DOES MICROFINANCE MODEL DETERMINE THE EFFECTIVENESS OF MICROFINANCE INTERVENTION IN ENHANCING MICROENTERPRISE PERFORMANCE? EVIDENCE FROM BANK RAKYAT INDONESIA

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ABSTRACT - This study aims to investigate the effectiveness of different microfinance model in enhancing the performance of microenterprises in terms of income, fixed assets, and household expenditures. By focusing on the case of Bank Rakyat Indonesia, one of the most successful commercial microfinance providers in the world, two types of microfinance products, namely KUPEDES and KUR are being compared. The KUPEDES is original product of BRI Unit, while the KUR is a micro-product subsidized by the Indonesian government. Based on the experience of BRI Unit in Medan city, Indonesia, we assess the impact of microfinance intervention on 400 clients. The findings demonstrated that KUPEDES as original microproduct is more successful compared to KUR product in enhancing the performance of microenterprise through income, fixed assets, and household expenditures as successful indicators.
Keywords: Microfinance, Intervention, Microenterprises, Performance, Indonesia

***ABSTRAK -** Kajian ini bertujuan untuk menginvestigasi keefektifan beragam model pendanaan mikro dalam meningkatkan performa usaha kecil dari segi pemasukan, aset tetap, dan belanja rumah tangga. Dengan fokus pada kasus Bank Rakyat Indonesia, salah satu pemberi dana mikro paling berhasil di dunia, kajian ini membandingkan dua macam produk pendanaan mikro, yaitu KUPEDES dan KUR. KUPEDES adalah produk original BRI sementara KUR adalah sebuah produk mikro yang disubsisdi oleh pemerintah Indonesia. Berdasarkan pengalaman BRI cabang Medan, Indonesia, penulis menilai dampak campur tangan pendanaan mikro terhadap 400 orang klien. Hasil penelitian menunjukkan bahwa KUPEDES sebagai produk mikro original dinilai lebih berhasil dibandingkan dengan KUR dalam meningkatkan performa usaha kecil dengan indikator kesuksesan: pemasukan, asset tetap, dan belanja rumah tangga.*
***Kata Kunci**: Usaha Kecil, Intervensi, Usaha Kecil, Performa, Indonesia*

INTRODUCTION

MFIs such as Grameen Bank in Bangladesh, BancoSol in Bolivia, and Bank Rakyat Indonesia (BRI) in Indonesia have spread throughout the world indicating their success in alleviating poverty and improving microenterprise performance. Various studies in the past have successfully proven that MFIs are not only crucial in alleviating poverty but also play an important role in supporting the performance of microenterprises in various countries. (Mosley & Hulme, 1998), for example, deliberated on how microfinance has helped to improve the income and employment of borrowers of the BancoSol lending programme. In an extended study, (Mosley & Hulme, 1998) adopted the Subsidy Dependence Index (SDI) to show a positive impact of microlending by the BancoSol in improving income in Bolivia. A case study by (Yamauchi, 2005) demonstrated that microcredit is able to contribute positively towards employment generation in Indonesia. This is supported by (Ardianti & Atmadja, 2011) who illustrated how microcredit can bring significant improvement on female entrepreneurs' standard of living.

Microfinance has also brought positive effect on performance of microenterprise in terms of income, savings, and loan repayment (Simeyo, Martin, Nyamao, Patrick, & Odondo, 2011). Additionally, microfinance had resulted in better education in the Philippines (D. Karlan & Zinman, 2009). In the case study of Amanah Ikhtiar Malaysia (AIM), (Saad & Duasa, 2011) explained how microfinance had brought positive effect on the business performance of microenterprises. AIM is also said to have positive impact on assets owned by older clients compared to new clients (Al Mamun, Adaikalam, & Mazumder, 2012). Given these studies, it can be concluded that microfinance helps to alleviate poverty and improve the performance of microenterprises.

Microenterprises face many obstacles in getting credit from commercial banks. Only 12 per cent of Small and Medium Enterprises (SMEs) are able to receive credit from commercial banks, with the following reasons being cited as the main problems (Indonesia Delegation for APEC SMEs Ministerial Meeting, 2003): (i) Products of banks do not match the needs and conditions of SMEs; (ii) Banks often overestimate lending risk to SMEs; (iii) High credit transaction costs for SMEs; (iv) SMEs are not able to fulfil banking technical requirements; (v) Limited access of SMEs to financial equity; (vi) Inefficiency in monitoring and collection of SMEs credit; (vii) Less effective technical assistance provided by the bank itself, therefore service cost for SMEs is high; and (viii) General bank is not used to financing SMEs.

In addition, commercial banking credit creates difficulties for SMEs to fulfil banking technical requirements, especially collateral and other administrative requirements. Furthermore, according to Timberg (1999), formal financial institutions are sometimes the critical missing factor in supporting or promoting the growth of small and microenterprises (SME).

The complex requirements from commercial banks are obstacles for microenterprises to start or to expand business productivity. This is similar in African countries where the main problem faced by micro, small, and medium enterprises (MSMEs) is to secure financing (Santos, 2003).

Due to the difficulties faced by microenterprises in accessing loans from commercial banks, MFIs have emerged as an important alternative source of financing for many new business ventures or enterprises. MFIs have emerged as a solution for microenterprises due to the reluctance of formal financial institutions to provide microcredit to microenterprises that may not have the capability for repayment. APEC (2003), therefore, suggested the establishment of MFIs is an important factor that encourages the development of microenterprises. MFIs help microenterprises by increasing business activities of microenterprises by providing working capital or investment funds, and by promoting and developing the spirit of entrepreneurship.

This study aims to investigate the effectiveness of different microfinance model in enhancing the performance of microenterprises in terms of income, fixed assets, and household expenditures. In achieving this objective, the study compares between KUPEDES and KUR in improving the performance of microenterprises on 400 clients in Medan city, Indonesia. KUPEDES is original microproduct of BRI Unit, while the KUR is microproduct which is subsidized by Indonesia government.

BANK RAKYAT INDONESIA: PERFORMANCE AND ROLE IN MICROFINANCE INDUSTRY

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 SMEs increased from Rp12.01 trillion or US$ 12.01 billion in December 2002 to Rp27.28 trillion or US$ 27.28 billion in December 2006 achieving a growth rate per year of around 22.77%. The Indonesian Government offered its shares, of around 30%, in BRI to the public on 10

November 2003. The price of BRI stock increased sharply on the Indonesian capital market from the time that BRI offered its stock to the public.

The profit of the BRI Unit before the financial crisis in 1995 was Rp403 billion (US$174 million) and even its profitability continued to rise rapidly by around Rp1,161 billion after three years of financial crisis in 2000. Although the profit of BRI Unit declined in terms of dollar value to around US$121 million because of the depreciation of the rupiah against the US dollar value in 2000, but the BRI Unit had done very well financially by having profit around Rp2,168 billion (US$233 million) and 6.2 of return on assets (ROA) in 2004.

In terms of its role in the microfinance industry, BRI Units launched a microcredit scheme, known as Rural General Credit or *Kredit Umum Pedesaan* (KUPEDES) in 1984. The aim of this microcredit was to focus on any productive enterprises. In this respect, the BRI Units determined an interest rate for KUPEDES of around 1.5% flat for every month or an annual rate of 33%. KUPEDES recorded improvements from US$12.01 billion at the end December 2002 to US$27.28 billion at the end of December 2006 with a growth rate of around 22.77% per year. The number of KUPEDES active borrowers increased from 3.05 million at the end of December 2002 to 3.44 million at the end of December 2006. The distribution of KUPEDES increased significantly from Rp.69.7 trillion in 2010 to Rp.78.99 trillion in 2011, and the total outstanding of Micro KUR reached around Rp.11.20 trillion in 2011.

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. BRI has demonstrated the success of transformation from the microfinance section of a government-owned bank to become a highly profitable, self-reliant financial intermediary; and a major microfinance provider by offering microsavings and microcredit products to low-income people at market rates of interest (Seibel, 2005).

Nowadays, BRI uses savings mobilisation as its source of funds, and no longer depends on the Indonesian Government or World Bank. (Seibel, 2005) added that by December 2003, BRI had been successful in achieving 30 million accounts for savers and 3.1 million accounts for borrowers. In this regard, BRI has covered its costs from the interest rate margins and financed its expansion from its profits. Furthermore, BRI's Microbanking Division noted that by December 2003, its portfolio had reached US$1.7 billion in loans outstanding and US$3.5 billion in savings balances. Its excess liquidity was around

US$1.85 billion. (Seibel, 2005) further noted that other MFI providers; both in Indonesia and other countries, can learn several lessons from BRI. These lessons are in terms of its success in transforming itself from a subsidised government-owned bank to a viable, competitive and self-sufficient financing intermediary; and its ability to remain profitable during the 1997-1998 East Asia economic crisis (Seibel, 2005). While many Indonesian banks collapsed, BRI Units somehow managed to secure 1.3 million new savers during the crisis (Seibel, 2005).

BRI is also recognised as the first commercial bank in the world to provide commercial financial services; such as savings and loans, as well as other products to millions of economically active poor and lower-middle income households, and, most importantly, does so profitably (Robinson, 2004). BRI Unit is chosen because it is one of the largest and most successful microfinance institutions in the world (Maurer, 2004), and one of the most successful government-owned bank in Indonesian that offers microcredit schemes for micro, small, and medium enterprises (MSMEs).

REVIEW OF EMPIRICAL STUDIES ON MICROFINANCE

Microfinance Institutions (MFIs) play a vital role in poverty alleviation as well as in the development of microenterprises. They emerged in recent decades due to the obstacles faced by the poor and microenterprises in developing countries to access loans from formal financial institutions (Bhasin & Akpalu, 2001; Vogelgesang, 2001) APEC, 2003; (Abiola, 2011; Oppedal Berge, Bjorvatn, & Tungodden, 2011; Santos, 2003). Various factors contribute to these difficulties, which include economics, politics, and history. In this regard, MFIs in Asia are noted for its success in alleviating poverty and improving the performances of microenterprises through several microfinancing programmes. Examples of successful MFIs in the region are Bank Rakyat Indonesia (BRI), Badan Kredit Kecamatan (BKK), and Kredit Usaha Rakyat Kecil (KURK) in Indonesia; Amanah Ikhtiar Malaysia (AIM) in Malaysia; Grameen Bank, TRDEP (Thana Resources Development and Employment Program), and BRAC (Bangladesh Rural Advanced Committee) in Bangladesh; Primary Thrift and Credit Cooperative Society (PTCCSs) in Sri Lanka; Regional Rural Banks (RRB), Centre for Youth and Social Development (CYSD), Professional Assistance for Development Action (PRADAN), and Social For Helping Awaken Rural Poor Through Education (SHARE) in India; and Centre for Agriculture and Rural Development (CARD) in the Philippines (Chua, Mosley, Wright, & Zaman, 2000; Greeley, 2005; Kabeer & Noponen, 2005;

Khandker, Samad, & Khan, 1998; Mosley & Hulme, 1998; Rahmat & Maulana, 2006).

There are two main problems that explain the reluctance of formal financial institutions to deliver credit to financially poor individuals (Mosley & Hulme, 1998). First is the problem of screening. Many formal financial institutions view poor individuals and households as high-risk customers, especially microentrepreneurs who do not have proper accounting books, who, thus, are unable to present proper business forecast. They also require loans that are too small and non-profitable for banks. Second is the problem of enforcement. Households with low income are assumed to be very weak in providing collateral, which causes courts to feel reluctant to acquire all of the collateral given. And finally, insurance is not available to protect the poor during the drought season, from natural disasters, and from equipment failure. The collapse of several financial institutions sponsored by various government agencies in the 1930s invited criticism from the "Ohio School", which was supported by Dale Adams, Carlos Cuevaz, Gordon Donald, Claudio-Gonzalez and Von Pischke (Mosley & Hulme, 1998). They argued that credit is not a successful tool to help the poor to improve their economic conditions.

Microfinance is defined as the provision of financial services in terms of very small loans, insurance, savings, and other financial services for clients with low income and the self-employed, which involve financial and social intermediations (Elle, 2012; Imboden, 2005; D. S. Karlan & Goldberg, 2007; Ledgerwood (1999); Olu, 2009; Santos, 2003). Financial intermediation means savings and credit while social intermediation means group formation, self-confidence improvement, training in financial literacy, and management practices for the clients. There are nine elements that can be categorised as elements of microfinance (D. S. Karlan & Goldberg, 2007). These elements are they exist in small loans, insurance or savings; loans accessed for business productivities; loans granted without collateral; lending based on group; the intention being to reach poor clients; the process of application is uncomplicated; and the interest charged is based on market level.

The objectives of microfinance are to alleviate poverty, to encourage female empowerment and serve poor clients, generate more employment, assist existing enterprises to expand their business productivity, and support the improvement of new businesses (Ledgerwood, 1999). The category of micro, small, and medium enterprises (MSMEs) depends on the enterprise's assets, sales, or number of workers employed. Furthermore, the meaning of MSMEs differs between countries, and depends on the levels of wealth and the size of

the economy of each country. In the case of Indonesia, the government of Indonesia identifies micro and small enterprises as enterprises possessing total assets of around Rp.200 million or US$20,000; not including the value of land and building they own, in other words, possessing total assets per year of not more than Rp.1 billion (US$100,000) (Rudjito, 2004). Microenterprises could also be defined as productive enterprises belonging to someone with the highest assets of around Rp.50 million or US$5,000, and maximum sales of around Rp.300 million or US$30,000. Small enterprises are also characterised by the highest assets of Rp.50 million or US$5,000 to Rp.500 million or US$50,000, and the highest sales of around Rp.300 million or US$30,000 to Rp.2.5 billion or US$250,000. Meanwhile, medium enterprises are characterised by the highest assets of around Rp.500 million or US$50,000 to Rp.2.5 billion or US$250,000, and the highest sales of around Rp.2.5 billion or US$250,000 to Rp.50 billion or US$500,000 (Department of Cooperative, Small and Medium Enterprises, Indonesia, 2008). Internationally, microenterprises are defined as enterprises with a maximum of ten employees or less; including the owner and their family members, with total assets of less than US$10,000 (USAID, 2005) ; (Leon & Schreiner, 2001).

Some studies conducted in Bolivia indicate that microfinance institutions (MFIs) had a positive significant impact on income, employment, assets, technology, productivity, growth of clients, and sales revenue (Mosley & Hulme, 1998; Vogelgesang, 2001). However, they also illustrate, for example, that lenders of microfinance in Bolivia tend to only focus on poor people whose standards of living are close to the poverty line rather than poor people whose standards of living are below the poverty line as the latter are considered less creditworthy (Navajas, Schreiner, Meyer, Gonzalez-Vega, & Rodriguez-Meza, 2000). Furthermore, it also shows that microfinance has a negative impact on poor households who are low risk takers and has low return on investment (Mosley, 2001).

In the meantime, empirical studies done in Indonesia exhibit that loan of MFIs have a positive impact on poverty and the performance of microenterprises. This demonstrates that MFIs, such as the BRI Units, *Badan Kredit Kecamatan* or Credit Distric Institution (BKK), *Kredit Usaha Rakyat Kecil* or Credit for Small Business People (KURK), and others have made positive impacts on job creation and household income (Hulme & Mosley, 1996; Yamauchi, 2005). Studies also illustrate that microfinance has a positive effect on the performance of microenterprises in terms of sales, and the standard of living of female entrepreneurs (Ardianti & Atmadja, 2011; Rahmat & Maulana, 2006). However, other studies indicate that microfinance has no impact on sales,

profit or poor households (Ardianti & Atmadja, 2011; Morduch & Haley, 2002).

Studies carried out in Malaysia also indicate that microfinance has made positive impact on poverty alleviation and performance of microenterprises. Mamun (2010), for example, demonstrated that micro financing facilities from Amanah Ikhtiar Malaysia (AIM) have had positive effect on assets of microenterprises owned by the hard-core poor. Saad & Duasa (2011) also demonstrated that the amount of microloans, which are accessed from AIM, has impacted significantly the economic performance of borrowers. And finally, al-Mamun et al., (2012) illustrated that the current market value of livestock's agricultural or production equipment, agriculture stock and raw materials, enterprise assets and motor vehicles owned by older clients are higher than new clients.

The empirical studies conducted in Bangladesh show that most of loan of MFIs in Bangladesh, such as Grameen Bank, Bangladesh Rural Advancement Committee (BRAC), and others, have given positive effects on poverty alleviation in terms of household income, livelihood strategy, assets, production, employment, vulnerability, and female empowerment (Glewwe, Gragnolati, & Zaman, 2000; Hulme, Montgomery, & Bhattacharya, 1996; Khandker et al., 1998). These studies also demonstrated that older clients then to do better than new clients. Nonetheless, other findings have illustrated that the impact of microfinance on poverty is only positive for around six years, and it tends to even out after six years (Chowdhury, Ghosh, & Wright, 2005).

Only a few studies concentrate on the impact of microfinance on poverty in Sri Lanka. These studies, nonetheless, indicate that microfinance has a positive effect on income, employment, productive and household assets, and technology (Hulme et al., 1996). On the other hand, other findings also prove that microfinance has a positive impact on the more affluent microenterprises compared to poor microenterprises, and that its impact on poverty depends on the location. In this regard, microenterprises in urban areas generally perform better than those in rural areas (Shaw, 2004).

Several microfinance studies concentrated on two countries in measuring the impact of microfinance on poverty alleviation and microenterprise. In this respect, the studies conducted in Ghana and South Africa, Uganda and Zimbabwe, and Nepal and Pakistan found that microfinance has a positive effect on the standard of living of borrowers in terms of economic and social benefits, access to facilities, and female empowerment. Positive effect were also identified on entrepreneur's self-confidence, image development, decision

making at household and community levels, and knowledge and communication abilities (Afrane, 2001; De Gobbi, 2005; Maggiano, 2006). However, it has no impact on the improvement of economic borrowers in Uganda and Zimbabwe.

Meanwhile, according to Weiss and Montgomery (2003), microfinance has had a positive effect on alleviating poverty level, but has not succeeded in alleviating poverty among the poorest in the society (Weiss, Montgomery, & Kurmanalieva, 2003).

In conclusion, studies on impact assessment have consistently proven that microfinance has a positive impact on poverty alleviation and performance of microenterprises in terms of education, health, female empowerment, number of livestock, assets holding, business productivities, sales, profit, and others. Nevertheless, although this study observed that some microfinance programmes do not have a positive impact on poverty alleviation and performance of microenterprises, it shows that overall, microfinance programmes has contributed significantly to the performance of microenterprises and alleviating poverty in Asia, Latin America, Africa, and other countries.

METHODOLOGY

Empirical Model and Variables

This study focuses on three models to examine the determinants of the success of microenterprises, whose owners received microloans from the BRI Units. Success is measured by the performance of the microenterprise in terms of its income, fixed assets, and household expenditure. This present study focuses on four factors that influence the success of microenterprise: household characteristics, firm's characteristics, financing, and entrepreneurs' characteristics.

The first model is presented as Equation 1:

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

The second model is presented as Equation 2:

$$
\begin{aligned}
Change\ Fixed\ Asset_i &= \alpha_0 + \sum_{i=1}^{8} \beta_2\ Age_i + \sum_{i=1}^{2} \beta_3\ Gender_i + \sum_{i=1}^{3} \beta_4\ Status_i + \sum_{i=1}^{5} \beta_5\ Educ_i \\
&+ \sum_{i=1}^{2} \beta_6\ Tyofloan_i + \beta_7\ Lgamtloan_i + \sum_{i=1}^{9} \beta_8 TOB_i + \mu_i
\end{aligned}
$$

The third model is presented as Equation 3:

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

Table 1. Determinants of Successful Microenterprise

Variable Name	Description
Change Income	Income of microenterprise per month in Rupiah before and after accessing loan from BRI Unit
Change Fixed Assets	The total amount of fixed assets in Rupiah before and after accessing loan from BRI Unit
Change Household Expenditures	The total amount of expenditure per month in Rupiah before and after accessing loan from BRI Unit
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 variable consists of 1: male, 2: female
Marital Status	Categorical variable consists of 1: married, 2: single, 3: widow/widower
Educational background	Categorical variable consists of 1: uneducated, 2: primary school, 3: junior

	high school, 4: senior high school, 5: diploma/bachelor
Tyofloan	Categorical variables consists of 1: KUPEDES, 2: KUR
Lgamtloan	The amount of loan accessed in either KUPEDES or KUR product
TOB	Dummy variable for type of business consists of 1: food, 0: otherwise; 1: garment, 0: otherwise; 1: buildingmtrl (materials for building), 0: otherwise; 1: houfacandnecess (household facilities and necessities), 0: otherwise; 1: techvehrepwach (technician and repairs of vehicles and watches, 0: otherwise; 1: printandfotocpy (printing and photocopy), 0: otherwise; 1: salon and massage, 0: otherwise; 1: rental, 0: otherwise.
Lghouincome	Income of household per month in Rupiah

This study uses the performance of microenterprises as the measurement of success; an approach used previously in various business studies (Chittithaworn, Islam, Keawchana, & Yusuf, 2011). It focuses on three financial indicators generated from the performance of microenterprises in terms of their income, fixed assets, and household expenditure, based on the Indonesian context. Based on findings of previous studies, this study focuses specifically on three factors that determine the success of microenterprises, namely, financing, enterprise characteristics, and firm's characteristics. Financing is assumed to play a crucial role in achieving or expanding business productivity. Adequate financing would allow an entrepreneur to buy raw materials, employ more workers, promote existing workers, offer more products and services, and others. All these would enhance the enterprise's chances to achieve greater success in terms of its business performance.

Based on the existing literature, entrepreneur characteristics include age, gender, marital status, and educational background. They are assumed to influence the success of microenterprises in terms of their performance. Household characteristics and a firm's characteristics in terms of household income and types of business, respectively, are also considered factors that would affect the success of microenterprises.

Survey Area and Design

The eleven selected BRI Units are all located in Medan City. Medan City is the third biggest city in Indonesia, and is one of the 26 regencies/municipalities in North Sumatra with a total area of about 26,510 Ha. This city is the centre of the Government of the North Sumatra Province, which is bounded by the regency of Deli Serdang to the north, south, west and east. Medan City consists of 21 districts and 151 sub-districts (Governor of North Sumatra, 1996). The districts are Medan Tuntungan, Medan Johor, Medan Amplas, Medan Denai, Medan Area, Medan Kota, Medan Maimun, Medan Polonia, Medan Baru, Medan Selayang, Medan Sunggal, Medan Helevetia, Medan Petisah, Medan Barat, Medan Timur, Medan Perjuangan, Medan Tembung, Medan Deli, Medan Labuhan, Medan Marelan and Medan Belawan.

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 KUPEDES products 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.

Description of Respondents

The majority of these microenterprises are small vendors. Furthermore, most of them are the economically active poor or working poor who have repayment capabilities. These microenterprises operate their business activities in economically developed areas. Most of these areas have traditional markets for

microenterprises and small vendors. The areas also have good infrastructure, such as paved roads, power supply, police station, and others.

Approach

This study utilises 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 (2003) stated that the before and after approach is used when data for each state are obtained for T = 2 time periods, for which it is possible to compare values of the dependent variable in the second period to values in the first period. By focusing on changes in the dependent variable, "before and after", or, in effect, comparison of "differences" holds constant the unobserved factors that differ from one state to the next but do not change over time within the state (Liker, Augustyniak, & Duncan, 1985; Stock & Watson, 2003)

EMPIRICAL RESULTS FROM REGRESSIONS

The Table 2 below indicates the findings of the performance of KUPEDES on BRI Unit clients. Regression (1) focuses on the factors that determine the success of microenterprises that receive KUPEDES loans measured by income; regression (2) concentrates on the factors that determine the success of microenterprises that receive KUPEDES measured by fixed assets, and, finally, regression (3) focuses on the factors that determine the success of microenterprises measured by household expenditure.

In regression (1) none of the entrepreneur characteristics in terms of age, status, education, and gender indicate a positive relationship with the change in income of microenterprises that received KUPEDES. On the other hand, the log amount of loan indicates a positive significant relationship with change in income. In this respect, it suggests that if the amount of loans of KUPEDES accessed increased by one per cent, it increases the change in income by roughly 0.34 percent per month. This proves that financing is one of the crucial factors in determining the success of microenterprises, which supports other studies (Kantor, 2005; Faridi, 2011; Nor Hafizah, Ratna, Salfarina, and Zainal, 2011; Bhasin and Akpalu, 2001; Norhaziah and Mohd, 2010; Morris, 2003). However, some studies indicated that financing is not considered a vital factor in determining the success of microenterprises (Ngaosi et al., 2007; Nor Hafizah et al., 2011; Mohd Abi et al., 2012; McPherson, 2010; Olusola, 2011).

Table 2. Performance of KUPEDES on BRI Unit Clients

Regressor	Change in Income (Regression 1)	Change in Fixed Assets (Regression 2)	Change in Household Expenditures (Regression 3)
Age	-2.34	9.07	0.22
	(5.54)	(13.97)	(0.25)
Status	-17.16	12.65	1.95
	(14.37)	(45.06)	(2.23)
Educ	11.22	19.82	0.09
	(7.86)	(33.12)	(0.39)
Gender	38.21	32.89	-0.22
	(30.83)	(60.20)	(0.63)
Lgamtloan	34.44*	123.18*	0.83*
	(12.82)	(48.41)	(0.49)
Food	28.45*	3.42	
	(16.12)	(165.88)	
Garment	102.45	-8.89	
	(75.77)	(169.58)	
Buildingmtrl	13.34	-18.82	
	(16.78)	(202.22)	
Houfacandnecess	26.13*	-63.74	
	(14.63)	(180.63)	
Repwatch	17.20	-28.20	
	(13.22)	(165.97)	
Loghouincome			-0.16
			(0.36)
Printandphotocopying	8.09	304.60	
	(19.14)	(287.66)	
Salon and massage	27.94	598.14	
	(25.23)	(637.10)	
Rental	12.85	13.74	
	(19.27)	(167.58)	
Intercept	-368.60*	-1252.88*	-9.35
	(155.91)	(593.59)	(7.34)
R^2	0.04	0.08	0.03
Observations	271	271	271
D-W	1.12	1.45	1.48
BPG	300.45	242.69	59.62

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*). As regression (1), (2), and (3) indicate having heteroscedasticity and are free from autocorrelation, all of the coefficients in regression (1), (2), and (3) have been transformed into heteroscedasticity-robust standard error.

The firm's characteristic in terms of dummy variable of food indicates a positive significant relationship with change in income. This study suggests

that food businesses have a 28.45 percent higher change in income than others. This result is similar to results of previous studies where food is one of the types of business that indicates a positive relationship in determining the success of microenterprises (Masakure, 2009). Meanwhile, household facilities and necessities businesses or furniture have a positive relationship with change in income. This means that it has a 26.13 percent higher change in income than others. However, this finding is different from previous studies that indicate that household facilities and necessities or furniture have an insignificant relationship with determinants of the success of microenterprises (Masakure, Henson, & Cranfield, 2009). However, other dummy variables of types of business indicate an insignificant relationship with change in income.

Regression (2) illustrates that only financing in terms of amount of loans accessed have an influence on the success of microenterprises in terms of change in fixed assets. This means that if the amount of loans of KUPEDES accessed increase by one per cent, it increases the change in fixed assets by around 1.22 percent. The finding is also similar to previous studies where financing plays a crucial role as one of the factors that determine the success of microenterprises (Bhasin & Akpalu, 2001; Faridi, 2011; Kantor, 2005; Morris, 2003; Nawai & Shariff, 2010; Selamat, Abdul Razak, Abdul Gapor, & Sanusi, 2011). However, the result is contrary to previous studies that indicate that financing does not play a crucial role in determining the success of microenterprises (Akande, Adebayo, Oladejo, & Ademola, 2011; Halim, Muda, Amin, & Salleh, 2012; McPherson, Molina, & Jewell, 2010; Ngaosi & Navarro, 2007; Selamat et al., 2011). There might be some factors that cause the results to be contradictory to these studies, such as cultural factors, environmental influence, socio-economic, market conditions, and other factors. However, entrepreneur characteristics in terms of age, gender, status, and education indicate an insignificant relationship with change fixed assets. This is followed by firm characteristics in terms of dummy variable for type of business. All of the dummy variables for the type of business indicate an insignificant relationship with change in fixed assets.

In this respect, regression (3) points out that only financing in terms of log amount of loans indicates a positive significant relationship with change in household expenditure. An increase in the amount of KUPEDES loan by one per cent increases the change in household expenditure by around 0.008 percent. Similar to other studies, financing has been proven to play a crucial role in determining the success of enterprises (Bhasin & Akpalu, 2001; Faridi, 2011; Kantor, 2005; Morris, 2003; Nawai & Shariff, 2010; Selamat et al.,

2011). However, the result is contradictory to previous studies that stated that financing does not play a crucial role in determining the success of microenterprises (Akande et al., 2011; Halim et al., 2012; McPherson et al., 2010; Ngaosi & Navarro, 2007; Selamat et al. (2011)). They found that financing in terms of the amount of loans accessed has no positive effect in determining the success of microenterprises. Finally, none of the entrepreneur characteristics in terms of age, status, education, and gender indicate a positive significant relationship with change in household expenditure. This is followed by household characteristics in terms of log household income. R^2 is also considered for regression (1), (2), and (3) due to the diversity of the cross-sectional data as mentioned before (Gujarati, 2003). The diversity of the data mainly comes from the different backgrounds of microenterprises that obtained KUPEDES microloans from BRI Unit.

Meanwhile, Table 3 below demonstrates the findings of the performance of KUR on BRI Unit clients. Regression (4) indicates that none of the variables for entrepreneur characteristics in terms of age, status, education, and gender indicate a positive significant relationship with change in income of microenterprises that received a KUR loan. This is followed by financing in terms of the amount of loan, which shows an insignificant relationship with change in income. Finally, firm characteristic in terms of dummy variable for type of business also indicates an insignificant relationship with change in income.

Regression (5) shows that none of the entrepreneur characteristics, such as status, education, age, and gender, demonstrate a positive significant relationship with change in fixed assets. In addition, the financing in terms of log amount of loan also indicates an insignificant relationship with change in fixed assets. However, a firm's characteristic in terms of dummy variables of garment indicates a positive influence on change in fixed assets of microenterprises that received a KUR loan. This means that garment businesses have a 55.13% higher change in fixed assets compared to others. The finding is not similar to previous studies that showed that garments have a negative relationship in determining the success of microenterprises (Masakure et al., 2009). This study suggests that certain factors caused the findings to be different, such as geographic location, socio-economic background, market situation, working experience, entrepreneur characteristics, firm characteristics, and others. At the same time, the technician and repair of vehicles and watch businesses indicate a positive relationship with change in fixed assets.

Table 3. The Determinants of the Success of Microentrepreneurs who Received KUR

Regressor	Change in Income (Regression 4)	Change in Fixed Assets (Regression 5)	Change in Household Expenditures (Regression 6)
Age	-1.27	4.45	-1.19
	(1.15)	(3.49)	(1.07)
Status	0.42	10.96	0.06
	(2.50)	(9.14)	(2.61)
Educ	0.03	12.07	-1.67
	(1.52)	(18.91)	(1.92)
Gender	0.60	15.32	-0.52
	(2.29)	(18.91)	(2.49)
Lgamtloan	-6.82	-19.79	-9.64
	(8.43)	(19.98)	(10.14)
Food	7.03	22.10	
	(5.15)	(14.21)	
Garment	2.05	55.13*	
	(4.60)	(30.38)	
Houfacandnecess	13.06	19.66	
	(8.05)	(21.36)	
Repwatch	3.40	26.94*	
	(4.18)	(12.16)	
Loghouincome			4.64*
			(2.22)
Salon and massage	1.35	28.15	
	(4.38)	(18.12)	
Rental	-9.63	-8.70	
	(8.23)	(28.51)	
Intercept	64.70	60.06	61.96
	(77.62)	(130.50)	(95.70)
R^2	0.12	0.05	0.10
Observations	141	141	141
D-W	2.27	3.98	2.16
BPG	174.95	150.54	63.58

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*). As regression (4) and (6) were detected as having negative autocorrelation and heteroscedasticity, this study uses HAC (Heteroscedasticity- and autocorrelation-consistent) standard error to solve the problem. Meanwhile, as regression (5) was detected as having heteroscedasticity, this study uses heteroscedasticity-robust standard error to solve the problem.

This means that technicians and vehicles businesses have a 26.94 percent higher change in fixed assets compared to others. However, the other dummy variables for type of business indicate an insignificant relationship with change

in fixed assets, such as food, household facilities and necessities, salon and massage, and rental.

Meanwhile, regression (6) indicates that only household characteristic in terms of household income has a positive significant relationship with change in household expenditure. This finding is similar to previous literature (Faridi, 2011). This means that if the log household income increases by roughly one per cent, the change in household expenditure increases by around 0.04 percent. However, the variables for entrepreneur characteristics in terms of age, status, education, and gender indicate an insignificant relationship with change in household expenditure. This is also followed by financing in terms of log amount of loan. R^2 is also considered low for regression (1), (2), and (3) due to the diversity of the cross-sectional data as mentioned before (Gujarati, 2003).

In conclusion, this study posits that KUPEDES is more effective than KUR products in improving the performance of microenterprises in terms of change in income, change in fixed assets, and change in household expenditure. These results indicate that KUPEDES is more effective in influencing the performance of microenterprises in terms of change in income, fixed assets, and change in household expenditure than KUR, while KUR is only effective for change in income.

CONCLUSION

Summary of Major Findings

The findings from the before and after approach illustrate that KUPEDES loans have a positive relationship with change in income, change in fixed assets, and change in household expenditure, while the KUR product has a positive relationship with change in income, but not with change in fixed assets or change in household expenditure. In this respect, this study notes that the KUPEDES loans, as the original product of the BRI Unit, are more effective than the KUR loans; which is a product that is subsidised by the Indonesian Government, as one of the factors in determining the success of microenterprises. The results are similar to results of previous studies where financing is one of the factors that determine the success of microenterprises.

The empirical results also indicate that none of the entrepreneur characteristics – age, gender, status, and education – have a positive relationship with success indicators in terms of income, fixed assets, and household expenditure for either KUPEDES or KUR products. At the same time, a firm's characteristics

in terms of dummy variables of food, household facilities and necessities indicate a positive relationship with change in income of microenterprises that receive KUPEDES loans. However, it has no positive relationship with change in fixed assets and change in household expenditure. Meanwhile, the firm's characteristics in terms of dummy variables of garment, and technician and repair of vehicles and watches indicates a positive relationship with change in fixed assets of microenterprises that receive a KUR product. However, it has no positive relationship with change in income and household expenditure. Furthermore, household characteristics in terms of household income illustrates that it has a positive relationship with change in household expenditure of microenterprises that receive KUR loans.

In conclusion, this study states that financing and firm characteristics are important factors in determining the success of microenterprises that received KUPEDES loans, while firm and household characteristics play a crucial role in determining the success of microenterprises that received KUR loans. Financing in terms of amount of loans accessed is the key factor in determining the success of microenterprises that accessed loans from BRI Unit. Other important factors such as selling food, household facilities and necessities, garment, vehicles and watch repairs, and household income also determine the success of microenterprise that access loans from BRI Unit. KUPEDES loan as the original product of BRI Unit is more successful than KUR; which is a government subsidised product, in determining the success of microenterprises. This is a new finding since there are no previous studies focusing on the differences between KUPEDES and KUR.

Implications of the Findings

The Indonesian central bank (Bank Rakyat Indonesia or BRI) and the Indonesian government should initiate efforts to ensure that microenterprises accessing KUR loans become as productive as microenterprises accessing KUPEDES. Furthermore, the BRI and Indonesian government should also initiate efforts to ensure KUR microloans become as effective as KUPEDES microloans. BRI is expected also to look at the significant variables in determining the success of microenterprise such as type of business owned by microentrepreneurs. BRI is expected as well to give advice to microenterprises to venture into other businesses that are able to generate more income.

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