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The Effectiveness of BAITUL MAAL WAT TAMWIL in Reducing Poverty: The case of Indonesian Islamic Microfinance institution

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ABSTRACT

The establishment of the so-called *Baitul Maal wat Tamwil* (BMTs) in the form of an Islamic microfinance (IMFI) is intended initially to effectively help the poor. At present time there are around 3,874 BMTs operating around the country. Although the BMTs have been existing since more than ten years ago, yet no research has been conducted to examine their effectiveness in alleviating the poverty. This study in aimed at fulfilling this important gap. The case study approach on BMT MMU Sidogiri (located at East Java Province) is taken. Two important and dominating products of BMT MMU Sidogiri (i.e. *ba'i bithaman 'ajil* (BBA) and *mudarabah*) are examined carefully on how much they have helped the customers in reducing their poverty. The paper goes beyond data measurement using descriptive statistics, paired t-test and some poverty measurement indexes such as headcount index, poverty gap, Sen index and and Foster, Greer, and Thorbecke Index to investigate the effectiveness of the BMT in reducing poverty. The study reveals that BMT financing is effective in reducing poverty. Most of respondents can increase their income after receiving BMT financing. Products of the BMT especially BBA and *mudarabah* to empower the poor in various productive business have been able to reduce extent and severity of poverty. This study also discloses some interesting and important findings related with how BMTs work, so that it can contribute more to the knowledge enrichment, as well as the development of BMTs in general in realising their mission.

Keywords: *Baitul Maal wat Tamwil* (BMTs), Poverty, Paired *t*-test, Poverty Measurement Indexes

INTRODUCTION

According to the Central Bureau of Statistics (2010), the Indonesian population living with per capita income below the poverty line is still high, that is, around 13.3-19.1 percent during 2000-2010. These percentages are quite small compared with the justification of the World Bank report (2007, cited in Beik, 2010) saying that almost half of the Indonesian population is living with per capita income below USD 2 per day.

Since this issue has always prompted government concern, various programs have been introduced to combat poverty. In Indonesia, Amalia (2009) said that one of the most effective tools to cut the vicious circle of poverty is through empowering microcredit program via microfinance institutions (MFIs). The main reason is that MFIs are concentrating on microenterprises (MEs) which are handled by the poor (Asian Development Bank, 2000; Bakhtiari, 2006; United Nations Development Programme (UNDP), 1999; Widiyanto & Abdul Ghafar, 2006). By increasing income of the poor, MFIs contribute to improving the poor's basic capabilities such as good health, education, social networks and command over economic resources (Kholis, 2009).

In the context of Indonesia, the poor people are dominated by Muslims employed in informal MEs (Amalia, 2009). Therefore, Islamic microfinance such as Islamic Micro Financial Cooperatives (*Baitul Mal wat Tamwil,* BMTs) have a big opportunity to contribute in reducing poverty. It is because by its very nature, BMT is focused on the development of Muslims' MEs in Indonesia (Ali, 2009).

BMT has been well developed by the establishment of the two pioneers, namely BMT Salman in the 1980s and BMT Ridho Gusti, in Bandung, West Java in the 1990s (Ali, 2009; Seibel, 2005). After *Pusat Inkubasi Bisnis Usaha Kecil* (Center for Incubating Small Business [PINBUK]) started

promoting Islamic cooperatives under the new label of BMT in 1995, the number of BMT has been increasing tremendously until the end of 2010. This rapid growth of BMT started in 1995 with large jumps in numbers during the Asian financial crisis of 1997 and 1998. According to the database of the Center for Incubating Small Business [PINBUK]), currently, there are already 3,874 BMTs in the country (Yusri, 2011).

Lesmana (2008), Kholis (2009), Nazirwan (2010), and Widiyanto and Abdul Ghafar (2010) argue that BMTs are able to perform multiple roles in the local community as agents of socio-economic change, charitable center or *Bazis* and have become independent from government or donor subsidies. In other words, "BMT is an idealistic microfinance system which in its framework embeds noble doctrines and morality of divine religion, local cultures and values as well as a distinct financial methodology that aims to alleviate socio-economic constraints and multi faceted problems of poverty" (Nazirwan, 2010).

Despite the great attention on the role of BMTs in reducing the poverty, there are still very few empirical studies on them. By utilizing some BMTs in Central Java, one study (Widiyanto & Abdul Ghafar, 2010) generally concludes that BMTs are the effective tools to combat poverty. Studies on other regions such as East Java, however, have not been analyzed yet, whereas one of the successful BMTs in Indonesia has been established there, namely BMT Sidogiri (Amalia, 2009).

Accordingly, this research is intended to examine the effectiveness of BMT in reducing poverty by using BMT MMU Sidogiri, Indonesia as a case study. This BMT offers some types of financing products namely *bai' bitsamanil ajil* (BBA), *mudarabah, qard hasan, murabahah* and *musharakah.* However, according to the annual report of BMT MMU Sidogiri, there are only two most popular products used by the BMT, i.e. BBA (61.76 percent) and *mudarabah* (23.82 percent) in 2009.

Therefore, this study will examine the impact of those two productive financing products of BMT MMU Sidogiri on poverty reduction. The indicator of impact used is monthly household income of the poor before and after receiving BBA or *mudarabah* financing schemes. In addition, this research will also investigate the institutional framework of BMT MMU Sidogiri as one of the successful BMTs in Indonesia (Amalia, 2009). Given the objective of the study, hence, this paper raises a question that will be addressed: how far have BMTs made a significant impact in reducing poverty?

In the second section, this paper quotes some literature reviews about concept of BMT and poverty as well as some prior studies related with the topic. Section 3 presents research methods for assessing the effectiveness of BMT in reducing poverty. Then section 4, describes research finding and analysis. Lastly, section 5 summarizes the main findings and their implications.

LITERATURE REVIEW

Baitul Maal wat Tamwil (BMT)

BMT as a variant of the Islamic microfinance institution has been defined as a community-based microfinance institution that operates under the cooperative system and NGO domain (Nazirwan, 2010). Moreover, Mu'alim and Abidin (2005) also state that BMT is an economic organization which is focused on developing cooperation and investment in order to evolve MEs and alleviate poverty through a profit-loss sharing system. It is floated by a wide variety of

organizations including Islamic banks, Islamic rural banks (BPRS) and is at times backed by Islamic organizations such as Nahdatul Ulama and Muhammadiyah that currently have over a hundred million members (Obaidullah, 2008).

According to Solehudin (2010), since there is no specific legal rule which regulates BMT; the BMT can follow the regulation of cooperative or self help group *(Kelompok Swadaya Masyarkat/KSM)*. If the BMT is regarded as a cooperative, it is regulated under the Cooperative Law which is Cooperative Act No.25/1992 (Fadilla, 2007). Meanwhile, if the BMT is established as a self help group (SHG), it will be only a group of people and there is no legal rule to regulate it.

Therefore, not all BMTs operate as a legal entity because some of them are in the form of peoples' self help group. If the BMTs are in the form of cooperatives, they will be registered with the Ministry of Cooperative and Small/Medium Enterprise (Widiyanto & Abdul Ghafar, 2006). In addition, according to Aziz (2006), most BMTs also have been associated with Induk Koperasi Syariah BMT (Inkopsyah BMT). Meanwhile, other BMTs are associated with other organizations (such as the foundation of *Dompet Dhuafa* and some religious organizations) or are independent.

Ideally, the establishment of a BMT has to be attested by a notary (Widiyanto & Abdul Ghafar, 2006). If they are not yet registered as a legal entity, they will receive a business certificate from the regional Center for Incubating Small Business *(Pusat Inkubasi Bisnis Usaha Kecil/PINBUK)*. This is because BMT statutes are standardized and include subjects such as identify area, objectives and business activities based on *shariah* principles. For example, source of funds are determined as share of the founding members, compulsory and voluntary savings, donations, loans and retained profits. The mobilization of voluntary savings, borrowing from the other sources of funds, and lending must be based on *shariah* principles. Besides that, 2.5% of annual profits have to be donated *(zakah)* and a minimum 10% (after *zakah* and tax) must be allocated in reserves and compensation funds which are utilized for management and commissioners.

In practice, a BMT offers some products which are quite similar with Islamic banks (Sakai & Marijan, 2008). However, these two institutions have a clear difference especially regarding to their clients. Islamic bank clients are in the middle and upper income groups; in contrast, BMT is dedicated only for Muslim micro-entrepreneurs who have low income level.

Specifically, Wafa and Nasrodin (2008) in Ali (2009) divided BMT activities into three areas, namely the real sector, financial intermediation and social intermediation. In terms of the real sector, BMT basically can invest its funds in long term business activities such as building a new factory or buying stocks from an established firm. As a financial intermediary, Nazirwan (2010) states that BMT is designed to conduct financial intermediations through mobilizing deposits from member clients and financing commercial ventures. In addition, as a social intermediary, BMT is dedicated to performing socio-religious roles by collecting charity donations from Muslims and helping the needy along with their spiritual lives.

Many types of the financing are offered by BMTs. Generally, they are promoting some financing products such as profit-loss sharing *(mudarabah* and *musharakah), murabahah, bai'bitsamanil Ajil,* and *qard hasan.* As a social intermediary, BMTs tackle the management, i.e. collecting and distributing of *zakah, infaq, sadaqah* and *waqf* (ZISWAF). The integration between ZISWAF institutions and BMTs is necessary to enable the poor to get financing assistance (Chapra,

1998). Therefore, the basic objective of ZISWAF to solve tricky social problems such as poverty, unemployment, natural catastrophes, indebtedness and inequitable income distribution could be attained (Al-Qardawi, 2002).

Poverty

There is still no universally accepted definition of poverty (Tambunan, 2003). Because poverty is multi-dimensional in nature, as it has both income and non-income dimension usually intertwined, there is always difficulty in deciding where to draw the line between the poor and the "non-poor". Nevertheless, many experts have tried to define poverty. For instance, UN (2001) as quoted by Barber (2008) defined poverty as "a human condition characterized by the sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights".

In Indonesia, poverty is measured by comparing household consumption per capita with the poverty line as devised by the Central Board of Statistics (Alisjahbana & Yusuf, 2003). If a household's consumption expenditure per capita lies below the respective poverty line, then the household is considered as poor. The poverty line has been increasing 5.72 percent during March 2009-March 2010, i.e. from Rp200,262 per capita per month in March 2009 and Rp211,726 in March 2010 (BPS, 2010). Accordingly, the number of poor people in 2010 is decreasing compared with 2009, i.e. 31.02338 millions from 32.52997 millions.

BMT and Poverty Alleviation

Widiyanto and Abdul Ghafar (2010) measure the effectiveness of BMTs in reducing poverty by evaluating the effectiveness of BMT financing to develop the microenterprises (MEs). ME development is potential for poverty alleviation in several ways. Those are: 1) providing credit (financing) and/or providing classes to poor people to help them to start or to strengthen their businesses (Schreiner & Woller, 2003); 2) building self-esteem and self reliance; 3) encouraging autonomy; and 4) creating community atmosphere (Geroy *et al.,* 1997).

Goldmark (2001) reveals that "the future of ME development contemplates a wider range of available service, both financial and non-financial, through which small business owners can build linkages to larger business and more profitable markets". It means that in order to use ME development as a means of poverty alleviation, the availability of a wider range of non-financial services to improve the effectiveness of financing is necessary. The improving of financing effectiveness is not only useful for ME development and poverty alleviation, but also gives benefit to Islamic microfinance institutions by reducing the risk of business and enhancing sustainability of the program (Widiyanto & Abdul Ghafar, 2010).

The study of Widiyanto and Abdul Ghafar (2010) in BMT financing utilizes 60 BMTs and 204 MEs as samples which are located in Central Java, Indonesia. The effectiveness of BMT financing (as measured by paired sample *t*-test) in developing MEs has been evaluated by pointing out the change of household income of MEs and business performance, i.e. business income and profit by comparing the mean of these indicators the first time the MEs joint BMTs (first condition) and when the research was conducted (second condition). In addition, the effectiveness of financing also has been analyzed from the rate of non-performing financing (NPF) or the rate of repayment of BMT in 2002-2005.

The findings indicate that BMT financing is able to improve business performance of MEs effectively and enhance the household income of MEs. In addition, the rate of NPF also constitutes an important indicator of the effectiveness of financing. The low rate of NPF or the high rate of repayment indicates that BMT financing is effective in developing MEs. MEs that are able to develop their business will obtain profit and furthermore they are able to repay the capital as well as the share of profit or mark-up to BMTs.

The study of Widiyanto and Abdul Ghafar (2010) is important in building the hypothesis of the current research, i.e. there is significant difference in income of the poor before and after receiving BMT financing. The expected difference is that the poor income will be increasing after accepting the BMT's financing. In other words, BMT is effective in reducing poverty.

Microfinance and Poverty Alleviation

Due to the limitation of prior studies concerning the role of BMTs in poverty alleviation, this current research will refer to some studies on microfinance and poverty alleviation. Those are Chirwa (2002), Kurmanalieva, Montgomery, and Weiss (2003), Obaidullah, (2008), and Chowdhury (2009).

Chirwa (2002) studied a very specific and interesting subject in microfinance in Malawi, Southeast Africa, where its people are dominantly living under poverty. In this research, no empirical or survey study was conducted. The study outcome concludes two important points in the Malawi Micro-financing program. Firstly, since the programs in alleviating poverty have been initiated, there has not been an integrated government rule to coordinate and strengthen the position of microfinance institution as an effort to eradicate poverty massively. As a result, it is very difficult to measure the success of the program. Secondly, it implicitly is believed that microfinance can have effect on poverty alleviation in Malawi as the first conclusion stipulated; the narrow parameter that can be used is that microfinance loan taken by poor people who are operating small business scale can contribute to increasing their incomes, then consumption expenditures like food, drinks and shelter also rise.

Kurmanalieva, Montgomery, and Weiss (2003) focused their microfinance study on Asian countries with the major poor-populated countries especially Indonesia, India, Bangladesh, Thailand, Vietnam and China. The recent researches before 2003 are collected and analyzed to come up with a cogent conclusion. The study analyzes descriptively the cross countries-comparison of the microfinance program and poverty reduction in those selected countries. The methods of fund distributing used play a very significant role in alleviating poverty because it is a pre-condition whereby the fund will be utilized if the government fails to manage well and the poverty alleviation program cannot work in the direction targeted. Every country has its own mode and type to distribute its fund for microfinance program. For example, Bangladesh employs group based-lending in which it involves all parties in the group to take risk as a guarantor or Indonesia otherwise uses individual based-lending which just requires a person to guarantee funds with collateral.

Study of Obaidullah (2008) indirectly refreshes and renews the microfinance analysis to alleviate poverty and increase living standard of the poor in terms of ultimate goals and approaches. Although the backgrounds of study and methodologies used are not far away from the conventional microfinance study already established. All his empirical researches were conducted in selected

IDB member countries (Indonesia, Bangladesh and Turkey) before 2008 as a pilot project to deduce a comprehensive analysis. The study uses a case-study method to find answers to the research questions designed. The study of microfinance on three selected IDB member countries is profoundly elaborated according to certain conditions in each country. The study is initially inspired by the positive impacts of microfinance and micro credit in several countries particularly in the Bangladesh case.

Chowdhury (2009) conducted microfinance research around the world, based on a relevant example and explanation. Like Kurmanalieva et al. (2009) the study is striving to collect and then synthesize the researches in the areas of microfinance before 2009 in order to be evaluated critically and comprehensively. The critical assessment of microfinance role in developing society can be evaluated from two significant perspectives. (1) Microfinance program scheme in the absence of government role and the other factors is not an effective tool to alleviate poverty because it is just a loan similar to any other forms of loan; if the users cannot utilize it therefore in the future the loan will create indebtedness for them. In many cases around the world the poor people who can utilize microfinance as a way out of poverty are those who have entrepreneurial skills and most of them are running small businesses. (2) Microfinance in the fact has become the most effective way to alleviate poverty because many parties are involved especially government that creates the conducive-integrated policy and supporting market for its products and non government organization that facilitate training and mentoring for the poor.

Although according to Chirwa (2002), measuring the success of poverty reduction programs is very difficult, some prior studies such as Obaidullah (2008) and Chowdhury (2009) have suggested that the simple and effective indicator to measure the effectiveness of MFIs in reducing poverty is by calculating the poor income. This current research will compare the poor income before and after receiving financing from the MFIs, i.e. BMT MMU Sidogiri to analyze the effectiveness of BMT in reducing poverty.

RESEARCH METHOD

Population and Sampling Method

Population of the study is defined as the total number of BMT financing customers, i.e. 17,372 (BMT MMU Sidogiri Annual Report, 2010). Since the study has been specified on the role of BBA and *mudarabah* financing products in alleviating poverty, the respondents must be customers who are receiving BBA or *mudarabah* products. Due to the difficulties of collecting the exact number of recipients of BBA or *mudarabah* products, the researcher will do interview to the respondents first in order to make sure whether they are BBA or *mudarabah* customers.

The effectiveness of the BMT in assisting the poor will be evaluated by comparing the income of the poor before and after receiving the financing scheme. The poor people are defined as for those who have per capita income around Rp211,726 per month (Central Bureau of Statistics, 2010). Since average family size in Indonesia is around 4.7 persons per family in the year 2007 (Central Bureau of Statistics, 2007), it is assumed that poverty line income for household in East Java is Rp995,112.2 per month.

According to D. Noor (personal communication, February 10, 2011), the number of the poor that have been assisted by the BMT in the end of 2010 is quite large, i.e. around 12,160 households or 70% from total number of financing customers (17,372). They are separated in the province of

East Java, Indonesia. They become participants in various financing products of BMT MMU Sidogiri which have been focused on productive programs.

Further, the researcher will use purposive sampling procedure in getting the sample based on the sampling frame consisting of the poor people accepting the BBA or *mudarabah* financing scheme. The main reason is that BBA and *mudarabah* are the two most requested products received by the poor. In addition, equity based financing such as *mudarabah* places greater social welfare responsibilities and religious commitments upon Islamic banks in order to achieve the Islamic economic objectives, including social justice, equitable distribution of income and wealth, and promotion of economic development (Lewis & Algaoud, 2001, in Dusuki, 2007).

The purposive sampling refers to "selection of units on personal judgment rather than randomization" (Elder, 2009). In other words, it is done with a purpose in mind. The judgmental sampling is in some way "representative" of the population of interest without sampling at random. Some researchers might seek information-rich keys in the study. It is because the samples are selected as informative phenomena that the researcher wants (McMillan & Schumacher, 2006, as cited by Abidah, 2011).

In order to determine the appropriate sample size from the population, the researcher refers to sample size calculator. After setting the error level at 6% and population size of 17,372, the required sample size is 187 with the confidence level of 90%.

In terms of the determination of the branches as samples of this research, the author chooses the most efficient branches according the prior study, i.e. Ali (2009). Farrell (1957) as quoted by Maulana (2008) has stated the measurement of efficiency of a firm into two components: Technical Efficiency (TE) and Allocative Efficiency (AE). According to Farrell (1957) cited by Ureta and Pinheiro (1997), "TE is associated with the ability to produce on the frontier isoquant, while AE refers to the ability to produce at a given level of output using the cost-minimizing input ratios". Maulana (2008) also has explained briefly the concept of TE and AE proposed by Farrell (1957) by stating that TE "reflects the ability of a firm to obtain maximal output from a given set of inputs", meanwhile AE "reflects the ability of a firm to use the inputs in optimal proportions given their respective prices". These two constituents are then combined to measure Overall Economic Efficiency (OE) which is defined as "the capacity of a firm to produce a predetermined quantity of output at minimum cost for a given level of technology" (Farrel, 1957; Kopp & Diewert, 1982 as quoted by Ureta and Pinheiro (1997).

According to Ali (2009), branches of BMT MMU Sidogiri which have technical efficiency in 2008 are Prigen, Sukorejo, Purwosari, Pandaan, Kebonagung, Kedawung and Gerbo. Branches which have allocative efficiency in 2008 are Gondangwetan and Grati. Meanwhile, branches which have overall technical efficiency in 2008 are Sidogiri, Lekok, Beji, and Paserapan.

Since the sample size is 187, the researcher will choose 10 over 13 branches which are efficient. The top ten efficient branches are Sidogiri, Lekok, Beji, and Paserapan which have been efficient overall; Prigen, Sukorejo, Purwosari and Pandaan which have been efficient in technical; and Gondangwetan as well as Grati which have been efficient in allovative. Due to the equal sample size desired from each branch, the researcher will select a sample size of 20 respondents from each selected branch. Therefore, the sample is 200 clients which exceed the sample size requirement.

Instrumentation

This study will be conducted by doing in-depth interviews with Haji Dumairi Noor as a manager and Abdullah Shadiq as chairman of Islamic saving and financing division. In addition, a self constructed survey questionnaire will be also used to measure the effectiveness of BMT MMU Sidogiri in reducing poverty in East Java, Indonesia.

Research Method

This study will utilize the survey method to gather the data. Webster as cited by Ross et al. (2002) defines a survey as "the action of ascertaining facts regarding conditions or the condition of something to provide exact information especially to persons responsible or interested" and as "a systematic collection and analysis of data on some aspect of an area or group". Consequently, the survey is a process and goes much beyond the mere compiling of data. To yield relevant information, the data must be analyzed, interpreted and evaluated.

The study will use both descriptive and inferential statistics. Gravetter and Wallnau (2008) define descriptive statistics as "statistical procedures used to summarize, organize, and simplify data". Meanwhile, inferential statistics "consist of techniques that allow us to study samples and then make generalizations about the populations from which they were selected". Being involved in a descriptive study, the researcher will utilize a survey to examine the characteristics of respondents. As an inferential research work, the current study will use paired *t*-test to investigate the effectiveness of BMT in reducing poverty in Indonesia.

The paired *t*-test compares "two population means where you have two samples in which observations in one sample can be paired with observations in the other sample" (Shier, 2004). A typical example is outcome measurements of pre- and post- treatment (Park, 2009). Suppose that a sample of *n* clients is given a diagnostic test before getting a particular BBA or *mudarabah* financing and then again after completing the BBA or *mudarabah* financing. We want to find out whether, in general, the BBA or *mudarabah* financing led to improvements in household income.

This research also will utilize some well-known poverty measures as studied by Beik (2010) in order to examine the effectiveness of the BMT in reducing poverty. The researcher will compare the index before and after the clients have been receiving the BBA or *mudarabah* financing scheme. The several poverty measures that would be used are: 1) poverty incidence: Headcount ratio; 2) the extent of poverty which uses poverty gap and income gap estimates; 3) Sen index to measure the severity of poverty; and 4) Foster, Greer, and Thorbecke (FGT) Index.

The first index to measure the poverty is headcount ratio (HC). It is the simplest and best known poverty measure (United Nations Statistics Division (UNSD), 2005). It describes the percentage of the population whose per capita incomes or expenditures are below the poverty line (Asian Development Bank, 2005). The formula of the headcount is as following equation:

$$H = \frac{q}{n} \qquad \text{…………………………………………………..} \qquad 1$$

where q is number of people below the poverty line; and n is total number of population.

The second index is depth of poverty (poverty gap). According to Shea (1997), Poverty Gap (PG) index is another measure that captures the magnitude of poverty, considering both the number of poor people and how they are. It provides information regarding how far off households are from

the poverty line. In addition, this measure captures the mean aggregate income or consumption shortfall relative to the poverty line across the whole population (World Bank, n.d.). It is the combined measurement of incidence of poverty and depth of poverty. It is given by:

$$PG = \frac{\sum_{i=1}^{G}(z-y_i)/z}{n} \qquad \text{..} \qquad 2$$

where z is the poverty line and y_i denotes income individual i.

The last two indexes are Sen Index (S) and Foster, Greer, and Thorbecke (FGT) Index. These two indices measure poverty severity or squared poverty gap. According to the World Bank (1993), it takes into account not only the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor.

Sen Index *(S)* is a poverty measurement which integrates two simple poverty indices, namely the headcount ratio and the poverty gap, to build a new poverty index *S* (Bellu & Liberti, 2005a). It can be expressed as follows:

$$S = HC\left[PG + (1 - PG)G_p\right]$$
$$= HC\left[1 - \frac{\overline{y}_p}{z} + \left(1 - 1 + \frac{\overline{y}_p}{z}\right)G_p\right] \qquad \text{..........................} \qquad 3$$
$$= HC\left[1 - \frac{\overline{y}_p}{z}(1 - G_p)\right]$$

where HC is headcount; PG is poverty gap; and G_p is Gini index. The Gini index must be measured taking into consideration only the distribution of income among the poor.

Gini index is a statistical property for measuring income inequality (Berrebi & Silber, 1987; Lerman & Yitzhaki, 1984; Zheng et al., 2008). It is defined as the mean of absolute differences between all pairs of individuals for some measure. The minimum value is 0 when all measurements are equal and the theoretical maximum is 1 for an infinitely large set of observations where all measurements but one has a value of 0, which is the ultimate inequality (Buchan, 2002).

The classical definition of Gini index appears in the notation of the theory of relative mean difference (Bellu & Liberti, 2005b; Milanovic, 1997):

$$G = Cov(y, F(y))\frac{2}{\overline{y}} \qquad \text{..} \qquad 4$$

where *Cov* is the covariance between income levels *y* and the cumulative distribution of the same income *F(y)* and $\overline{y}$ is average income. In turn, it is worth recalling that the covariance is the expected value *E* of the products of the deviations from the mean of each variable. In the specific case:

$$Cov[y, F(y)] = E\left[y - \overline{y}\right] \cdot \left[F(y) - \overline{F(y)}\right] \qquad \text{..........................} \qquad 5$$

The last poverty measurement index is the Foster, Greer, and Thorbecke (FGT) Index. It is most commonly defined as the square of the poverty gap divided by the population. By using the square of the poverty gap, the FGT index gives heavier weight than Poverty Gap Index to the poverty of the very poor because all poverty gaps are squared. Jolliffe and Semykina (1999) as well as Bellu and Liberti (2005a) also explain the Foster, Greer, and Thorbecke (FGT) Index as one of the most important poverty indices. Its appeal is mainly due to its simplicity. The formula of FGT is as follows:

$$FGT = \frac{1}{N} \sum_{i=1}^{p} \left(\frac{z - y_i}{z} \right)^{\alpha} \qquad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \qquad 6$$

where $z - y_i$, is the income short-fall of the i th poor; z = poverty line; p = number of people whose income is below the poverty line; α = a parameter which takes on a value greater than or equal to zero ($\alpha \geq 0$). Basically, FGT is based on normalized poverty gaps (the term in the round brackets). Poverty gaps are then raised to the α power. For $\alpha = 0$, the FGT index collapses to the headcount ratio HC. For $\alpha = 1$, instead, $FGT = HC \cdot PG$. In this sense, FGT embodies the two simplest poverty measures.

By increasing α, more weight is given to poorer individuals, as their wider gaps weigh more than smaller gaps of relatively less poor people. For $\alpha \to \infty$, the *FGT* index, indeed, takes into account only very small incomes, i.e. it approaches the **Rawlsian criterion.** For this reason, the parameter $\alpha \geq 0$ plays the role of poverty aversion. The greatest α, the greatest the poverty aversion, i.e. the greatest the weight attached to very poor individuals.

RESEARCH FINDING AND ANALYSIS

Overview of BMT MMU Sidogiri

According to annual cooperative member meeting of BMT MMU Sidogiri (2010), this Islamic microfinance institution had been initiated in 1997 by some *Asatidz*s (local Muslim teachers) and boards of *Madrasah Miftahul Ulum* (MMU) and its branches at Sidogiri Islamic Boarding Schools. The most important reason for establishing this organization was that many Muslims did not pay too much attention to practicing shariah in their socio-economic activities. Moreover, they tended to be involved in the interest-based economy which is clearly prohibited in Islam.

Therefore, after a meeting on 25th *Muharram* 1418 H or 1st June 1997, BMT MMU had been established successfully on 12th Rabi'ul Awal 1418 H or 17th July 1997 in the small rent house (around 16.5 m[2]) with three official employees and 348 members coming from *Asatidzs,* leaders and boards of Sidogiri Islamic Boarding School. People who contributed to the establishment of BMT MMU Sidogiri were: Hadlori Abd. Karim as a chairman of *Miftahul Ulum* Islamic elementary school, Dumairi Noor as a vice chairman of *Miftahul Ulum* Islamic elementary school, Baihaqi Ustman as an administrator purser of *Miftahul Ulum* Islamic elementary school, Mahmud Ali Zain as a chairman of cooperative of Sidogiri Islamic boarding school and Muna'i Achmad as a vice chairman of *Miftahul Ulum* Islamic elementary school (Bakdiah, 2008).

BMT MMU Sidogiri became a cooperative legal entity (i.e., 608/BH/KWK.13/IX/97) on September 4, 1997. The serial number of company registration certificate is 132526000999;

whereas the serial number of trade business registration certificate is 133/13.25/UP/IX/98. In addition, tax identification number of the BMT is 1-718-668.5-624.

Visions, Missions and Objectives

In order to pursue its visions i.e. building and developing the *ummah* economic activities according to shariah; and promoting *ta'awun* (help each other) in goodness especially in socio-economic activities, the BMT MMU Sidogiri has been arranging its missions. Those are first, implementing and socializing shariah in economic activities; second, engrafting the understanding that shariah in economy is justice, easy and *maslahah*; third, increasing the welfare of *ummah* and members; and fourth, implementing the concept of *STAF (Shiddiq/*Honesty, *Tabligh/*Communicative, *Amanah/*Trusty, *Fatonah/*Professional) in the economic activities.

Furthermore, according to its visions and missions, the BMT MMU Sidogiri consequently has some specific objectives. Those are first, building cooperation to help the economic interests of members and societies; second, helping to advance the welfare of members and societies and developing the national economy in order to create the prosperous societies who regard the five basic principles of the Republic of Indonesia as well as the constitution and get the blessing from Allah SWT.

Organizational Board

Organizational board is necessary to describe job descriptions of the BMT. According to cooperative act No.25/1992, members of the cooperatives are also the owner as well as customers or users of the cooperative's services. A membership has been regulated in the cooperative's statutes. Thus, it cannot be transferred to others even with such reason. Generally, there are two categories of cooperative members: ordinary member and extraordinary member. The main difference between the two is that the extraordinary member does not have any right to elect or to be elected as a board member or a supervisor.

The general meeting is the top direction of the BMT. The meeting usually decides some important pronouncements such as the cooperative's statute; the general discreetness on the area of management organization and cooperation business; the election, nomination, and discharge of the managerial boards and/or the supervisors; the determination of work and budget plans; the authentication or the refusal of responsibility reports from the managerial boards and/or the supervisors; the distribution of profit/loss sharing; and the merger or the dissolution of the cooperative.

One of the unique characters of BMT MMU Sidogiri is that all of board members and employees must be male. The main reason why BMT MMU Sidogiri is doing this paradox is because of avoiding *khalwat* or the issue of coupling between a man and a woman who have no consanguinity with each other (non *muhrim*). Despite of the plausibility of the reason, this matter of course is conceptually contradicting with the basic concept of the cooperative. In Cooperative Act No.25/1992 section 20, clause 2.b, it is clearly stated that every member has a right to elect and/or to be elected as a board or a supervisor. So, since the members of BMT MMU Sidogiri are not only male, it becomes unfair for the female members when this paradox appeared.

Products and Services

Literally, BMT is a combination of *Baitul Mal* and *Baitul Tamwil*. *Baitul Mal* is focused on social purposes whereas *Baitul Tamwil* is profit oriented. As a consequence, BMT MMU Sidogiri has divided its products into three kinds: deposits products (*Mudarabah* and *Wadiah Yad Addhomanah* saving account); financing schemes; and ZIS (*Zakah, Infaq* and *Shodaqoh*).

Mobilization of funds from saving-surplus units in the economy actually is a necessary task of a financial intermediary like BMT MMU Sidogiri (Kholis, 2009). As an Islamic microfinance institution which has many constraints in nature, BMT in general attempts to achieve this goal by creating and selling a variety of financial products that match the needs of the saving-surplus units.

BMT MMU Sidogiri therefore is engaged in mobilizing savings from members of society. This role is conducted by offering shariah compliant products such as general shariah savings account, time deposits account, Qurban/Aqiqah saving account, Hajj saving account, pilgrimage/tourism saving account, and wedding party saving account.

Hajj saving account is under the *mudarabah* mode of investment. Under this scheme, a customer wishing to perform *hajj* deposits money by installments to this fund over a specific period to be able to bear *hajj* related expenses when the fund is matured. The accrued dividend is distributed among the participating members for the whole period of investment.

The BMT deposit products have some strength such as the duration of deposits which can be extended as the customers want; the customers will get an adequate profit sharing calculated on daily mechanism; *mudarabah* deposits that have been blocked cannot be released but still get profit sharing; investment is channeled to *halal* enterprises only; and the deposits can be used as a collateral of financing.

Furthermore, in order to avoid the overlapping of job description between BMT and Islamic banks, BMT MMU Sidogiri only offers financing around 1 until 10 million rupiahs. Meanwhile the financing of BMT MMU Sidogiri include some products. Those are: 1) profit-loss-sharing (*Mudarabah* (MDA) and *Musharakah* financing (MSA)); 2) *Murabahah* (cost plus sale) financing (MRB); 3) *Bai'Bitsamanil Ajil* (deferred payment sale) financing (BBA); and 4) *Qard Hasan* (benevolence) financing (QH) by offering 1 million rupiah per client.

BMT MMU Sidogiri also introduced *rahn* (pawning contract) financing and *hajj* bailout services in 2010. *Rahn* is defined as possessions offered as security for a debt so that the debt will be taken from it in case the debtor failed to pay back the due money (Abdelhaleem, 2003). Meanwhile, *hajj* bailout service is used to bailout the pilgrims who do not yet have enough money to register their name with the Indonesian Religious Department. However, these two products are still new and not specifically reported yet.

This following table illustrates financing product distributed by BMT MMU Sidogiri in 2009-2010.

Table 1

Financing Product Distributed by BMT MMU Sidogiri 2009-2010

Financing Products	Total Amount (Million Rupiah)		Percentage (%)	
	2010	2009	2010	2009
BBA	45,659.33	33,568.69	62.06	62.96
Mudarabah	7,556.18	12,106.93	10.27	22.71
Qard Hasan	15,338.38	4,359.37	20.85	8.18
Murabahah	4,892.18	3,239.00	6.65	6.07
Musharakah	127.45	46.70	0.17	0.09
Total	**73,573.53**	**53,320.68**	**100.00**	**100.00**

Adapted from MT MMU Sidogiri Annual Report (2009-2010)

BBA dominates the financing scheme distributed to the customers. In 2009, BMT MMU Sidogiri allocated 62.96 percent of its financing through BBA contract; and the percentage decreased to 62.06 percent in 2010. The second product presiding over the financing schemes is *mudarabah*. In 2009, the percentage of *mudarabah* was 22.71 percent of the total financing distributed. However, the amount of *mudarabah* financing is declining in 2010, i.e. from 12,106.93 to 7,556.18 million rupiah. In other words, it fell 12.44 percent from the percentage of the previous year. *Qard hasan, murabahah* and *musharakah* are in the third, fourth and fifth position respectively in 2009. *Qard hasan* is rising up in 2010 and becomes the second position of financing distributed; whereas *murabahah* and *musharakah* are still in the last two positions respectively.

In terms of profit sharing, the most profitable financing product is BBA; whereas the smallest contributor is *musharakah*. The profit sharing received from each product is tabulated in Table 2.

Table 2

Profit Sharing Received by BMT MMU Sidogiri in 2009-2010

Financing Products	Profit Sharing (Million Rupiah)		Percentage from Total Financing (%)	
	2010	2009	2010	2009
BBA	7,455.85	6,059.11	16.33	18.05
Mudarabah	1,109.67	1,343.52	14.69	11.10
Murabahah	535.71	278.41	10.95	8.60
Musharakah	16.64	0.02	13.05	0.03
Total	**9,117.87**	**7,681.06**	**19.80**	**23.30**

Adapted from BMT MMU Sidogiri Annual Report (2009-2010)

In 2009, the profit sharing of BBA is 6,059.11 million rupiah or 18.05 percent from total BBA financing distributed. Although this percentage fell in 2010 to 16.33 percent, the nominal profit sharing achieved from BBA is increasing and still getting the highest position, i.e. 7,455.85 million rupiah. In case of *musharakah,* BMT MMU Sidogiri only gets 0.03 percent profit sharing from 46.70 million rupiah *musharakah* financing distributed in 2009. However, the BMT MMU Sidogiri succeeds to escalate drastically *musharakah*'s profit sharing in 2010 to 13.05 percent of its total financing delivered, i.e. 127.45 million rupiah.

A brief explanation about each financing product will be provided in the following section. In addition, it will discuss the practice of each product in BMT MMU Sidogiri.

Bai'Bitsamanil Ajil (BBA)

The most noticeable feature in Table 2 is that the percentage of *Bai'Bitsamanil Ajil* (BBA) scheme both in 2009 and 2010 is remarkably the highest number, just over 62 percent. It is because BBA is simple and easy to be understood by the clients, the majority of whom are less educated. Unlike *musharakah* and *mudarabah,* BBA does not request the clients to calculate the profit which is quite difficult to be done by the micro-entrepreneurs.

For instance, a client would like to do a business, i.e. by selling meatballs. He proposes a BBA financing to BMT MMU Sidogiri to get a mini cart. If the basic price of the mini cart is 2 million rupiahs and the margin that has been agreed is Rp.300,000 rupiahs. This debt must be paid completely during 10 months by installment, i.e. Rp.230,000 per month. Therefore, due to the simplicity of the contract, BBA is the most preferable financing scheme chosen by the customers of BMT MMU Sidogiri.

In addition, from the BMT MMU Sidogiri point of view, BBA also becomes the most profitable contract among the financing products. In 2009, BMT MMU Sidogiri can attain profit sharing around 6,059.11 million rupiah from the BBA. In addition, the profit is increasing in 2010, i.e. 7,455.85 million rupiah or 23.05 percent from previous profit sharing attained.

Mudarabah (MDA)

This evident directly shows that BMT MMU Sidogiri also tries to give the priority for the equity-based contract such as *mudarabah* which is more preferred in Islam to debt instruments. However, some weaknesses that make *mudarabah* less interesting than BBA are the existence of side *streFulang*, i.e. clients do not use the funds in accordance with the agreement; negligent and intentional errors; and concealment of profits by the customer when the customer is not honest (Nor et al., 2008). In addition, according to Adnan et al. (2003), many MEs are facing the difficulty in sharing the profit and loss because most of them do not practice a good accounting system.

The proportion of *mudarabah* contract in BMT MMU Sidogiri is around 22.71 percent in 2009. This percentage however has fallen to 10.27 percent in 2010. Therefore, BMT MMU Sidogiri has to be more aware due to the sharp decrease of this proportion. It is because *mudarabah* is one of profit-loss sharing products that place greater social welfare responsibilities and religious commitments upon Islamic banks in order to achieve the Islamic economic objectives, including social justice, equitable distribution of income and wealth, and promoting economic development (Lewis & Algaoud, 2001 in Dusuki, 2007).

Profit sharing of *mudarabah* contract is quite high, i.e. 11.10 percent in 2009 and 14.69 percent in 2010 from the total *mudarabah* offered. The proportion of the profit sharing is the second highest after BBA. Return of *mudarabah* in BMT MMU Sidogiri is calculated based on profit sharing. The assistance from BMT's personnel seems to be the most important part on the fruitfulness of the program. Every group of the *mudarabah* customers is accompanied by one BMT personnel. Therefore, control on this program becomes easier. Due to the full spirit of promoting Islamic economics and the profitability of the product, *mudarabah* seems to be more preferable by BMT MMU Sidogiri than the other equity based products, i.e. *musharakah.*

Murabahah (MRB)

While most of Islamic banks and financial institutions are using *murabahah* as an Islamic mode of financing (Usmani, 1998), BMT MMU Sidogiri only gives quite small concern on this contract, i.e. 6.07 percent in 2009 and 6.65 percent in 2010. There are various problems faced by the BMT when this contract is practiced. For instance, many customers reject the delivered good because it is not suitable. In addition, the risk of *taqshir* or negligence of the customers also becomes the major obstacle faced by the BMT. Since *murabahah* originally is a particular type of deferred sale, the commodity will be owned by the customers automatically after the contract has been signed. As a consequence, the customers have an authority to do anything with the commodity including selling it to another party.

Musharakah (MSA)

Musharakah takes the smallest place in financing of BMT MMU Sidogiri, i.e. less than one percent from the total financing. Specifically, BMT MMU Sidogiri only had counted 0.09 percent in 2009 and 0.17 percent in 2010. As a concept, *musharakah* financing product involves a partnership in which both the BMT and its customer contribute to entrepreneurship and capital (Kholis, 2009). Since most of the BMT's clients are MEs who do not have enough capital, it will be difficult to practice *musharakah* between the BMT and clients.

Qard Hasan (QH)

Interestingly, *qard hasan* scheme takes second place in the financing of BMT MMU Sidogiri in 2010. The proportion of *qard hasan* scheme is increased sharply at the end of 2010. Table 1 shows that *qard hasan* scheme in 2009 is only 8.18 percent. Butby end-2010, this product was successfully increasing until 20.85 percent or rising more than twofold compared with 2009. This prestige is absolutely important to promote BMT especially BMT MMU Sidogiri as an IMFI which concerns social commitment to society.

In case of BMT MMU Sidogiri, *qard hasan* becomes a complementary product given to customers who have proven their loyalty. In many cases, the customers need a bailout as soon as possible within a relatively short period to revive their business. They usually cannot withdraw their money because most of them save the money in forms of deposit.

In terms of *qard hasan,* the customers are recommended *(sunnah)* to give an additional payment *(hasan)* voluntarily to the BMT (Nor et al., 2008). The BMT can take this gift as long as it is not to be conditioned in the contract. If the additional payment is required in the contract, it will be forbidden because it is categorized as interest *(riba qard).* Therefore, although there are many transactions in forms of *qard hasan,* BMT MMU Sidogiri still gets an additional amount as a gift

around 7.20 percent and 8.32 percent from total *qard hasan* financing distributed in 2009 and 2010 respectively.

Qard hasan is also used as a contributor to a very small business or to help social sectors. Therefore, *qard hasan* is one of the distinguishing features between BMTs and other conventional microfinance. In BMTs, there is a social oriented mission known as *hasan* which is not implied in the contract. The existence of the social oriented mission will improve the image of good and loyal community of the BMT. Thus, a positive synergy between societies and BMTs as a financial intermediary would occur.

Procedure to Propose the Financing

The initiative of financing can be come out from the two sides, i.e. the BMT and customers. If the intention is coming from the BMT side, the BMT will arrange and invite entrepreneurs to do a prospective business which has not been developed yet. On the other hand, if the idea arises from the customers, they could propose a financing proposal to the BMT accompanied by all requirements regulated.

BMT MMU Sidogiri determines general requirements for financing schemes. According to the interview with the BMT MMU Sidogiri manager, the requirements embrace: 1) the customer must be a member of the BMT officially; 2) filling application form provided by the BMT management completely and honestly; 3) have a good personality, be responsible and trustworthy; 4) productive age (18-60 years); 5) giving a copy of identity card (KTP) or family card (KK); 6) all financing products except *murabahah* and BBA are used for business purposes only. If the financing is used for other purposes, it must obtain legal approval from the BMT; 7) readiness to be surveyed and interviewed; 8) readiness to follow supervision mechanism by BMT; and 9) priority given to those who have a collateral.

After completing the requirements, the BMT will analyze strength, opportunity, weakness as well as threat of the enterprise proposed. If the plan is approved, the BMT will conduct an agreement with the customer including profit margin negotiation or profit distribution *(nisbah),* mode of installment payment, and collateral.

The profit margin of financing products based on trade transaction (i.e. *murabahah* and BBA) and profit loss sharing (i.e., *mudarabah* and *musharakah*) is determined by negotiation between BMT and clients. In addition, the profit margin and profit loss sharing also will be decided based on analysis of productivity, profitability as well as market segment of the business.

 Real Sector

As a cooperative, BMT MMU Sidogiri also opens businesses on real sectors. Those are bakery, rice mill, mineral water and natural organic fertilizer factory. However, from four real sectors operated, there are only two businesses which have been run well, i.e. bakery and rice mill. Income and net profit attained from the two businesses are tabulated in Table 3.

Table 3

Income and Profit of Two Real Sectors in 2009-2010 (Million Rupiah)

Income and net profit	2010	2009
Income		
Bakery	265.92	178.47
Rice mill	1,675.98	1,731.30
Total income	**1,941.89**	**1,909.77**
Net profit		
Bakery	19.76	10.67
Rice mill	29.58	28.98
Total net profit	**49.34**	**39.65**

Adapted from BMT MMU Sidogiri Annual Report 2010

Income received from the two sectors is quite high, i.e. more than 1.9 billion rupiah a year. The net profits reached in 2009 and 2010 are 39.65 and 49.34 million rupiah respectively. This evidence shows that although the contribution is still quite small, i.e. 1.18 percent in 2010, the existence of real business in BMT also takes place in increasing the total profit of BMT. The composition of BMT's profit is shown at Table 4.

Table 4

Sources of BMT's Profits in 2010

Sources of Profits	Amount (Million Rupiah)	Percentage (%)
Financing product	3,950.96	94.68
Real sector	49.34	1.18
Investment in land and properties	172.50	4.13
Total	**4,172.80**	**100.00**

Adapted from BMT MMU Sidogiri Annual Report 2010

Running business in real sectors is important for BMT as its role as a cooperative which prioritizes its objective to increase welfare of the members. Since most BMT members are employees and students of Sidogiri Islamic boarding school, the real sectors are focused on the businesses which can fulfill the needs of the employees and students. For instance, rice mill is necessary to supply the needs of rice as a primary food; whereas the bakery provides cake, bread and other kinds of snack and beverage.

The Development of BMT MMU Sidogiri

BMT MMU Sidogiri has developed enormously since its establishment in 1997. The speed of growth of this BMT from 1997 until 2005 had been indicated by the opening of 9 new branch offices in the end of 2005. Although BMT MMU Sidogiri had only been launching 5 branches in 2006, 6 branches during 2007 until 2008 and 2 branches in 2009, it succeeded in opening 10 new branches in the end of 2010. Statistically, this development can be ascertained from Table 5.

Table 5

The Development of BMT MMU Sidogiri

Period	Additional Branches	Total Branches
1997 - 2005	9	9
2006	5	14
2007	3	17
2008	3	20
2009	2	22
2010	10	32

Adapted from BMT MMU Sidogiri Annual Report 2010

The rapid development of BMT MMU Sidogiri also can be indicated from the quick growth of its revenue, asset, profit and zakah which have quite identical trend. On the following figure, it can be seen that the revenue of BMT MMU Sidogiri had been increasing gradually from 6,216 million rupiahs in 2000 to 129,465 million rupiahs in 2008. This revenue then escalated drastically, i.e. to be 235,357 million rupiahs in 2009 or increased 81.79 percent compared with the previous period. Furthermore, in the end of 2010 the turnover of BMT MMU Sidogiri tackled its peak position, i.e. 342,418 million rupiahs or a rise of 45.49 percent than in 2009.
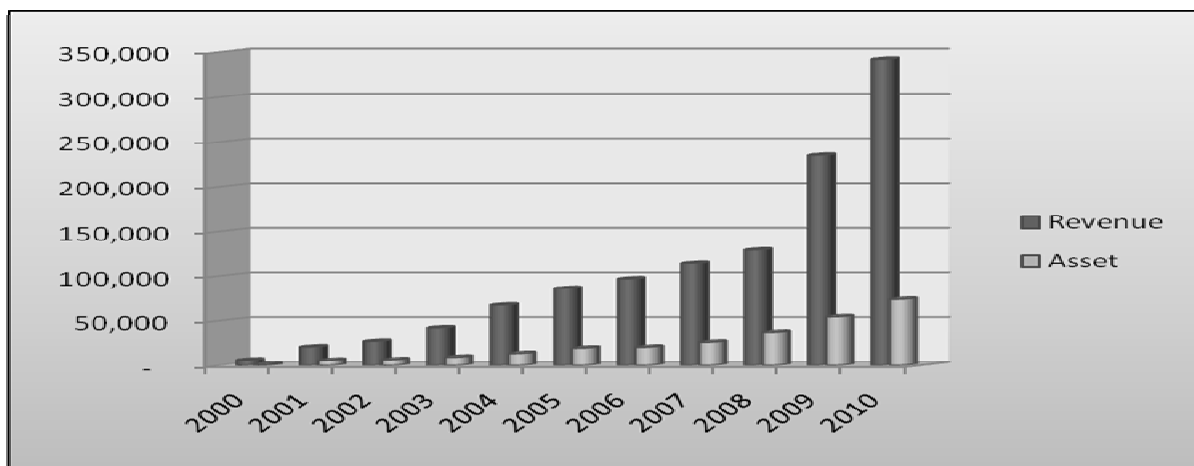

Figure 1: Revenue and asset of BMT MMU Sidogiri in 2000-2010 (Million Rupiah)

Adapted from BMT MMU Sidogiri Annual Report (2000-2010)

The number of assets of BMT MMU Sidogiri also tends to increase steadily from 2000 to 2010, i.e. from 1,346 to 74,730 million rupiahs. The most striking feature in this trend is that the percentage of the increasing of BMT's assets in 2001 was remarkably the highest in number which was just around 345%. On the other hand, 2006 had dramatically smaller number in the percentage of the raising of BMT's assets, i.e. only 5.01%.

An overview of the profit and zakah of BMT MMU Sidogiri during 2000-2010 is shown by Figure 2. It is most evidence that the profit of BMT MMU Sidogiri tends to be always increasing. In addition, that is also apparent from the graph that in 2010 the profit of BMT MMU Sidogiri was the highest position which was nearly 3,725 million rupiahs compared to other periods. Consequently, the ability of paying zakah in 2010 was also in the best attainment, i.e. 386 million rupiahs. Of course, this condition is bringing credit to BMT MMU Sidogiri. This is because, by giving 386 million rupiahs of zakah, BMT MMU Sidogiri directly can help many poor people to escape from poverty.

According to the interview with the manager of BMT MMU Sidogiri, it can be known that the calculation of *zakah* is basically based on the profit and asset attained. Since BMT MMU Sidogiri has always increased its profit and assets, the amount of *zakah* tends to rise accordingly. *Zakah* that has been collected, moreover, is distributed to the poor people who have average income less than 20.000 rupiah or USD 2.33 a day[1]. The *zakah* is distributed into three proportions, i.e. 20 percent for productive sector, 60 percent for consumptive sectors, and 20 percent for giving scholarships to the poor students.
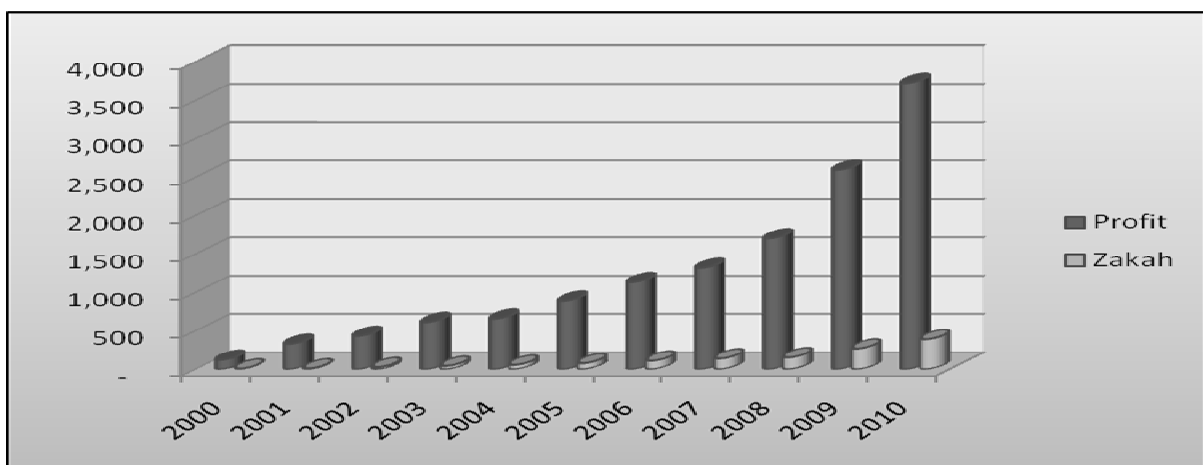

Figure 2: Profit and Zakah of BMT MMU Sidogiri in 2000-2010 (Million Rupiah)

Adapted from BMT MMU Sidogiri Annual Report (2000-2010)

From that evidence, it can be asserted that BMT MMU Sidogiri gives its priority in paying zakah. The main reason is that *zakah* is one of the five pillars of Islam on which stands the structure of Islam and it is destined wholly to eight classes of needy Muslims designated by the Quran (Densumite, 2010). So, since one of its missions is improving the welfare of *ummah* and members, BMT MMU Sidogiri has also maximized its *zakah* contribution.

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[1] According to the "coinMill" currency converter per May 25, 1011, 1 million rupiah equals with USD 116.71

DEMOGRAPHIC ANALYSIS

By using purposive sampling, 200 clients of BMT MMU Sidogiri are chosen to be involved in this study. Out of the 200 respondents, the researcher only chooses 20 customers coming from top ten efficient branches. It means that the number of sample is equal for each branch. Since the quistionnarie have been returned completely, the subjects would give valid responses.

The demographic information of the respondents is depicted in Table 6. Micro-entrepeneurs becomes the common character of all respondents in this study.

Table 6

Demographic Characteristics

Demographic Characteristics	Frequency	Percentage
Sex		
Male	119	76.3
Female	37	23.7
Age		
Less than 20 years old	12	7.7
21-30 years old	42	26.9
31-40 years old	79	50.6
41-50 years old	16	10.3
Above 50 years old	7	4.5
Marital Status		
Single	26	16.7
Married	130	83.3
Widow/Divorce	0	0
Education		
Never goes to school	9	5.8
Elementary School	39	25.0
Junior high school	55	35.3
Senior high school	50	32.1
Diploma	1	0.6
Undergraduate	1	0.6
Postgraduate	1	0.6
Household Size		
1-3 persons	113	72.4
4-6 persons	41	26.3
7 persons or above	2	1.3

From Table 6, it can be observed that the majority of respondents are male (76.3 percent) while female respondents are just about 23.7 percent. This evidence indicates that most of poor people assisted by BMT MMU Sidogiri through BBA and *mudarabah* financing are male. However, there is no specific reason for the higher number of males in receiving BMT MMU Sidogiri's financing. Basically, male is a householder. Therefore, the burden on male's shoulder is heavier than female (Beik, 2010).

Although several studies revealed that male is better than female in order to receive micro-financing, for instance, Coleman (2002), Fielden et al. (2003), Kessy (2009), BMT MMU Sidogiri does not include gender as a criterion of its financing customer selection. Widiyanto and Abdul Ghafar (2010) state that the basic criteria of selection include the credibility (honesty/*akhlaq*), capability in running business (skill), business experience, collateral, and business worthiness.

Basically, Islam does not make any discremination between men and women. In many instances, Islam treats women as equals to men (Al Sheha, n.d.). For instance, both the male and the female are equal in terms of their humanity, religious duties and rituals. Testimony of faith *(shahadah),* prayer *(salah),* obligatory charity *(zakah),* fasting *(saum),* and pilgrimage *(hajjj)* are equally required of both genders. Both males and females also have similar rewards for obedience and penalties for disobedience in this world and the Hereafter.

In addition, women are equally qualified and allowed to engage in financial dealings and property ownership. According to Islamic law, women can own, buy, sell and undertake any financial transaction without need for guardianship, and without any restrictions or limitations, i.e. a situation unheard of in many societies until modern times (Al-Sheha, n.d.). Accordingly, BMT MMU Sidogiri as an Islamic microfinance institution treats women as equal to men in access to financing.

Regarding age, the majority of respondents are in the range of 31 to 40 years old. Its percentage reaches 50.6 percent followed by those aged between 20 and 30 years old (26.9 percent). Meanwhile, in terms of marital status, 83.3 percent of the respondents are married. Single status is 16.7 percent and there is no widow/divorce status as the respondent.

With regard to educational background, most of the respondents have graduated from junior high school (i.e., 35.3 percent) followed by senior high school and elementary school graduates (32.1 percent and 25 percent respectively). Respondents graduated from diploma, undergraduate and postgraduate are only one or 0.6 percent for each eduacational level. The evidence indicates that the better the educational level, the better the economic condition (Beik, 2010). In terms of household size, the majority of respondents (i.e., 72.4 percent) have 1 up to 3 members of household; households who have 4 until 6 members make up 26.3 percent. Meanwhile, only 1.3 percent of the respondents have seven household members or more.

EFFECTIVENESS OF FINANCING IN REDUCING POVERTY

Paired *t*-test

The effectiveness of BMT financing as measured by paired sample *t*-test in reducing poverty has been evaluated by pointing out the change of household income of the customers. Using the Statistical Package for the Social Science (SPSS) 18th version, mean of the household income of the customers at time of joining BMT (condition 1) and when the research was conducted (condition 2) will be compared. Results of paired sample statistics is tabulated in Table 7.

Table 7

Summary of the Paired Sample Statistics

Indicator	Mean (Rupiah)	Standard Deviation
Household income 1	1,098,700	5.301
Household income 2	1,669,100	4.696

Notes: 1 and 2 represent the first and last condition of the customers respectively

From Table 7, it can be seen that mean of household income before receiving BMT's financing is 1,098,700 rupiah; whereas standard deviation of mean is 5.301. Household income after accepting BMT's financing is 1,669,100 rupiah and standard deviation of its mean is 4.696. The difference between the means is 570,400 rupiah. It means that the household income of customers at the first time they joined BMT is significantly different with the last condition when the survey was conducted, i.e. increases around 50 percent.

Paired samples *t*-test compares the means of household income before and after receiving BMT's financing. The results of paired samples *t*-test is shown as follows.

Table 8

Summary of the Paired Samples *T*-test

Indicator	*t*-value	Significance of *t*-value
Household income 1&2	-8.959	.000**

Notes: 1 and 2 represent the first and last condition of the customers respectively; ** represents 0.05 significance level

In the paired *t*-test framework, the null hypothesis would be H_0: there is no significant difference in income between pre and post receiving BMT financing, which essentially states that the BMT financing is not effective. The alternative hypothesis is H_1: there is difference between pre and post receiving BMT financing which shows that the BMT financing is effective. So, this study is intended to reject the null hypothesis which means that BMT financing is effective in reducing poverty through increasing the household income of the customers.

The finding of paired sample *t*-test shows that *t*-value is -8.959. With .05 significance level and 155 degree of freedom, the *t*-statistic will be 1.960. Since *t*-value is greater than *t*-statistic, the null hypothesis will be rejected. Therefore, from this evidence it can be concluded that BMT is effective in reducing the poverty.

Poverty Measures

Analyzing the effectiveness of BMT in reducing poverty also can be done through application of various well-known poverty indexes that have been discussed in the methodology chapter. Summaries of the results of using those measurements are tabulated in Table 9.

Table 9

Summary of Poverty Measures: Before and After Receiving BMT

Poverty Measurements	Before Receiving BMT Financing	After Receiving BMT Financing
HC	0.526	0.301
PG	0.240	0.113
S	0.187	0.079
FGT	0.129	0.051

The first index to measure the poverty is headcount index (HC). The calculation of HC is as follows.

$$HC_{before\ receiving\ BMT\ financing} = \frac{q}{n} = \frac{82}{156} = 0.526 \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots \quad 7$$

$$HC_{after\ receiving\ BMT\ financing} = \frac{q}{n} = \frac{47}{156} = 0.301 \quad \dots\dots\dots\dots\dots\dots\dots\dots \quad 8$$

where q is number of people below the poverty line; and n is total number of population.

Ratio of the poor people showed by HC before receiving BMT financing is 0.526. After receiving BMT financing, the HC is reduced to be 0.301. This condition indicates that BMT financing is able to reduce poverty incidence from 52.6 percent to 30.1 percent. It means that the BMT financing is able to reduce the number of respondents living below poverty line by 22.5 percent from the initial position. In the other words, it could be saying that BMT financing is quite successful in reducing poverty although the number of respondents living below poverty line is still high.

The second index is poverty gap (PG) which is used to measure the extent of poverty. The calculation of PG is shown as follows.

$$PG_{before\ receiving\ BMT\ financing} = \frac{\sum_{i=1}^{G}(z - y_i)/z}{n}$$

$$= \frac{\sum_{i=1}^{82}(995{,}112.20 - y_i)/995{,}112.20}{156} \quad \dots\dots\dots\dots\dots \quad 9$$

$$= 0.240$$

$$PG_{after\ receiving\ BMT\ financing} = \frac{\sum_{i=1}^{G}(z - y_i)/z}{n}$$

$$= \frac{\sum_{i=1}^{47}(995{,}112.20 - y_i)/995{,}112.20}{156} \quad \ldots\ldots\ldots\ldots\ldots \quad 10$$

$$= 0.113$$

where z is the poverty line, G is number of individuals who are under poverty line and y_i denotes income of individual i. From the calculation above, it can be known that PG also shows diminishing results. The ratio of poverty gap can be reduced from 24 percent to be 11.3 percent. It means that gap due to difference in income earned by the poor can be decreased through BMT financing.

The next two poverty measurements, the Sen Index (S) and FGT Index (FGT) are utilized to compute the severity of poverty. In order to compute the Sen Index, it is necessary to measure the Gini index (G) first. The calculation of Gini index is as follows.

$$G_{before\ receiving\ BMT\ financing} = Cov(y, F(y))\frac{2}{\overline{y}}$$

$$= \left(E[y - \overline{y}]\cdot[F(y) - \overline{F(y)}]\right)\frac{2}{\overline{y}} \quad \ldots\ldots\ldots\ldots\ldots \quad 11$$

$$= 83{,}010.77 \times \frac{2}{1{,}098{,}718}$$

$$= 0.15$$

$$G_{after\ receiving\ BMT\ financing} = 141{,}928.93 \times \frac{2}{1{,}669{,}135} \quad \ldots\ldots\ldots\ldots\ldots \quad 12$$

$$= 0.17$$

The symbol y denotes income of individual; whereas $\overline{y}$ is average of individual income. The result of Gini index is used to measure the Sen index as in the following equation.

$$S_{before\ receiving\ BMT\ financing} = HC[PG + (1 - PG)G_p]$$
$$= 0.526[0.240 + (1 - 0.240) \times 0.15] \quad \ldots\ldots \quad 13$$
$$= 0.187$$

$$S_{after\ receiving\ BMT\ financing} = HC[PG + (1 - PG)G_p]$$
$$= 0.301[0.113 + (1 - 0.113) \times 10.17] \quad \ldots\ldots \quad 14$$
$$= 0.079$$

The empirical analysis shows that the value of Sen Index after receiving BMT financing is smaller than before receiving BMT financing, i.e. 0.187 and 0.079 respectively. It means that the severity of poverty is reduced after the BMT financing is distributed to the poor people.

The last poverty index is FGT which relates to the reduction in severity of poverty. The computation of FGT is as follows.

$$FGT_{before\ receiving\ BMT\ financing} = \frac{1}{N}\sum_{i=1}^{p}\left(\frac{z - y_i}{z}\right)^{\alpha}$$

$$= \frac{1}{156}\sum_{i=1}^{82}\left(\frac{995{,}112.20 - y_i}{995{,}112.20}\right)^{2} \quad \ldots\ldots\ldots\ldots\ldots \quad 15$$

$$= 0.129$$

$$FGT_{after\ receiving\ BMT\ financing} = \frac{1}{N}\sum_{i=1}^{p}\left(\frac{z - y_i}{z}\right)^{\alpha}$$

$$= \frac{1}{156}\sum_{i=1}^{47}\left(\frac{995{,}112.20 - y_i}{995{,}112.20}\right)^{2} \quad \ldots\ldots\ldots\ldots\ldots \quad 16$$

$$= 0.051$$

The symbol p shows the number of respondents who are under poverty line, z is the poverty line, y_i is income of individual I, and the value of α is 2. Similar results also can be seen from the value of the FGT Index which shows a decreasing movement from 0.129 to 0.051. The evidence indicates that the condition of the poor is better off when they receive BMT financing. The distance separating the poor from the poverty line is decreased and the inequality among the poor is reduced after they receive BMT financing.

WHAT CAN BE LEARNED FROM THE BMT MMU SIDOGIRI EXPERIENCE?

Several lessons can be noted from BMT MMU Sidogiri on how to reduce poverty and play a role as a good Islamic microfinance institution. BMT MMU Sidogiri can help many poor people because around 70% of its financing customers are MEs which are handled by the poor. Since the BMT can keep the high proportion for the poor clients, the role of BMT in alleviating poverty can be attained.

Another lesson that can be learned from the BMT MMU Sidogiri experience is how it performs the financing. Prior study conducted by Widiyanto and Abdul Ghafar (2010) has tried to take advantage from some BMTs in Central Java based on their selection process, business control and building a good relationship with customers. The similar evidence is seen in BMT MMU Sidogiri as well.

Selection Process of Customers

In terms of selection process, BMT MMU Sidogiri has prioritized customers who have fulfilled some basic criteria. Those are membership, credibility (honesty/*akhlaq*), capability in running business (skill), business experience, collateral and business worthiness. The BMT prioritizes the distribution of its financing to the members. The BMT also tries to catch the new applicants who are willing to join the BMT's membership. However, the BMT will not finance applicants who do not want to be members. The main reason is that when the BMT is doing business with non-members, the case for prudential regulation and supervision is most compelling (Basel Committee, 2010).

By paying Rp.75.000 as compulsory savings, the clients will be allowed to get financing from BMT. The compulsory savings usually typify funds that are often required in place of collateral and must be contributed by the membership (Ledgerwood, 1999). It gives some benefits such as demonstrating the value of savings practices to borrowers, serving as an additional

guarantee mechanism to ensure loan repayment, demonstrating the ability of clients to manage cash flow and make periodic contributions, and helping to build up the asset base of clients.

The next necessary criterion of customers is credibility. According to Khalil et al. (2002), the characteristics of entrepreneurs are vital criteria in relation to the decision by the provider of funds to accept or reject a project. The personal qualities of the businessman could be detected from their worship including their involvement in religious activities. If they are active in their society, it will be easier to identify their personality by interviewing the other members of the community.

Other basic criteria on studying the feasibility of customers can be done by selecting MEs which have real business value and avoiding the fictitious enterprises. MEs that have existed for some time will get the prioritization from the BMT rather than the infant ones. A business run by entrepreneurs who already have the experience will be more credible than enterprises handled by inexperienced businessmen.

Business Control

In terms of evaluation and supervision, BMT employer will start to oversee the customer at least three days after delivering the financing, especially for *musharakah* and *qard hasan.* These two financing schemes are prone to default. The calculation of *musharakah* is much complicated for the customers who are commonly less educated and not implementing a good accounting system (Adnan et al., 2003). In addition, *qard hasan* is prioritized to high risk customers who are really poor. Therefore, the BMT has to ensure that everything is under control. If there is any intended or unintended default, the deliberation will be made in advance before legal action.

BMT will assess the level of business's profitability and applicant's integrity including honesty, discipline, responsibility and commitment. Specific information on applicants who have high integrity will be obtained by visiting them regularly *(silaturahmi).* In addition, BMT also gives them priority funding in the future.

Meanwhile, for those clients who are in default or close to being in default, they will get more attention and supervision from the BMT. In this regard, BMT never prosecutes the customers. Every problem encountered must be solved through deliberation and kinship. BMT will take three steps when facing a non performing financing: re-scheduling, re-conditioning and re-structuring. In the first step, i.e. re-scheduling, customers are given a specific period to restore their business and start to make payment. Under re-conditioning, the customers are allowed to operate their business as well as in normal condition. In the last step, i.e. re-structuring, the BMT will evaluate and ameliorate the possibility of re-default. The customers who are less integrity, as a consequence, will not be given priority when they apply for financing in future.

Many chances given to the unsuccessful customers indicate that the BMT really cares for the poor. The BMT understands the consequence of doing business with clients who have less creditworthiness (Dusuki, 2008a). However, BMT still prioritize the poor as their customers because the BMT's main mission is to enhance the welfare of the *ummah.*

Building a Good Relationship with Customers

According to Widiyanto and Abdul Ghafar (2010), most BMTs including BMT MMU Sidogiri also establish good relationship with customers to reduce the non-performing financing (NPF). It can be done through attending *(silaturahmi)* wedding parties, visiting during a wake, taking a personal

approach, being a personal advisor, conducting religious activities, and building up the character *(akhlaq)*.

Building a good relationship with the customers is essential in increasing business performance of MEs as well as reducing the NPF of the BMT. As a concept, relationships are beneficial for organizations as they enhance customer satisfaction (Brookes et al., 2006). Reichheld and Sarrer (1990) also state that a relationship with customers substantially boosts company profits, claiming that most companies can increase profits through retaining an additional customer. Therefore, by having a good relationship, the BMT is able to easily and accurately access business information from the customers. The ease and accuracy of the business information facilitate the BMT in controlling the progress of business to reduce principal agent problem as well as in solving the business problem of the participants (Widiyanto & Abdul Ghafar, 2010).

CONCLUSION AND RECOMMENDATION

Based on field observation in BMT MMU Sidogiri, it can be concluded that BMT is effective in reducing poverty. Most of respondents can increase their income after receiving BMT financing. Products of the BMT especially BBA and *mudarabah* to empower the poor in various productive business have been able to reduce the extent and severity of poverty. Therefore, integrated programs for the poor designed by BMT, i.e. the provision of financial and non-financial services including spiritual development via internalizing Islamic moral value become essential tools in alleviating poverty.

BMTs not only have a crucial role in reducing poverty and fostering local economic development, but also in alleviating the scope and prevalence of illegal moneylenders trapping the poor. Using *qard hasan* scheme based, BMTs succeed in eliminating the number of moneylenders as well as educating people regarding the jeopardy of *riba.*

Poverty alleviation will be successful if Islamic financing institutions such as BMTs are massively conducted in many areas (Widiyanto & Abdul Ghafar, 2010). So, given the important role of BMTs in combating poverty, it is expected that the Indonesian government, local as well as international Islamic organizations have intensified support for BMTs. The government can channel a proportion of public budget through BMTs which will then administer and manage funds for the appropriate clients. The two largest Islamic communities in Indonesia such as Nahdhatul Ulama and Muhammadiah also can maximize the role of BMTs in order to help the *ummah* since the majority is still poor. The role of BMTs could be maximized when governments and Muslim communities are collaborating well.

LIMITATION OF THE STUDY AND SUGGESTION FOR FUTURE RESEARCH

Some limitations of this study that need to be highlighted. This study has been addressed to analyze the performance of BMT in assisting microenterprises and reducing poverty. In fact, there are around 3,874 BMTs in Indonesia (Yusri, 2011). Therefore, by taking only one BMT (i.e., BMT MMU Sidogiri) as a case study, it could not significantly represent the actual situation of BMTs in Indonesia. As a consequence, the research findings could not be generalized for the whole BMTs in Indonesia as well.

In addition, there are actually many indicators for measuring poverty. Maxwell (1999) has mentioned some terms that can be used to describe poverty, for instance, income or consumption

poverty, human (under) development, social exclusion, ill-being, (lack of) capability and functioning, vulnerability, livelihood un-sustainability, lack of basic needs, and relative deprivation. This study only focuses on the easiest and simplest indicator, namely income of the poor people (Chowdhury, 2009). Consequently, there are still many indicators that are not utilized yet by this study. Thus, the research also might not be producing comprehensive results on poverty analysis.

This study can be extended and modified in a number of ways. The number of BMTs analyzed should be added until it is representative of the total BMTs in Indonesia. For instance, Adnan et al. (2003) carried out their study on the best 47 BMTs in five different provinces in Indonesia, i.e., West Java, Jakarta Special Territory of Capital, Central Java, Special Region of Yogyakarta and East Java. Lesmana (2008) used some best BMTs in three provinces of Indonesia namely West Java, Central Java and South Sulawesi. Future research could examine a larger number of BMTs which not only specified the successful BMTs but also the unsuccessful BMTs. There are still many BMTs in Indonesia which are not successful yet (Sabili, 2009). If the future study is focused only on the successful BMTs, it might show the same results. But if it also includes the unsuccessful BMTs, the results might be different.

Future research may also be extended by analyzing other indicators of poverty measurement. Garson (n.d.) in Morduch (2002) investigated the role of micro-financing based on household needs for better access to specific basic services, especially in the areas of low-cost housing, water supply and sanitation, and health services. Zeller et al. (n.d.) analyzed the impact of a few rural institutions in improving income, food security, and educational and nutritional status of the poor. The more indicators investigated in future research, the more comprehensive the results.

BIBILIOGRAPHY

Abidah. (2011). *Exploring international student's satisfaction of their educational experiences in IIUM*. Unpublished master's thesis, International Islamic University Malaysia, Kuala Lumpur, Malaysia.

Ali, M. M. (2009). *Analisis efisiensi baitul maal wat tamwil dengan pendekatan two stage data envelopment analysis: Studi kasus kantor cabang BMT MMU dan BMT UGT Sidogiri* [Efficiency analysis of baitul maal wat tamwil using two stage data envelopment analysis: Case study of BMT MMU and BMT UGT Sidogiri]. Unpublished undergraduate research paper, STEI Tazkia, Bogor, Indonesia.

Alisjahbana, A., & Yusuf, A. A. (2003). Poverty dynamics in Indonesia: Panel data evidence. *Working Paper in Economics and Development Studies, 200303.*

Al Qardawi, Y. (2002). *Zakat role in curing social and economic malaises: Economics of Zakat*. Jeddah: IRTI – IDB.

Amalia, E. (2009). *Keadilan distributif dalam ekonomi Islam.* [A distributive justice in Islamic economics]. Jakarta: Raja Grafindo Persada.

Asian Development Bank. (2000). Finance for the poor: Microfinance development strategy. Retrieved June 5, 2011 from http://www.adb.org/documents/policies/microfinance/financepolicy.pdf

Asian Development Bank. (2005). Social protection index for committed poverty reduction. London: Halcrow Group Limited.

Aziz, M.A. (2006). *Pedoman pendirian BMT* [BMT's Handbook]. Jakarta: Pinbuk Press.

Bakhtiari, S. (2006). Microfinance and poverty reduction: Some international evidence. *International Business and Economics Research Journal, 5*(12).

Barber, C. (2008). Notes on poverty and inequality. Retrieved March 2, 2010 from http://www.oxfam.org.uk/resources/downloads/FP2P/FP2P_Notes_Poverty_Inequality_BP_ENGLISH.pdf

Beik, I. S. (2010). *The use of zakat as financing source for micro and small scale enterprises and its role in reducing poverty: A case study in Jakarta, Indonesia.* Unpublished doctoral dissertation, International Islamic University Malaysia, Kuala Lumpur.

Bellu, L. G., & Liberati, P. (2005a). Impacts of policies on poverty. Retrieved April 11, 2010 from http://www.fao.org/docs/up/easypol/324/gnrlsed_pvty_gap_msrs_010EN.pdf

Bellu, L. G., & Liberati, P. (2005b). Inequality analysis: The Gini index. Retrieved May 20, 2011 from http://www.fao.org/docs/up/easypol/329/gini_index_040en.pdf

Berrebi, Z. M., & Silber, J. (1987). Regional differences and the components of growth and inequality change. *Economics Letter, 25*, 295-298.

Buchan, I. (2002). Calculating the Gini Coefficient of Inequality. Retrieved May 19, 2011 from www.nibhi.org.uk

Central Bureau of Statistics. (2010). *Jumlah penduduk miskin di Indonesia pada maret 2010 mencapai 31.02 juta orang.* [The number of poor people in Indonesia on march 2010 is around 31.02 millions], Retrieved June 12, 2011 from http://www.bps.go.id/index.php?news=776

Chapra, M. U. (1998). The global financial crisis: Can Islamic finance help? *IIUM Journal of Economics and Management, 16*(2)*,* 118-124.

Chirwa, E. W. (2002). Microfinance and poverty reduction in Malawi: What has happened to the microfinance revolution? *Wadonda Consult Working Paper, 1.*

Chowdhury, A. (2009). Microfinance as a poverty reduction tool: A critical assessment. *DESA Working Paper, 89.*

Dusuki, A. W. (2007). The ideal of Islamic banking: A survey of stakeholders' perception. *Review of Islamic Economics, 11*(3).

Elder, S. (2009). *ILO school-to-work transition survey: A methodological guide*. London: International Labour Organization.

Fadilla, M. (2007). The history of baitul maal wat tamwilin (BMT) in Indonesia. Retrieved June 13, 2011 from http://www.carlosani.com/home2/main/news-articles/sp803.php

Farrel, M. J. (1957). The measurement of productive efficiency. *Journal of Royal Statistical Society, A*(120), 253-281.

Geroy, G. D., Jankovich, J., Hyden, T. J., & Wright, P. C. (1997). HRD and microenterprise: Socio-economic capacity building in LDCs. *Empowerment in Organizations, 5*(2), 65-71.

Gravetter, F. J., & Wallnau, L. B. (2008). *Essentials of statistics for the behavioral sciences* (6th ed.). Canada: Thomson Wadsworth.

Jolliffe, D., & Semykina, A. (1999). Robust standard errors for the Foster-Greer-Thorbecke class of poverty indices: SEPOV. Retrieved May 20, 2011 from http://users.starpower.net/djolliffe/stb/sepov.pdf

Kholis, N. (2009). *The contribution of Islamic microfinance institution in increasing social welfare in Indonesia (A case study of BMT's role at Pakem market micro traders in Yogyakarta).* Retrieved December 16, 2010 from http://dualmode.depag.go.id/

Kurmanalieva, E., Montgomery, H., & Weiss, J. (2003). Micro-finance and poverty reduction in Asia: What is the evidence? Paper presented at the 2003 ADB Institute Annual Conference on Microfinance and Poverty Reduction organized by Asian Development Bank (ADB), Tokyo, Japan.

Lerman, R. I., & Yitzhaki, S. (1984). A note on the calculation and interpretation of the Gini index. *Economics Letters, 15,* 363-368.

Lesmana, T. (2008). The role of Islamic micro financial cooperatives (baitul maal wat tamwil) in local economic development: Case study of three provinces in Indonesia. *Journal of Islamic Business and Economics, 2*(1)*,* 49-62.

Maulana, H. (2008). *Measuring efficiency of the mutual fund companies in Indonesia: A non parametric approach*. Unpublished master's thesis, International Islamic University Malaysia, Kuala Lumpur.

Milanovic, B. (1997). A simple way to calculate the Gini coefficient and some implications. *Economics Letter, 56,* 45-49.

Mu'alim, A., & Abidin, Z. (2005). *Profesionalisme praktisi BMT di kota Yogyakarta dan kabupaten Sleman* [The professionalism of BMT practitioners in Yogyakarta city and Sleman regency]. *Millah, 4*(2).

Nazirwan, M. (2010). Embracing the Islamic community-based microfinance for poverty alleviation. Retrieved February 17, 2011 from http://www.mikrobanker.com/file_article/1291215156Islamic%20Community%20Based%20Microfinance.pdf

Obaidullah, M. (2008). *Introduction to Islamic microfinance.* New Delhi: IBF Net (P) Limited.

Ross, K. C, Clark, L. D, Padgett, T. C., & Renckly, T. R. (2002). *Air university sampling and surveying handbook: Guidelines for planning, organizing, and conducting surveys*. The United States Government: Department of the Air Force.

Sakai, M., & Marijan, K. (2008). *Mendayagunakan pembiayaan mikro Islami* [Utilizing Islamic micro financing]. *Policy Brief Australia Indonesia Governance Research Partnership, 9.*

Schreiner, M., & Woller, G. (2003). Microenterprise in the first and third worlds. *World Development, 31*(9), 1567-1580.

Shier, R. (2004). Statistics: Paired *t*-tests. Retrieved March 29, 2011 from http://mlsc.lboro.ac.uk/resources/statistics/Pairedttest.pdf

Seibel, H. D. (2005). Islamic microfinance in Indonesia. Retrieved May 20, 2011 from http://www.stiesyariahbengkalis.ac.id

Sumption, J., & Keith, J. (1979). *Equality*. London: John Murray.

Solehudin, P. S. (2010). *Selayang Pandang KJKS* [Overview of KJKS]. Retrieved June 13, 2011 from http://asicafe.wordpress.com/2010/11/05/selayang-pandang-kjks/

Tambunan, T. (2003). Urban Poverty and effectiveness social safety net in Indonesia. Retrieved March 2, 2010 from http://web.mac.com/adrianpanggabean/Loose_Notes_on_Indonesia/Poverty_files/tambunan%20urban%20poverty.pdf

Todaro, M. P., & Smith, S. C. (2009). *Economic development* (10th ed.). New York: Pearson.

UNDP. (1999). Microfinance. Retrieved December 16, 2010 from http://www.undp.org/

United Nations Statistics Division (UNSD). (2005). Handbook on poverty statistics: Concepts, methods and policy use. New York: United Nations.

Ureta, B. E. B., & Pinheiro, A. E. (1997). Technical, economic, and allocative efficiency in peasant farming: Evidence from the Dominican Republic. *The Developing Economies, 35*(1)*,* 48-67.

Widiyanto, M., & Abdul Ghafar, I. (2006). Sustainability of BMT financing for developing micro-enterprises. *Working Paper in Islamic Economics and Finance, 602*.

Widiyanto, M., & Abdul Ghafar, I. (2010). Improving the effectiveness of Islamic micro-financing. *Humanomics, 26*(1), 66-75.

Yusri, M. (2011). *Pinbuk inisiasi kelahiran 3,872 BMT* [PINBUK has initiated the establishment of 3,872 BMTs]. Retrieved June 10, 2011 from http://www.kumkm-sulsel.info/read-20110303135148-pinbuk-inisiasi-kelahiran-3872-bmt

World Bank. (1993). Poverty reduction handbook. Washington, D.C: The World Bank.

World Bank. (n.d). Choosing and estimating poverty indicators. Retrieved June 13, 2011 from http://web.worldbank.org

Zheng, M., Junpeng, Y., Cheng, S., Zhiyu, H., Zhenglu, Y., Yuntao, P., & Yishan, W. (2008). Using Lorenz curve and Gini coefficient to reflect the inequality degree of S&T publications: An examination of the institutional distribution of publications in China and other countries. Retrieved May 20, 2011 from www.collnet.de/Berlin-2008/MaZhengWIS2008ulc.pdf