employment and increasing productivity. This is supported by Sandiaga Uno (2010), the Vice Chairman of the Chief of Industry and Trade of Indonesia (KADIN), who stated that Indonesia needed around 4.4 million enterprises including microenterprises to achieve economic growth in 2010.

The importance of microenterprise has made it the focus of Indonesia's development policy, particularly improving and broadening their access to financial sources (Asia-Pacific Economic Cooperation [APEC], 2003). In this respect, the APEC meeting also mentioned that one of the problems faced by microenterprises is access to credit, particularly from commercial banks. Further, Timberg (1999) added that formal financial institutions are sometimes the critical missing factor in supporting or promoting Small and Microenterprises (SMEs) growth. He also added that many Indonesian SMEs do not have access to financial services for which they would be willing to pay.

The difficulties faced by microenterprises in accessing loans from commercial banks, has brought about the establishment of MFIs. MFIs have emerged as an important alternative source of financing for many new business ventures or enterprises. Olu (2009) added that microfinance has emerged as an economic development approach, targeted to benefit low-income men and women, by providing financial services to low-income clients, including the self-employed. He stated that the objective of MFIs as development organizations is to service the financial needs of the served and undeserved market as a means of meeting development objectives.

In this regard, the Indonesian Government has realized the importance of MFIs in providing microcredit to microenterprises for many years, and has encouraged the growth of MFIs in urban and rural areas, including those based on the Muslim syariah principles. There are a variety of conventional and Islamic MFIs in Indonesia, with the conventional MFIs consisting of BRI Units (Microbanking Division of BRI), and BPR (bank Perkreditan Rakyat/Rural Credit bank). Even though there are still microenterprises that lack access to working capital from MFIs in Indonesia, BRI has shown its success in improving the performance of microenterprises in almost every province in Indonesia. Nowadays, BRI is fully substituted from savings mobilization as its source of funds, and it does not depend on the Indonesian Government or World Bank for the sources of fund.

Microfinance plays an important role not only in poverty alleviation but also for the financial stability of microenterprise. The literature illustrates that the majority of MFIs have a positive impact on eradicating poverty in terms of generating more employment, increasing income and the standard of living (Mosley, 1993; Khandker et al., 1998; Mosley and Hulme, 1998; Yamauchi, 2005). It also has a positive effect on improving the performance of microenterprises in terms of the income, fixed assets, and productivity of the enterprises (Bhasin, 2001; Vogelgesang, 2001). However, the formal banking institutions are reluctant to provide credit to microenterprises due to factors such as the lending risk to SMEs, high credit transaction cost for SMEs, inability to fulfil technical banking requirements, limited access of SMEs to financial equity, and lack of efficiency in monitoring and collecting of SMEs credit, and other factors (Bhasin, 2001; Vogelgesang, 2001; Santos, 2003; APEC, 2003; Olu, 2009; Berge et al., 2011; Abiola, 2011). The reluctance of the banking industry to provide the facility is an issue that warrants deep understanding.

Most literature focuses on the impact of microfinance on poverty alleviation and performance of microenterprises. Thus, there is a need to conduct a study on the determinants of the success for microenterprises that received loans from microfinance. The knowledge would help policy makers of MFIs to expand the non-credit services to other areas such as health, education and others in order to ensure the microcredit program's effectiveness. The main objective of the study is to investigate the factors that determine the success of microenterprise owners who accessed loans from the BRI Unit in Medan City, Indonesia. This study uses the performance of microenterprise in terms of microenterprise income, fixed assets, and household expenditures as the measurement of the success. In this respect, this study focuses on the determinants of success for microenterprises that receive microloans from the BRI Unit.

This study applies a before and after approach methodology. These BRI Units are expected to be representatives of the performance of the BRI Unit in Indonesia in general. It is expected that this study will enable us to provide some suggestions for BRI Unit policy makers to come up with some strategies, such as product innovation, to support more development of the microenterprises in Indonesia, including in Medan City.

2. Performance of PT. Bank Rakyat Indonesia

PT. Bank Rakyat Indonesia (BRI) Tbk or Indonesian People's Bank is one of the successful government banks in Indonesia, particularly in serving Small, Medium and Microenterprises (SMMEs). In this regard, BRI distributes its SME credit scheme through its BRI Unit. BRI noted that the distribution of credit scheme to the Micro, Small, and Medium Enterprises (MSMEs) increased from Rp75.53 trillion or US\$ 75.53 billion at the end of 2005 to Rp90.28 trillion or US\$ 90.28 billion at the end of 2006 with the percentage of growth is 19.53% (Annual Report of BRI 2006). Nowadays, BRI is acknowledged as the world leader of commercial microfinance (Robinson, 2005). PT. Bank Rakyat Indonesia (BRI) Tbk is experienced in managing the credit scheme for MSMEs in Indonesia.

Nowadays, PT. Bank Rakyat Indonesia enlarges its coverage by adding 985 offices that comprises 18 branch offices, 32 sub branch offices, 200 BRI Units, 485 cash offices, and 687 teras of BRI supported by the development of information technology in 2011 (Annual Report of BRI 2011). According to Mr. Herry that teras of BRI is the extension of BRI Unit, which is located in the centre of traditional market and is part of small unit focus on microcredit. In this respect, BRI not only provides credit to farmers but also to small, medium and microenterprises (SMMEs). The branch offices of BRI are intended to cover the commercial operations for SMMEs middle-income individuals around district towns. Most of their clients are SMMEs from various sectors, such as construction, distribution, boat lending businesses, and middle class people. The BRI Unit focuses on the smaller income segment of the population, and does not specifically target the very poor who are below the poverty line, but particularly those working poor who have viable economic activities and sufficient repayment capacities.

The main thing that needs to be learned from BRI Unit is always do adaptation of its practice with the environment (Rusdy, 2007). BRI not only succeeded in anticipating the economic crisis in 1984 but also the monetary crisis that happened during 1997/1998. BRI Unit through its microcredit scheme, namely KUPEDES, Micro Kur and SIMPEDES has succeeded in improving the performance of microenterprises in Indonesia until now. However, BRI Unit is only able to reach the number of MSMEs by around 25% from the total of MSMEs, namely 55.21 million of enterprises in Indonesia (Annual report, 2011).

3. Literature Review

3.1 The Factors that Determine the Success of Microenterprise

Currently, there are several studies that stress on the determinants of the success of microenterprise in numerous countries, particularly in developing countries. In this respect, various empirical studies that concentrate on factors determining the success of micro, small, and medium enterprises (SMEs) can be split up into two categories, namely focusing only certain variables which affect the success of SMEs or attempting to summarize the factors that determine the success of SMEs (Chittithaworn, Md. Aminul, Thiyyada, and Dayang, 2011).

In the meantime, case studies practiced in Bangladesh, Eastern Finland, Cape Coast, Thailand; and Jordan, Bangladesh, and Africa discover that the entrepreneurs characteristics such as informal skills, age of operator of business, married status; human capital in terms of educational background, experience in business, training, and communication with lender; household characteristics such as number of household members and education of head of households; village characteristics in terms of presence of rural health centre, presence of family planning centre, and presence of electricity; financing in terms of microcredit accessed; motive and goals, history and constraints; the MSMEs characteristics or firm characteristics or organizational factors in terms of product innovative, cost, quality, services, strategy, and reliability; customer and markets; resources and finance; the procedure of doing business and cooperation; and external factors in terms of government supports, social networks, and legitimacy are the crucial determinants factors in involving the success of microenterprises (Faridi, 2011; Reijonen, 2008; Bhasin and Akpalu, 2001; Chittithaworn, Md. Aminul, Keawachana, and Dayang, 2011; Springuel, 2011).

Case studies of Malaysia illustrates that the factors are informality; institutional environment; entrepreneurial characteristics in terms of their ability in building the network with institutions, association, and with local organization in their community internally or externally, need for achievement, and locus of control; socio-cultural environment; financing; infrastructure; and external environment in terms of government support such as motivation, funding machines, technical assistance, marketing, and finally tools with lower price; firm characteristics in terms of innovative and creative are detected as determinants of the success of microenterprise in Malaysia (Norhafizah, Ratna, Salfarina, and Zainal, 2011; Muhammad, Shaladin, Wan Abdul, and Ahmad, 2011).

Meanwhile, other studies done in Indonesia, Russia, Canada and France, Bulgaria, Nepal and China, illustrate that the firm characteristics or organizational determinants in terms of innovation, management practiced, capability of marketing and technology, business location; entrepreneurs characteristics in terms of intellectual capital; socio-economic or socio-cultural; and external factors or environmental determinants in terms of environment of business and market level are factors involved in the success of microenterprises in those countries (Najib and Kiminami, 2011; Tovstiga, 2007; St-Pierre and Audet, 2011; Welsh, Munoz, Deng and Raven, 2012; Masakure, Henson, Cranfield, 2009); Morris, 2003, KC, 2011). However, the study done in Mexico shows that financing in terms of credit is not an important factor in ensuring the success of microenterprise (McPherson, Molina, and Jewel, 2010).

From the supported findings mentioned before, the determining factors in the success of microenterprise could be categorized into several categories: (1) the entrepreneurs characteristics (Ekpe, 2011; Faridi, 2011; Reijonen, 2008; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Bhasin and Akpalu, 2001; Chittithaworn, Md. Aminul, Keawachana, and Dayang, 2011; Muhammad, Wan Abd Aziz, and Ahmad, 2011; Daou and Karuranga, 2012; Tovstiga, 2007; St-Pierre and Audet, 2011; Masakur, Henson, and

Cranfield, 2009; Yusuff, Olagberni, and Atere, 2011; Norhaziah and Mohd, 2010); Springuel, 2011), (2) organizational determinants or firms characteristics (Ngaosi and Navarro, 2007; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Chittithaworn, Md. Aminul, Keawchana, and Dayang, 2011; Daou and Karuranga, 2012; Najib and Kiminami, 2011; Mohd and Igwe-Lucky, 2011; Olusola O, Morufo O, and Abimbola O; Welsh, Munoz, Deng, and Raven, 2012; Masakure, Henson, and Cranfield, 2009; Norhaziah and Mohd, 2010), (3) human resources determinants (Daou and Karuranga, 2012), (4) environmental determinants or external factors (Chittithaworn, Md. Aminul, Keawchana, and Dayang, 2011; Daou and Karuranga, 2012; Masakure Henson, and Cranfield, 2009), (5) household characteristics (Faridi, 2011), (6) infrastructure or village characteristics (Faridi, 2011; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011), (7) socio-cultural environment (Nor Hafizah, Ratna, Salfarina, and Zainal, 2011), (8) institutional environment or institutional characteristics (Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Norhaziah and Mohd, 2010), (9) Financing (Faridi, 2011; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Bhasin and Akpalu, 2001; Norhaziah and Mohd, 2010; Morris, 2003), and (10) informality (Nor Hafizah, Ratna, Salfarina, and Zainal, 2011).

This study only employs four factors which are considered for the theoretical framework based on the Indonesia context, namely the individual determinants or entrepreneur characteristics in terms of age, status, gender, and educational background; firm characteristics in terms of type of business managed by the microenterprise, financing in terms of amount and type of loans accessed from BRI Unit, and household characteristics in terms of household income.

3.2 The Measurement of Success

The performance of firm can be related to the success measurement of enterprise in business studies and market; however, studies in this area have produced different results (Chittithaworn, Md. Aminul, Keawchana, and Dayang, 2011). Success as discussed refers to reaching certain goals and also some aims in human life from any sectors. The measurement of success of a firm could be investigated in terms of objective and subjective views (Reijonen, 2008). In terms of objective view, evaluation of the firm performance is based on financial measures such as sales, profit and others. Subjective view on the other hand means associating with personal issues or perception from the business owner itself such as personal satisfaction, pride and others. In this respect, performance of firm always relates to financial measurement of business productivities such as improving in the number of workers employed, raising in turnover, and others. In the meantime, success measurement is based on the perception of the microenterprise, and it includes the financial measurement in terms of growth and non-financial measurement in terms of job satisfaction, quality product, and others.

Nearly all academic literatures apply financial measurement from the objective view in measuring the success business field (Walker and Brown, 2004; Chittithaworn, Md. Aminul, Keawchana, and Dayang, 2011). The measurement of success relates with financial performance indicators or wealth indicators applied largely such as sales, household expenditures, profit, personal and family spending, assets accumulation, sales, revenue, employment, market share, and Return on Assets (ROA) (Ngaosi and Navarro, 2007; KC,2011; Springuel, 2011; Mohd, Olusegun, and Igwe-Lucky, 2011; Faridi, 2011; Chittithaworn, Md. Aminul, Keawchana, and Dayang, 2011; Mcpherson, Molina, and Jewel, 2010; Najib and Kiminami, 2011; Mohd and Igwe-Lucky, 2011; Olusola O, Morufo O, and Abimbola O, 2011; Welsh, Munoz, Deng, and Raven, 2012; Masakure, Henson, and Cranfield, 2009).

The definition of success is varied based on perception of different people (Chittithaworn, Md. Aminul, Keawchana, and Dayang, 2011). However, the financial measurement is not sufficient to measure the success of microenterprise and it is not only the measurement of success for micro and small enterprises

(Reijonen, 2008). It must be accompanied by other measurements from the subjective view or non-financial factors (Springuel, 2011). In this respect, several authors use financial and non-financial measurements to measure the success of microenterprise (Springuel, 2011; Mohd, Olusegun, and Igwe-Lucky, 2011; Tovstiga, 2007; St-Pierre and Audet, 2011; Mohd and Igwe-Lucky, 2011; Welsh, Munoz, Deng, and Raven, 2012). Several measurements of non-financial factors applied in quantifying the success of microenterprise such as chance to get power and honour by family members in the household, growth of small firm performance, improvement of operations, customer satisfaction, competitiveness (external benchmark for contrast), productivity, and small firm development.

Other studies only concentrate on non-financial measurement in quantifying the success of microenterprise. These studies employ the indicators such as lovely quality of life, job satisfaction, satisfied clientele, customer orientation, satisfaction, and sustainable livelihood (Reijone, 2008; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011).

4. Theoretical Framework

The theoretical framework used here is derived from previous literature reviews. This study classifies the factors that determine the success of microenterprise into four categories, which are derived from previous literatures, namely:

1. Individual determinants or entrepreneur characteristics. It refers to the characteristics of enterprise which affect the success of business. The success of performance of microenterprise depends on the characteristics of entrepreneurs. It stated that the entrepreneurs must have these characteristics to develop or expand their business activities performance and reach the success of business in terms of its performance. These entrepreneurs characteristics comprise of educational background, age, children or family members, business experience, married couple, knowing the local language, training, motivation, prudence, ambition to reach success, informal skills, attitudes, aims, ability in building the network with institutions, association, and local organization in their community internally or externally; communication with lender, gender, need for achievement, locus of control, creative, innovative, market opportunity, willingness to increase one's income, achieve public recognition, close to family, proving to be succeed, job security, building business successfully, fulfil satisfaction, generate employment for family members, risk takers, communication, commitment, technical skills, training of owners or highest management, ict literacy, monthly income, and financial knowledge (Ekpe, 2011; Faridi, 2011; Reijonen, 2008; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Bhasin and Akpalu, 2001; Chittithaworn, Md. Aminul, Keawachana, and Dayang, 2011; Muhammad, Wan Abd Aziz, and Ahmad, 2011; Daou and Karuranga, 2012; Tovstiga, 2007; St-Pierre and Audet, 2011; Masakur, Henson, and Cranfield, 2009; Yusuff, Olagberni, and Atere, 2011; Norhaziah and Mohd, 2010); Springuel, 2011).
2. Firm characteristics. It refers to nature of firm, size of firm, age of firm, style of management (planning, organizing, leading, controlling), marketing (promotion), technology, internet applications, making committee to manage quality, professional management practices, location of firm (Ngaosi and Navarro, 2007; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Chittithaworn, Md. Aminul, Keawchana, and Dayang, 2011; Daou and Karuranga, 2012; Najib and Kiminami, 2011; Mohd and Igwe-Lucky, 2011; Olusola O, Morufo O, and Abimbola O; Welsh, Munoz, Deng, and Raven, 2012; Masakure, Henson, and Cranfield, 2009; Norhaziah and Mohd, 2010).

3. Financing. It plays an important role for investment and expands the business productivity (Faridi, 2011; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Bhasin and Akpalu, 2001; Norhaziah and Mohd, 2010; Morris, 2003).

4. Household characteristics. It refers to number of household members, educational background of head of household, and others. It also plays a crucial role in determining the success of microenterprise (Faridi, 2011).

5. Models and Variables

This study has three OLS models to examine the determinants of the success of microenterprise owners who received a microloan from the BRI Units measured by performance of microenterprise in terms of microenterprise income, fixed assets, and household expenditure. Four factors which might influence the success of microenterprise, namely household characteristics, firm characteristics, financing, and entrepreneurs' characteristics are chosen.

The first OLS model would be the following equation 1:

$$CHGINCOME_i = \alpha_0 + \sum_{i=1}^8 \beta_2 Age_i + \sum_{i=1}^2 \beta_3 Gender_i + \sum_{i=1}^3 \beta_4 Status_i + \sum_{i=1}^5 \beta_5 Educ_i \\ + \sum_{i=1}^2 \beta_6 Tyofloan_i + \beta_7 Lgamtloan_i + \sum_{i=1}^9 \beta_8 TOB_i + \mu_i$$

The second model would be the following equation 2:

$$CHGFIIXASSETS_i \\ = \alpha_0 + \sum_{i=1}^8 \beta_2 Age_i + \sum_{i=1}^2 \beta_3 Gender_i + \sum_{i=1}^3 \beta_4 Status_i + \sum_{i=1}^5 \beta_5 Educ_i \\ + \sum_{i=1}^2 \beta_6 Tyofloan_i + \beta_7 Lgamtloan_i + \sum_{i=1}^9 \beta_8 TOB_i + \mu_i$$

$$CHGFIIXASSETS_i = \alpha_0 + \sum_{i=1}^8 \beta_2 Age_i + \sum_{i=1}^2 \beta_3 Gender_i + \sum_{i=1}^3 \beta_4 Status_i + \sum_{i=1}^5 \beta_5 Educ_i + \sum_{i=1}^2 \beta_6 Tyofloan_i + \beta_7 Lgamtloan_i + \sum_{i=1}^9 \beta_8 TOB_i + \mu_i$$

$$Y_{it} = \alpha_0 + X\beta_2 HOUSECHA + \theta\beta_3 TYOFLOAN + \varphi\beta_4 AMOUOFLOAN + \psi\beta_5 NUMOFLOAN + \phi\beta_6 ENTCHA + \mu_t$$

The third model would be the following equation 3:

$$\begin{aligned}
 CHGHOUEXP_i = & \alpha_0 + \sum_{i=1}^8 \beta_2 Age_i + \sum_{i=1}^2 \beta_3 Gender_i + \sum_{i=1}^3 \beta_4 Status_i + \sum_{i=1}^5 \beta_5 Educ_i \\
 & + \sum_{i=1}^2 \beta_6 Tyofloan_i + \beta_7 Lgamtloan_i + \beta_8 Growthincome_i \\
 & + \beta_9 Lghouincome_i + \mu_i
 \end{aligned}$$

Table 1 below presents the description of determinants of the success of microenterprise

Table1

Variable Name	Description
Change in income	Income of microenterprise per month in terms of Rupiah before and after accessing loan
Change in fixed assets	The total amount of fixed assets in terms of Rupiah before and after accessing loan
Change in household expenditure	The total amount of expenditures per month in terms of Rupiah before and after accessing loan
Age	Categorical variables consist of 1: 15 - 20 years old, 2: 21- 25 years old, 3: 26 – 30 years old, 4: 31 – 35 years old, 5: 36 – 40 years old, 6: 41 – 45 years old, 7: 46 - 50 years old, 8: > 50 years old
Gender	Categorical variables consist of 1: male, 2: female
Status	Categorical variables consist of 1: married, 2: single, 3: widow/widower
Educational background	Categorical variables consist of 1: uneducated , 2: Primary school, 3: Junior high school, 4: Senior high school, 5: Diploma/bachelor
Tyofloan	Categorical variables consist of 1: KUPEDES, 2: KUR
Lgamtloan	The amount of loan accessed in either KUPEDES or KUR products
TOB	Dummy variables for type of business consists of 1: Food, 2: Garment, 3: Buildingmtrl (Materials for building), 4: Houfacandnecess (Household facilities and necessities), 5: Techvehrepwach (technician and reparation for vehicles and watch, 6: Printandfotocpy (printing and fotocopy), 7: Saloon and massage, 8: Rental
Lghouincome	Income of household per month in terms of Rupiah

This study chooses three financial indicators generated from performance of microenterprise in terms of income of microenterprise, fixed assets, and household expenditures, which are based on Indonesia context. Based on the previous literatures, this study also focuses specifically on four factors that determine the success of microenterprise, namely financing, enterprise characteristics, household and firm characteristics.

6. Data and Research Method

6.1 Survey Design and Data Collection

The survey was conducted from 9 November 2009 until 12 December 2009 in Medan City, North Sumatra, Indonesia. In this respect, this study focuses on the microenterprise owners who received microloan products, namely, KUPEDES and KUR, from the BRI Units under supervision of BRI Putri Hijau. As the BRI Units under BRI Putri Hijau are similar to each other in terms of performance, such as distributing microcredit products for microenterprises, mobilization of savings, and good repayment, this study randomly selected eleven BRI Units in Medan City. These eleven BRI Units comprise BRI Unit Simpang Limun, BRI Unit Menteng, BRI Unit M.Yamin, BRI Unit Sei Sikambing, BRI Unit Pasar Pringgan, BRI Unit Pasar Sukaramai, BRI Unit Krakatau, BRI Unit Mandala, BRI Unit Juanda Baru, BRI Unit Padang Bulan and BRI Unit Tembung.

This study chose 400 respondents taken from the microenterprise owners who have received a microloan from the BRI Units under supervision of BRI Putri Hijau. The survey was conducted by ten surveyors. These ten surveyors were degree students of Islamic Economic studies from IAIN (Institut Agama Islam Negeri) in Medan City. Most of them are final year students. They were trained to distribute and to interview the respondents from the BRI Units. These ten surveyors conducted the survey by interviewing the BRI Unit customers directly in these eleven randomly selected BRI Units.

6.2 Descriptions of Respondents

The majority of these microenterprises are small vendors. Further, most of them are economically active poor or working poor who have business and repayment capabilities. These microenterprises operate their business activity in economically developed areas. Most of these areas have traditional markets where this study could find many microenterprises as well as small vendors. It also has good infrastructure, such as paved roads, electricity, police office, and others. This study concentrates on the determinants of the success of BRI Units who access the microloans from BRI Units under the supervision of BRI Putri Hijau in Medan City, Indonesia. In addition, this study also collected the data from Central Bureau of Statistics (BPS) of Medan City, Indonesia.

6.3 Methodology and Model

6.3.1 The Before and After Approach

In this respect, this study employed the before and after approach to investigate the determinants of the success of microenterprise owners who received a microloan from the BRI Unit in terms of microenterprise income, fixed assets, and household expenditure for before and after accessing a microloan from the BRI Unit. Stock and Watson (2011) stated that the before and after approach is used when data for each state are obtained for $T = 2$ time periods, it is possible to compare values of the dependent variable in the second period to values in the first period. They further stated that by focusing on changes in the dependent variable, "before and after" or "differences" comparison in effect holds constant the unobserved factors that differ from one state to the next but do not change over time within the state.

6.3.2 The Diagnostic Models

Additionally, this study also provides diagnostic tests for every regression available in this chapter. This study employs three diagnostic tests – Durbin Watson (D-W) for autocorrelation, heteroscedasticity test by using Breusch Pagan Godfrey (BPG), and, finally, the multicollinearity test using the variance inflation factor (VIF).

This study employs two main regressors from financing in measuring the determinants of the success of a microloan on the performance of microenterprises, namely, category variable for type of loan and log amount of loan. Category variable for type of loan consists of 1 = kupedes, and 2 = kur. Log amount of loan is amount of loan accessed from BRI Unit (in amount of rupiah). This study also employs some control variables – category variables for age, status, education, and gender – as our regressors to measure these determinants on change in income. Category variable for age comprises 1 = 15 – 20 years, 2 = 21 – 25 years, 3 = 26 – 30 years, 4 = 31 – 35 years, 5 = 36 – 40 years, 6 = 41 – 45 years, 7 = 46 – 50 years, and 8 = 50 years and above. The category variable for status consists of 1 = married, 2 = single, and 3 = divorced. Meanwhile, category variable for education comprises 1 = uneducated, 2 = primary school, 3 = junior high school, 4 = senior high school, and 5 = diploma and bachelor levels. Finally, gender consist of 1 = male, and 2 = female. The additional economic control variables log household income, is also included in these regressions to examine whether this economic control variable is significant determinant in the success of microenterprise performance. Further, this study uses dummy variables for 8 types of business as control variables for these regressions. These eight dummy variables comprise a dummy variable for food = 1, 0 = otherwise; dummy variable for garment = 1, 0 = otherwise; dummy variable for buildingmtrl or building materials = 1, 0 = otherwise; dummy variable for houfacandnecess or household facilities and necessities = 1, 0 = otherwise; dummy variable for repairs for watches and vehicles = 1, 0 = otherwise; printing and photocopying = 1, 0 = otherwise; salon and massage = 1, 0 = otherwise; rental = 1, 0 = otherwise; vehicles = 1, 0 = otherwise; and finally others = 1, 0 = otherwise. As the types of business consist of ten dummy variables, this study uses a rule of thumb for the dummy variable, namely, if a qualitative variable has m categories, introduce only $(m - 1)$ dummy variables. If this study does not follow this rule, it will fall into what is called the *dummy variable trap*, that is, the situation of perfect collinearity or perfect multicollinearity, if there is more than one exact relationship among the variables. This study also employs white test to solve the problems of heteroscedasticity. According to Stock and Watson (2011) there are two ways to handle heteroscedasticity, namely, (1) estimating β_0 and β_1 by WLS (Weighted Least Squares) or (2) estimating β_0 and β_1 by OLS and using heteroscedasticity-robust standard errors. This study also employs Newey test. It is extension of white test with the aim to solve the problems of unknown heteroscedasticity and unknown autocorrelation (Gujarati, 2003, 2009).

7. Results - Income, Assets, and Expenditures for Microenterprises that Received Loan from the BRI Unit

7.1 Characteristics of Microenterprises Owners

Table 1 shows the basic characteristics of microenterprise owners. The objective of this table is to provide the background information of microenterprise owners, and make comparisons with the relevant Indonesian population statistics.

Table 1: Characteristics of Microenterprise Owners who Received a Microloan from the BRI Unit (n = 412)

Characteristics of BRI Unit Clients		Number	Percentage
Age	15 – 20 years	3	0.7
	21 – 25 years	14	3.4
	26 – 30 years	28	6.8
	31 – 35 years	55	13.3
	36 – 40 years	60	14.6
	41 – 45 years	78	18.9
	46 – 50 years	49	11.9
	> 50 years	125	30.3
		412	99.9
Gender	male	220	53.4
	Female	192	46.6
		412	100
Head of household	yes	238	57.8
	No	173	42.0
		411	99.8
Status	married	378	91.7
	single	26	6.3
	divorced	8	1.9
		412	99.9
Education	uneducated	16	3.9
	primary school	44	10.7
	junior high school	68	16.5
	senior high school	223	54.1
	diploma/bachelor	58	14.1
		409	99.3
Relationship with the head of Household:	head of household	239	58.0
	wife	148	35.9
	children	23	5.6
	others	2	0.5
		412	100
Number of dependants			
0		27	6.6
1		34	8.3
2		79	19.2
3		79	19.2
4		65	15.8
5		61	14.8
6		32	7.8
7		24	5.8
8		8	1.9
9		1	0.2
10		1	0.2
13		1	0.2

	412	93.4
Family members working:		
1	172	41.7
2	175	42.5
3	34	8.3
4	15	3.6
5	7	1.7
6	5	1.2
7	1	0.2
8	3	0.7
	412	99.9

Notes: The definition of microenterprise owner is the one who has full authority to operate the business legally.

In terms of gender, the sample consists of 53.4 per cent male and the percentage of female owners is 46.6 per cent. Taken together, about 61 per cent of total respondents are older than forty years of age, and only 11 per cent are young, 30 years old and younger. About 30.4 per cent microenterprise owners are above 50 years old and they form the age group with the highest percentage. A reason may be that people over 50 years old started doing business after their retirement age^{*}. The percentage of owners as head of household is around 57.8 per cent (238 owners), while the percentage of owners who are not the head of the household is around 42.0 per cent (173 owners). Most of the heads of households who received a loan from the BRI Unit are male owners, as the number of male owners is similar to the number of heads of household. In this respect, the number of male owners is around 220 owners (53.4%).

In terms of marital status, 91.7% of owners are married compared to the single and divorced clients who were only 6.3 per cent and 1.9 per cent respectively. This is because one of the requirements to access microloans from the BRI Unit is that the client must be aged 21 years or older, and many people in Indonesia of this age are already married. However, the BRI Unit provides an exception for the requirements of a microloan, as they can be given to a person who is below the age of 21 years, if he or she is married. The table reveals that the percentage of women borrowers who are wives (not the head of household) is 35.9 per cent which is quite high compared with the percentage of children of around 5.6 per cent. This shows that most women borrowers are married and they run businesses to help them to increase the standard of living of their families.

For academic qualifications, most of the microenterprise owners completed at least senior high school. Only a few microenterprise owners hold diplomas or bachelor degrees. The percentage of owners who graduated from senior high school is 54.1 per cent. This percentage is much higher compared with the other levels of education, such as primary school with a percentage of around 10.7 per cent, junior high school with a percentage of 16.5 per cent and, finally, diploma or bachelor degree with a percentage of 14.1 per cent. It could be stated that the microenterprise owners are above average academically, as the compulsory level of education in Indonesia is nine years, e.g., six years of elementary education and three years of middle education or junior high school. High-level education or senior high school is not compulsory in Indonesia.[†]

^{*} The normal pension age of most Indonesians is 55 years old. *Pensions At A Glance ASIA/PACIFIC 2011*, <http://www.oecd.org>, (accessed, 8 March 2012).

[†] Indonesia education info.<http://stats.uis.unesco.org/unesco>.

In terms of the number of dependants or average family size, most of the microenterprise owners have two or three children in their family as dependants with the percentage being 19.2 per cent (79 owners) and 19.2 per cent (79 owners), respectively. This shows that the majority of microenterprise owners have two or less family member working with a percentage of 84 per cent. This means that the head of household and spouse are working. Table 2 summarizes the household income[‡] per month from the survey of respondents.

Table 2: Household Income of Microenterprise Owners

Profile	N	Min	Max	Mean	Median	Std deviation
Household income	412	500,000	450,000,000	9,055,121	4,000,000	24612.37

Table 2 shows that the mean of household income is Rp.9,055,121 with the median being around Rp.4,000,000 which shows a skewed distribution of income with almost 61 per cent of the households earning Rp. 5,000,000 or less.

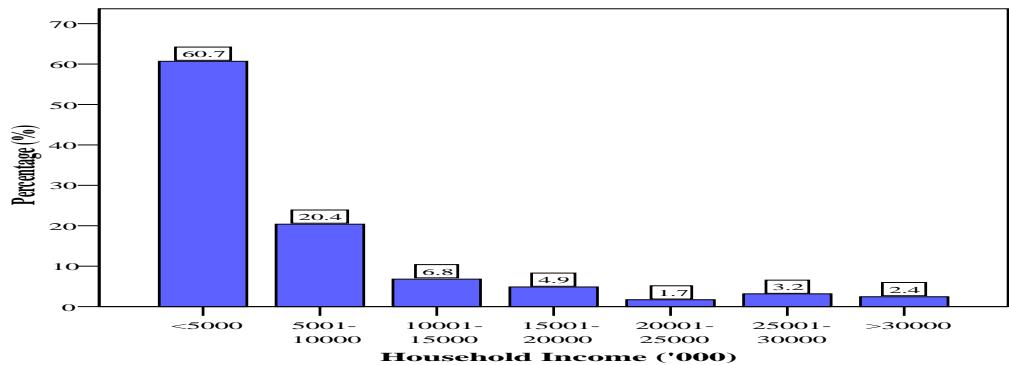


Fig. 1 Household Income of Microenterprise Owners

According to Credit Suisse for “*Emerging Consumer Survey 2011*” (January 2011), around 52.1 per cent of Indonesian citizens have a household income of below Rp.5 million per month or around US\$500 compared with the other levels of household income.

8. Type of Business Before and After Accessing BRI Microloan

Table 3 shows the type of business run by microenterprises before and after accessing a BRI microloan. The purpose of this is to determine whether clients change the type of business after accessing a BRI microloan to expand their business activity and obtain more income.

[‡] Household income is the combined income of all household members from all sources, including wages, commissions, bonuses, social security and other retirement benefits, unemployment compensation, disability, interest and dividends. <http://www.taxlawandaccountinggroup.com>, (accessed on 10 October 2010).

Table 3: Type of business for before and after accessing BRI microloan

Type of business before accessing BRI Microloan	No	Per cent	Type of business after accessing BRI Microloan	No	Per cent
1. garment and grocery	86	20.9	1. garment and grocery	84	20.4
2. food	232	56.3	2. food	234	56.8
3. building equipment	4	1.0	3. building equipment	4	1.0
4.household facilities and necessities	16	3.9	4.household facilities and necessities	15	3.6
5.technician for vehicles and watches	19	4.6	5.technician for vehicles and watches	19	4.6
6. printing	5	1.2	6. printing	5	1.2
7. salon	11	2.7	7. salon	11	2.7
8. rental and sales for electronic goods and houses	26	6.3	8. rental and sales for electronic goods and houses	26	6.3
9. type of transportation	2	0.5	9. type of transportation	2	0.5
10. others	11	2.7	10. others	12	2.9
TOTAL	412	100	TOTAL	412	100

The summary based on the table above shows the types of business that BRI Unit clients operate. 77.2 per cent of the respondents run food businesses, such as fried rice, *mie pansit*, *bakso*, *lontong*, *pecal* and *nasi bungkus*, and garment and grocery businesses before and after accessing BRI microloans. The types of business are quite diversified, like selling building equipments, car mechanics, printing, saloon and sellers of electronic goods which are less important. Furthermore, this study found that most of the clients do not change their type of business after accessing a BRI microloan, hence suggesting that the loan is utilized for the current business.

9. Type of Business and Business Location After Accessing BRI Microloan

This section discusses the cross tab of type of business and business location after accessing BRI microloan. The aim of this section is to know whether microenterprises owners move to another business location to expand their business productivity after accessing loan.

Table 4 Type of business and business location after accessing BRI microloan

Type of business after loan	Business location after accessing BRI microloan		Total
	Not Move Frequency (percentage)	Move Frequency (percentage)	
1. Garment and grocery	74 (88.1%)	10 (11.9%)	84 (100.0%)
2. Food	215 (91.9%)	18 (7.7%)	293 (99.6%)
3. Building equipment	4 (100.0%)	0 (0.0%)	4 (100.0%)
4. Household facilities and necessities	15 (100.0%)	0 (0.0%)	15 (100.0%)
5. Technician for vehicles and watches	17 (89.5%)	2 (10.5%)	19 (100.0%)
6. Printing	4 (80.0%)	1 (20.0%)	5 (100.0%)

7. Salon	10 (90.9%)	1 (9.1%)	11 (100.0%)
8. Rental and sales for electronics and watches	24 (92.3%)	2 (7.7%)	26 (100.0%)
9. Types of transportation	2 (100.0%)	0 (0.0%)	2 (100.0%)
10. Others	10 (83.3%)	2 (16.7%)	12 (100.0%)
TOTAL	375 (91.0%)	36 (8.7%)	411 (99.7%)

The majority of microenterprise owners do not move to a new location after accessing a BRI microloan, for which there are three reasons. First, if they move to another business location, they will lose many customers because the customers have become used to the previous area and it is costly to move to another area. Second, they expand their business activity by creating this business in another business location but they still maintain the business in the old area as a fall back in case the business in the new location is not successful. Finally, most enterprises, especially microenterprises, feel satisfied with what they have because they feel that they already fulfil their basic needs and it makes them unwilling to move to another business location. In addition, they still obtain more income in the same location after accessing a microloan. Thus, it discourages them from moving to another location as they still gain many advantages from remaining in the same location after accessing a microloan.[§]

10. Characteristics of BRI Unit Loan

This section summarizes the characteristics of the BRI Unit loan delivered to the microenterprise owners in terms of the type of loan offered by the BRI Unit, amount of loan, duration of loan, and, finally, the length of loan accessed. Table 5 below displays the characteristics of the BRI Unit loan commonly accessed by owners in terms of the number of BRI Unit respondents, minimum, maximum, mean, mode, median, and standard deviation.

Table 5 Characteristics of BRI Unit loans

Characteristics of BRI Unit loan	N	Min	Max	Mean	Median	Std Deviation	Mode
Duration of loan (year)	412	1 year	8 years	2.15 years	2.00 years	0.820	2
Amount of loan	412	1,500,000	100,000,000	18,512,655	10,000,000	20851.93613	5,000,000
Duration of loan provision	125	1 month	26 months	11.58 months	11.00 months	6.657	5 months
Instalment of loan	412	100,000	7,075,000	964,844.04	603,700.00	971.86756	603.70

Notes: Duration of loan consists of years available for clients in accessing BRI microloan. Months of loan consists of months where BRI clients had accessed BRI microloan. Amounts of loan are in nominal terms.

Table 5 shows the mean duration of a BRI Unit loan for microenterprise owners is 2.15 years with median period of 2 years. The minimum BRI Unit loan duration is 1 year and the maximum preferred by owners is 8 years. These owners prefer a two- year duration due to the fact that if they access a longer loan period, interest rate charged is higher according to the regulations of the BRI Unit.

[§] Interview with Herry Husni

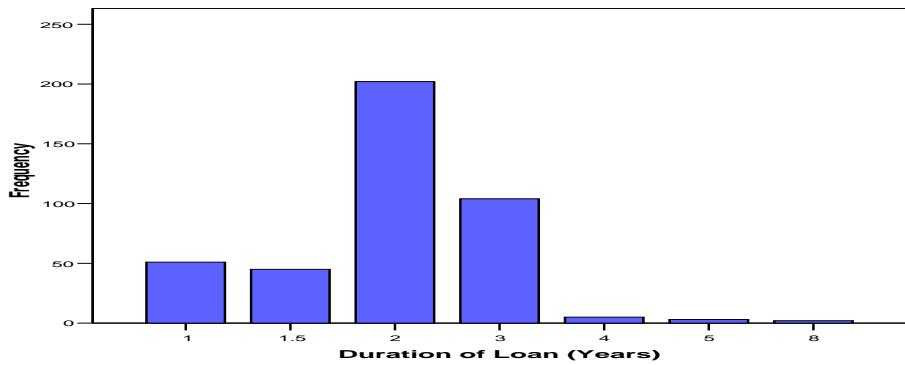


Fig. 2 The Duration of Loan (Years)

As far as the amount of loan is concerned, the analysis indicates that the minimum amount of loan accessed by owners is Rp.1,500,000 or US\$150 and the maximum amount of loan is around Rp.100,000,000 or US\$10,000,00 with the mean being Rp.18,512,655 or US\$1,851 (median Rp.10,000,000 or US\$1000). About one-half of the loans were less than Rp10,000,000. It can be concluded from the above table that most microenterprise owners borrow microloans of around Rp.5,000,000 or US\$500. From figure 3 below (in thousands rupiah), this study also illustrates that the majority of owners borrow microloans below Rp.5,000,000 or around US\$500.

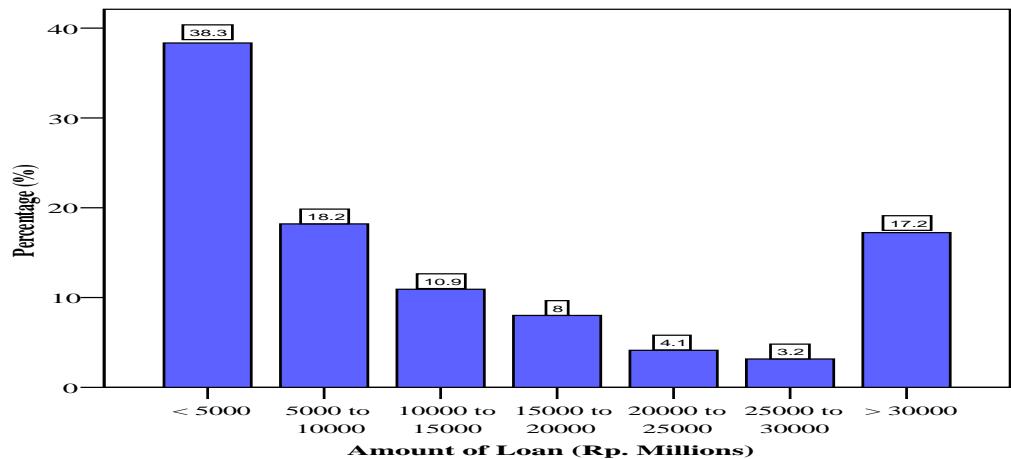


Fig. 3 Amount of Loan (Rp.Million)

11. Empirical Results from regression

In this part, the study provides empirical results from measuring the determinants of income, fixed assets, and household expenditures microenterprise receiving loan from BRI Unit.

Table 6 below presents the empirical results for the determinants of the success of BRI microloans on microenterprise performance in terms of microenterprise income, fixed assets, and household expenditure. In this respect, regression (1) focuses on factors determine the success of microenterprise in terms of income of microenterprise, regression (2) concentrates on the factors determine the success of microenterprise in terms of fixed assets, and finally regression (3) focuses on the factors determine the success of microenterprise measured by household expenditures.

Table 6
The Determinants of the Success of Microentrepreneurs who Received a Loan from the BRI Unit

Regressor	Change in Income	Change in Fixed Assets	Change in Household Expenditures
	(Regression 1)	(Regression 2)	(Regression 3)
Age	-1.86 (3.72)	8.74 (11.47)	-0.01 (0.18)
Status	-8.91 (8.72)	22.22 (30.81)	0.96 (1.49)
Educ	7.29 (4.99)	17.63 (22.57)	-0.05 (0.30)
Gender	25.82 (20.75)	28.01 (36.71)	-0.05 (0.44)
Tyofloan	-7.43 (7.42)	-15.26 (32.64)	0.31 (0.51)
Lgamtloan	31.70* (12.84)	106.17* (44.11)	0.59 (0.50)
Food	22.27* (13.07)	-4.87 (127.69)	
Garment	75.36 (55.83)	0.67 (134.12)	
Buildingmtrl	4.67 (12.93)	-24.26 (163.18)	
Houfacandnecess	22.94* (11.64)	-51.35 (141.57)	
Repwatch	16.03 (10.54)	-11.47 (123.45)	
Loghouincome			-0.13 (0.29)
Printandphotocopying	2.56 (16.60)	296.19 (231.28)	
Salon and massage	21.90 (17.94)	381.79 (398.03)	

Rental	-7.09 (13.62)	-29.04 (122.58)	
Intercept	-314.30* (139.08)	-1060.27* (491.10)	
<i>R</i> ²	0.04	0.08	0.02
Observations	412	412	412
D-W	1.99	1.82	1.72
BPG	590.44		472.29
131.06			

Notes: 1. Standard errors are given in parentheses under coefficients, and *p-values* are given in parentheses under *F-statistics*. Individual coefficients are statistically significant at the * 10% significance level (based on *p-value*). 2. As regression (1) was detected as having heteroscedasticity and significant at 5% level, all of the coefficients were transformed into heteroscedasticity-robust standard error. Meanwhile, as regression (2) and (3) were detected as having heteroscedasticity and autocorrelation, all of the coefficients were transformed into HAC (Heteroscedasticity- and autocorrelation-consistent) standard error.

Regression (1) above shows the log amount of loan has a positive relationship with microenterprise income. This means that if there is an increase in the amount of loan accessed by one per cent, it causes a change in income of microenterprise raised by roughly 0.31% on the business. This finding is similar to previous studies (Kantor, 2005; Faridi, 2011; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Bhasin and Akpalu, 2001; Norhaziah and Mohd, 2010; Morris, 2003). On the other hand, the findings contradict previous studies where financing in terms of the amount of loans is shown as insignificant with the factors that determine the success of microenterprises (Ngaosi et al., 2007; Nor Hafizah et al., 2011; Mohd Abi et al., 2012; McPherson, 2010; Olusola, 2011). There might be some factors that caused different results among these studies due to culture or other environmental influences. Further, the firm characteristics in terms of type of business, namely dummy variables of foods indicate positive relationship with change in income. This means that food businesses have a 22.27% higher change of income than non-food businesses. This finding is similar to Masakure (2009). The dummy variable for household facilities and necessities or furniture also indicates a positive relationship with changes in income. This means that change in income of household facilities and necessities increases by roughly 22.94% compared to microentrepreneurs who sell other type of businesses. However, the finding is not similar to previous studies where household facilities and necessities or furniture have an insignificant relationship with factors that determine the success of microenterprises (Masakure, 2009). There might be some differences based on socio-economic and market situation in business location that cause the different findings among these studies. On the other hand, none of the entrepreneurs' characteristics regressors indicate a positive significant relationship with the success of microenterprises. This is followed by the other dummy variable of garment, building material, technician and repair of vehicles and watches, printing and photocopy, salon and massage, and rental by having an insignificant relationship with change in income. In this respect, this study indicates that all of the variables in regression (1) are exempt from multicollinearity except for gender, log amount of loans, and the dummy variables for food and garment due to the value of VIF being more than 10. However, this study retained these regressors because they belong to regression (1).

Regression (2) indicates that none of the microentrepreneurs' characteristics regressors show a positive significant relationship with change in fixed assets. At the same time, none of the dummy variables for type of business as firm characteristics demonstrate a positive significant relationship with change in fixed assets. On the other hand, the log amount of loans indicates that it has a positive significant influence on fixed assets. This means that if the amount of loans accessed increased by one per cent, it would increase the change in fixed assets by around 1.05%. The result is similar to previous studies where financing is one of the main factors in determining the success of microenterprises (Kantor, 2005; Faridi, 2011; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Bhasin and Akpalu, 2001; Norhaziah and Mohd, 2010; Morris, 2003). On the other hand, the result is different to previous studies that indicate that the loan or financing is insignificant with the determinants of success of microenterprises (Ngaosi et al., 2007; Nor Hafizah et al., 2011; Mohd Abi et al., 2012; McPherson, 2010; Olusola, 2011). In the meantime, regression (2) illustrates that all of the variables are free from multicollinearity except for food, garment, technician and repair for vehicles and watches. In this respect, this study keeps these variables as it belongs in regression (2).

In this respect, regression (3) indicates that none of the entrepreneurs' characteristics in terms of age, gender, status, and education indicate a positive significant relationship with the change in household expenditure. At the same time, the firm characteristics in terms of dummy variables for type of businesses also illustrate an insignificant relationship with change in household expenditure. This is followed by financing and household characteristics in terms of the log amount of loan and log household income, respectively. In the meantime, regression (3) also indicates that all of the variables are free from multicollinearity due to the value of VIF being less than 10.

7.2 Implications of the Findings and Suggestions for Further Research

It is hoped that these findings will enable the actuaries, marketers, product developers managing directors, general managers and all of the BRI staff to provide other non credit services such as training for microenterprise, educational program, social awareness, health programs, insurance programs, family planning, and others with the aim to have greater impact of the microfinance program. The findings in this study indicate that the success of microenterprise is not only from microcredit, but also affected by other factors such as entrepreneurs' characteristics, firm, and household characteristics, and financing. For further research, this study recommends a focus on unobserved characteristics, as neglecting them will create endogeneity problems. The findings generated from observed effects have frequently produced biased results because of the correlation between independent variables and unobserved characteristics.

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