INDONESIAN
CAPITAL MARKET REVIEW

Outreach and Profitability Trade-off: Does Synergy between Islamic Banking and Islamic Microfinance Institutions Matter?

Ruri Eka Fauziah Nasution* and Habib Ahmed
Durham University

The purpose of this study is to examine the effectiveness of linkage program between Islamic Banking (IB) and Baitul Maal Wat Tamwil (BMT) on BMT financing growth and profitability. This study also aims to compare three linkage models and to explore the keys factors that affect the implementation of linkage program. To achieve these objectives, both quantitative and qualitative research methods are employed. The dataset consists of the financial statement of 26 BMT in Indonesia and interviews with 12 managers of BMT and IB in Jakarta. The findings suggest that a synergy between IB and BMT through linkage program has significant impact on BMT financing growth and BMT ROE. Among three linkage models, executing model appears to be the most preferable model, both by BMT and IB. The finding also suggests that internal and external factors at BMT level have impacts on the effectiveness of linkage program.

Keywords: *Baitul Mal Wat Tamwil, Islamic Microfinance, Islamic Banking, Linkage program, Level of Outreach, Profitability*

Introduction

As a country with largest Muslim population worldwide, Islamic Microfinance Institutions (IMFI) in Indonesia have an important role to support poverty alleviation program. *Baitul Mal Wat Tamwil* (BMT) is the main player of IMFI in Indonesia. BMT has grown significantly, both in terms of number and total assets. There are approximately 7500 BMTs in Indonesia in 2013 (Jamaludin, 2013) with total assets more than IDR 6 trillionin 2011 (Oktarianisa, 2011). However, since there is high demand of financing, it is difficult for BMT to meet this demand from their deposits fund. In this regards, like other Microfinance Institutions (MFI), BMTs also face challenges in their sustainability to provide financing for the poor and SME segments.

Islamic Banking (IB), on the other hand, has large amount of fund. As part of Islamic financial system, IB has a social obligation to provide financing for Micro, Small, and Medium Enterprise (MSME). However, IB finds barriers to provide financing to MSME. These barriers include the problems of asymmetric information, physical barriers of poor infrastructure, socioeconomic factors, lack of collateral and high transaction cost (Ahmed, 2004). These barriers also make it difficult for IB to provide financing for the poorest segment of the population.

Conceptually, both IB and IMFI are intended to contribute on social justice (Obaidullah & Khan, 2008). IB and IMFI may compelement one another in both ideological and practical terms (Dhumale and Sapcanin, 1999). Both IB and BMT are intended to contribute on social justice. Each institution has its own strength

* Email: ruri.nasution@gmail.com

and weakness in achieving this noble objective. A synergy between IB and BMT through linkage programs expected to result in mutual benefits. Linkage program is an attempt to promote synergy between IB and IMFI initiated by Bank Indonesia and The Ministry of Cooperatives & SME which allows BMT to serve as an intermediary between IB and customer, particularly to deliver the equity financing for MSME. There is a need to focus on the benefits of linkage program, particularly on BMT side, which can be measured by the level of outreach and sustainability. In addition, this paper attempts to identify most preferable linkage models and investigate the key factors that affect the implementation of linkage program.

Literature Review

IMFIs in Indonesia dominated by *Baitul Mal Wat Tamwil* (BMT). BMT is classified as Islamic cooperatives and under the supervision of The Ministry of Cooperatives & SME. According to Hadisumarto & Ismail (2010), BMT has dual function; as a *Baitut Tamwil* and *Baitul Mal*. The business function of BMT is by serving as a financial intermediation. Most BMTs in Indonesia are deposits-taken institutions, which serve as informal banks. The social missions of BMT are serving as *amil* (collect and distribute *zakah*), collecting and distributing *infaq* and *shadaqah*, and providing money on *qard al-hassan* financing. *Zakat, waqf,* and *shadaqah* are the main instruments in Islamic scheme in poverty alleviation. These funds have lower risk than debt in capital and are expected to reduce the need for diverting funds into unproductive use. However, due to sustainability issues, IMFI cannot rely only on these charity funds. Thus, it is important for IMFI to explore other sources of fund.

Like IMFI, IB is a value-oriented system which aims to achieve human centered economic development (Asutay, 2010). Dusuki (2008) maintains with an impressive growth of IB over the last 30 years, IB is expected to emphasize on issues relating to social justice through financial inclusive program. In other words, IB is expected to provide financing to small and medium enterprise which are denied by formal financial institutions and actively participate in microfinance program to alleviate poverty, rather than overemphasize on profitability. Further, Shahinpoor (2009) asserts that since the the provision of debt is crucial for the poor, Islamic bank have an important responsibility on meeting financing needs of the poor. However, IB has been critisized for being unable to fulfil this objective. Rahman and Rahim (2007) argues that the concept of financing the poor by IB was not well developed, since many IBs do not provide an easy access to financing for the poor. In addition, most of IBs replace PLS (Profit and Loss Sharing) scheme with sales-based system.

Both IB and IMFIs aim to contribute in achieving social justice. Both emphasize ethical, moral, social, and religious factors to promote equality and encourage enterpreneurship and risk sharing (Obaidullah & Khan, 2008). However, due to they are different in nature, IB and IMFIs face different challenges in achieving this objectives. It is expected that synergy between IB and IMFI results in mutual benefits. Some studies have proposed this synergy through careful investigation about the link between IB and IMFIs. For example, Ahmed (2004) argues that IB can complement the IMFIs initiatives to provide financial services to the poor. He further argues that due to IB's large scale, IB can provide microfinance services to the poor without extra costs. Rahman (2007) argues that there is a nexus between IB and microfinance since many features of microfinance can be considered consistent with the broader goals of IB. Further, Dusuki (2008) argues that by practicing microfinance program, IB can extend their financing to meet different type of clients needs, and thus make positive contributions to the fulfilment of the socioeconomic objectives of Islamic society,while maintaining the institutional viablility, competitiveness, and sustainability.

As an attempt to promote the synergy between IB and IMFIs, Bank Indonesia and The Ministry of Cooperatives & SME initiate the linkage program between IB and IMFI. This program is a strategy to utilize the players in

MSME sectors by involving the entire components of financial industry (Abdullah, 2006). Generally, there are three models of linkage program; channelling, executing, and joint financing. In chanelling model, BMT serves as middleman between IB and MSME. In executing model, IB provides financing to BMT to be disbursed to BMT clients. In joint financing model, IB and BMT together provide finance to MSME.

Until 2009, there are 19 commercial banks signed up for linkage program. Among these banks, there are two IBs joint in linkage program. These IBs include Bank Muamalat Indonesia (partner with Islamic Rural Banks and BMTs) with linkage fund amounted of IDR 66.586 billion and PT Bank Syariah Mandiri (partner with Rural Bank and Islamic Rural Bank) with with linkage fund amounted of IDR 27 billion (Bank Indonesia, 2009). In addition, there are two Regional Development Banks (BPD) who signed up linkage program with Sharia Rural Bank, Cooperative and BMT. These two Regional Development Banks are PT BPD Sumatera Utara with linkage fund amounted of IDR 3.28 billion and PT BPD Riau with linkage fund amounted IDR 5.5 billion. Total credit ceiling for the linkage program with *sharia*/ rural banks during July 2008 – March 2009 is IDR 1.538 trilion while total credit ceiling for the linkage program with Cooperatives and BMT during July 2008 – March 2009 is IDR 1.928 trilion (Bank Indonesia, 2009). This data shown that the credit ceiling of linkage fund to cooperative and BMT is higher compared to the *sharia* or rural banks.

Due to country-spesific case, empirical studies on the effectiveness of IB-BMT linkage program is limited. Maesaroh (2011) provide a case study about the effectiveness of linkage program between Bank Syariah Mandiri with BMTs showing that linkage program insignificantly affects the performance of BMT under observation. Kumara (2010) compares the performance of rural bank which joins the linkage program with those who does not join linkage program. This study shows that linkage program insignificantly affects the performance of rural bank which join the linkage program. Jubaedah (2009) investigates the linkage program between Bank Muamalat Indonesia and Islamic Rural Banks showing that the executing model is more effective and significantly affect the performance of Islamic Rural Banks.

The BMT's internal factor that might affect the implementation of linkage program includes low product diversification (Karim, Tarazi, & Reille, 2008; Saad, 2012), lack of reporting standard, lack of trainned personnel (Ahmed, 2004; Rusydiana & Devi, 2013), and lack of managerial skills and inability to separate business aspect from social aspect (Cokro & Ismail, 2008). The external factor from BMT includes lack of regulation and supervisory (Rusydiana & Devi, 2013; Seibel, 2008), issues on profit sharing fairness between BMT and IB, competition among BMTs, competition between BMT and IB (Bambang, 2007), and unclear procedure and standard on linkage program.

IB internal factor that might affect the implementation of linkage program includes organization structure (Berger & Udell, 2002), lending technology (Owulah, 1990), level and of profit and monitoring cost (Huda, 2012; Shaban et al., 2014). As in the BMT cases, IB external factors include regulation issues (Shaban et al., 2014), issues on profit sharing fairness between BMT and IB, competition among BMT, competition between BMT and IB, and unclear procedure and standard on linkage program.

Research Method

To answer the research questions, both quantitative and qualitative research methods are employed. Panel data regression model is employed to measure the effectiveness of linkage program on BMT while semi-structured interviews is conducted to identify the most preferable linkage model and the key factors that affect effectiveness of linkage program.

In panel data regression, there are 26 BMTs which are located in Java Island and Province of Lampung. Most BMT in Indonesia are located in the Java Island. In addition, Province of Lampung is one of provinces outside the Java Island which have significant growth of BMT. In semi-structured interviews, purposive sampling

Table 1. Variable Description

Variable	Measurement	Expected Relation to Dependent Variable
Dependent Variables		
BFG	Log-difference of BMT' total financing (after adjusted to Consumer Price Index 2010)	
ROE	Net Income/Total Equity	
Independent Variables		
IBFG	Log-difference of IB total financing (after adjusted to Consumer Price Index 2010)	Positive (+)
FG	Log-difference of BMT total funding (after adjusted to Consumer Price Index 2010)	Positive (+)
Ln Assets	Natural Logarithm of Total Assets	Positive (+)
GDPPG	Growth of GDP per capita (after adjusted to Consumer Price Index 2010)	Positive (+)
CR	Credit to MSME/GDP	Indetermined
FER	IB Financing/BMT Total Equity	Indetermined
DAR	BMT Total Deposits/BMT Total Asset of BMT	Positive (+)
FAR	BMT Financing/BMT Total Assets	Positive (+)

is employed as the interview method for interviewing BMT and IB managers. In purposive sampling, researcher purposely chooses object who are relevant to the research topic (Sarantakos, 1994). There are seven BMTs involved in the semi-structured interviews. Due to time constraint, all BMTs sample in this study are located in Jakarta. All BMTs sample in this research has as legal status as *sharia* cooperatives which are under the supervision of The Ministry of Coopertives and SME. This legal status has allowed BMTs to raise fund from public (their members) and distribute the fund. BMT has to receive linkage fund from one or more IB to be eligible as research sample. All BMTs sample in this research is engaged in executing model of linkage program which is based on *mudharabah* contract. In this model, BMTs receive regular funding from IB, in which one BMTs also receive technical assistant. Some BMTs from this study receive fund from more than one IB. Further, the linkage fund is distributed by BMTs to their member, mainly in the form of *murabahah* contract. In addition, one IB manager is interviewed in order to complement the findings and point out IB key factors that affecting the linkage program.

Panel Data Regression Model

This research focuses on two dimensions of the effectiveness of linkage program on BMT: BMT level of outreach and BMT sustainability. Panel data regression model is utilised to answer the first research question. Gujarati (2012) explains that "panel data regression models is models that study the same group of entities (individuals, firms, states, and the like) over time". There are three panel data models. The first model is Pooled Least Square (PLS) which requires that the slope coefficients are constant among subjects and the error term is uncorrelated with the regressors. The second model is Fixed Effects Model (FEM) which allows different intercept among individuals to reflect unique characteristics of individual units. The third model is Random Effect Model (REM) which assumes that the intercept value of an individual units is random drawing from a larger population with a global mean, in which an individual mean expressed as deviation from the global mean value.

Panel data in this research is employed to analyze the pattern of annual financing growth and annual return on equity (ROE) of 26 BMTs during 2011 and 2013. The panel is balanced panel since the number of time observation is the same for each individual (Gujarati, 2012). The following basic panel regressions is estimated for the period of 2011-2013.

$$BFG_{it} = \alpha+\beta_1 IBFG_{it}+\beta_2 FG_{it}+\beta_3 LnAssets_{it}+ \beta_4 GDPPG_{it}+\beta_5 CR_{it}+(\mu_i+\varepsilon_{ijt}) \quad (1)$$

$$ROE_{it} = \alpha+\beta_6 FER_{it}+\beta_7 DAR_{it}+\beta_8 FAR_{it}+ \beta_9 LnAssets_{it}+\alpha_i+(\mu_i+\varepsilon_{ijt}) \quad (2)$$

Table 1 provides the description of each variable in panel regression model. Model (1) focuses on the effectiveness of IB-BMT linkage program on BMT level of outreach. BMT financing growth (BFG) is used as proxy for level of outreach. BFG is measured based on Wagner and Winkler (2013) who identify the

determinants of real credit growth of MFI in the global financial crisis period. At MFI level, the factors include MFI source of fund, MFI total risk, and MFIs size. MFI real credit growth is expected to be positively associated with MFI funding growth and negatively associated with total risks. At macroeconomic level, the factors include GDP growth (per capita), credit-to-GDP ratio, and inflation. Both macroeconomic variables are expected to have a non-linear relationship with real credit growth.

Based on Wagner and Winkler's (2013) work, panel regression is applied to test the impact of IB financing growth on BMT financing growth, by controlling factors at BMT level and macroeconomic variables. The dependent variable, BFG, is BMT annual real financing growth, a proxy for the level of outreach. The main explanatory variable of interest, IBFG, is the annual growth of total IB financing to BMT. BMT funding growth (FG) and BMT size (ln assets) are control variables from BMT level. BMT funding growth is annual growth of total saving and time deposits, a proxy for BMT ability to raise fund from sources other than IB. Ln assets is natural logarithm of BMT total assets, a proxy for BMT size. GDP growth (per capita) and SME credit-to-GDP ratio are macroeconomic control variable. GDP growth (per capita) is proxy for the demand of microfinancing. SME credit-to-GDP ratio is proxy for the supply of microfinance by formal banking sectors.

Model (2) focuses on the effectiveness of linkage program on the BMT level of profitability. This model follows Muriu (2011) who investigates the impact of financing choice on MFI profitability. In his study, Muriu (2011) identifies debt-to-equity ratio, deposits-to-equity ratio, and loan-to-total assets ratio to be linked with MFI profitability. Except the debt-to-equity ratio which is indetermine, all variables are expected to have positive relationship with MFI ROA. Based on Muriu's work, panel regression is employed to test wheter IB financing has significant impact on BMT level of profitability. The dependent variable, ROE, is BMT return on equity, a proxy for BMT level of profit. The main explanatory variable, IB financing, is represented as percentage of financing-to-BMT-total equity ratio (FER). Other explanatory variables include deposits-to-BMT-total assets ratio (DAR), financing-to-BMT-total assets ratio (FAR), and ln assets as proxy of BMT size.

Qualitative Research Interview

Semi-structured interviews are conducted to complement panel regression analysis. This method is also used to answer the question about the most preferable linkage models and the key factors that affect the implementation of linkage program. The interviews involve 7 BMT managers and 5 IB officers. Blumberg, Cooper, and Schindler (2011) explain that semi-structured interviews are useful to understand a wide-range of problem that allows researcher to identify relevant issues to the problem. An important part of interview is thematizing an interview which include the formulation of research question and a theoretical clarification of the theme investigated. The thematizing process in this research involves theoretical review on factors that might affect the implementation of IB-BMT linkage program. According to Sekaran and Bougie (2009), interview data analysis consists of three steps, which include data reduction, data display and data conclusion. In this study, the transcription of audio-recorded interviews is made first. Due to small size of sample, this study do not apply codification. Instead, the data is categorized and organised into table to present the analysis in simple way.

Result

Quantitative Analysis

Descriptive Statistic

The observation in this research includes 26 BMT located in Java Island and Province of Lampung during period 2011-2013 with 78 total observations. Table 2 presents the descriptive statistics of the observation.

The average of BFG is 28.5% with standard deviation of 38.6%, while the average of ROE is 24.1% with standard deviation of 36.6%.

Table 2. Descriptive Statistics

	BFG	ROE	IBFG	FG	LnAssets	GDPPG	CR	FER	DAR	FAR
Mean	0.285	0.241	0.385	0.342	22.896	0.046	0.021	3.841	0.515	0.665
Maximum	1.320	3.143	3.084	4.502	26.592	0.088	0.031	30.732	1.171	0.998
Minimum	-1.418	0.000	-1.350	-2.062	19.764	0.004	0.009	0.067	0.083	0.256
Std. Dev	0.386	0.366	0.783	0.682	1.237	0.034	0.009	4.333	0.223	0.138

Table 3. Summary of Regression Results using PLS

Panel 1. Model 1 Estimation (PLS)						
	IBFG	FG	LNASSETS	GDPPG	CR	R2
BFG	0.085***	0.296***	-0.003**	-2.342***	15.797***	0.416
	(3.053)	(3.753)	(-1.950)	(-2.406)	(4.528)	
Panel 2. Model 2 Estimation (PLS)						
	FER	DAR	FAR	LNASSETS	R2	
ROE	0.049***	0.351***	0.054	-0.008***	0.451	
	(6.252)	(11.324)	(0.094)	(-2.903)		

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. t-stat is in parentheses.

Table 4. Summary of Regression Results using FEM

Panel 3. Model 1 Estimation (FEM)								
	Alpha	IBFG	FG	LNASSETS	GDPPG	CR	R2	F-Stat
BFG	-6.808**	0.039***	0.183***	0.294***	1.650***	8.734***	0.822	7.264***
	(-6.554)	(8.076)	(9.564)	(6.555)	(4.198)	(20.864)		
Panel 4. Model 2 Estimation (FEM)								
	Alpha	FER	DAR	FAR	LNASSETS	R2	F-Stat	
ROE	1.094***	0.051***	0.019	0.181***	-0.051***	0.893	13.904***	
	(4.998)	(14.510)	(0.338)	(10.229)	(-6.808)			

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. t-stat is in parentheses.

This financing growth and ROE are lower compared to the growth of fund raised by BMT. The average of FG is 34.2% per year while the average of IBFG is 38.5%. However, this significant growth is followed by high standard deviation (68.2% for BFG and 78.3% for IBFG). This indicates that although on average there is significant growth on IBFG and BFG, these sources of fund is rather widely dispersed, suggesting that overall mean could be driven by a few BMT. From BMT financial ratio, the average of FER is 384.1%with standard deviation of 259.4%, suggesting that few BMT are highly leveraged. The average DAR is 0.51% with standard deviation of 0.22%. The average FAR is 0.66% with standard deviation of 0.13%. From macroeconomic variables, the average of GDP per capita growth is 4.6% per year while the average of SME-credit-to-GDP ratio is 2.1% with 3.4% and 0.09% standard deviation, respectively.

Classical Regression Assumption Test

As regression standard procedures, it is important to do classical regression assumption tests. However, since REM is employed using a Generalized Least Square Method (GLS), this step is not required. GLS technique is handled automatically by E-Views to ensure that there is no cross-correlations in the error terms (Brooks, 2008). Thus, test of autocorrelation and heteroscedasticity are not required.

Estimation Methods

This section reports the regression results using three panel data estimation methods; PLS, FEM, and REM; which have been discussed above. For each method, both model (1) and (2) are estimated.

Pooled Least Square Model

Table 3 reports regression results by using PLS. Panel 1 shows that all the explanatory variables are significant in explaining BMT financing growth. For model 2, FER, DAR, and Ln Assets are significant to explain BMT ROE while FAR are not significant. The problem with this method is this method does not

Table 5. Summary of Chow-test

Chow Test Model (1)	
Chi-Square	3.176
Prob	0.000
Chow Test (Model 2)	
Chi-Square	67.012
Prob	0.000

Table 6. Summary of Regression Results using REM

Panel 5. Model 1 Estimation (REM)

	Alpha	IBFG	FG	LNASSETS	GDPPG	CR	R2	F-Stat
BFG	0.277	0.084***	0.294***	-0.015	-2.110***	14.485***	0.417	10.316***
	(0.465)	(2.650)	(3.676)	(-0.600)	(-2.189)	(6.252)		

Panel 6. Model 2 Estimation (REM)

	Alpha	FER	DAR	FAR	LNASSETS	R2	F-Stat
ROE	0.720***	0.070***	0.386***	0.307***	-0.050**	0.641	32.611***
	(5.596)	(4.382)	(3.311)	(3.360)	(-7.416)		

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. t-stat is in parentheses.

Table 7. Summary of Hausmann-test

Hausman Test Model (1)	
Chi-Square	0.000
Prob	1.000
Hausman Test Model (2)	
Chi-Square	0.000
Prob	1.000

allow differences in average financing growth at BMT level and thus cannot capture the BMT specific effect (Brooks, 2008).

Fixed Effects Model

Unlike PLS, FEM allows different intercept for each BMT to capture BMT-specific effects. Table 4 reports regression results using FEM. For model 1, all the explanatory variables are significant. For model 2, all the explanatory variables, except DAR, are significant to explain BMT ROE.

To determine whether PLS or FEM is more appropriate or not, the Chow-test is conducted (Brooks, 2008; Gujarati, 2012) as shown in Table 5.

H_o : Pooled Least Square Methods
H_1 : Fixed Effects Methods

Based on Table 5, since the probability of Chi-square for both model is less than 0.05 indicating that null hypothesis is rejected for both equation. Thus, FEM is more appropriate then the PLS.

Random Effects Methods

As in FEM, the REM allows different intercept for each entity and this intercept is constants across the time. The difference, however, REM assumes that the intercept for each entity arise from a common intercept α plus a random variable εi. Table 6 reports the regression result using REM. As Panel 5 indicated, except BMT size, all the explanaory variables are significant (with α = 1%) to explain BMT financing growth. For model 2, all the explanatory variables are significant (with α = 1%) to explain BMT ROE.

To determine whether FEM or REM is more appropriate or not, the Hausman-test is conducted (Brooks, 2008; Gujarati, 2012) as shown in Table 7.

H_o : Random Effects Methods
H_1 : Fixed Effects Methods

Based on Table 7, the probability of Chi-square for both models is less than 0.05. The null hypothesis for both models are rejected, which indicate that REM is more appropriate

than FEM. There are two additional explanations why REM is more appropriate. First, although FEM allows for entity-specific effects, this model requires that the number of periods should be equal or more than the number of observations (T≥N). The data in this research, however, is short panel where the number of cross-section or individual units N (26) is greater than the number of time periods, T (3). Second, it is not the interest of this research to investigate BMT specific-effects.

Analysis of Regression Results

Linkage Program and BMT Level of Outreach

Results on Panel 5 on Table 6 show that IB financing growth to BMT through linkage program is associated with BMT financing growth, and thus, increases the level of outreach. IB financing growth is statistically significant (α=1%) with positive sign. As indicated by the coefficient, BMT financing growth increases by 0.084% with 1% increase in IB financing growth. Wagner and Winkler (2013) argue that MFI credit growth rises with the ability of MFI to rise funding from external sources. Coleman (2007) studies the impact of leverage on MFI and argues that, although it is not significant, MFIs with long-term debt (financing) shows positive relationship with level of outreach.

This finding, however, is inconsistent with Hoque, Chishty, and Halloway (2011) who argue that leverage decrease the level of outreach to the very poor because of increase in cost of capital leads to higher cost of borrowing, higher default rate and increase risk. In the case of Islamic Microfinance (IMFI), this problem might not arise since most IMFI use ZIS fund to serve the very poor segment. The same case with BMT, they provide *qardul-hassan* loan from ZIS fund to serve the very poor segment and to make them feasible to receive regular financing. IB financing is disbursed as productive financing only for the micro segments.

Notwithstanding IB financing has a significant impact on BMT financing growth, the economic significance is rather small. There are three possible explanations. First, although linkage program is designed to promote synergy between IB and BMT, the real fact indicates that there is competition between IB and BMT in enhancing their market share (Bambang, 2007). In addition, based on Bank Indonesia statistic, there is an increase on IB office branch from 1.763 in 2010 to 2.669 in 2013. This data implies that IB focuses on improving their infrastructure and networking by increasing their branch office 53% which enable them to serve the poor directly (Sholahuddin, 2013). Second, full support from the government on linkage program has not been received, particularly for BMT. Although the government provides guarantee for BMT, most of them still find difficulties to access financing from bank due to the collateral requirement. In addition, Islamic Cooperative performance appraisal set by the Ministry of Cooperatives is less valid from the IB point of view (Oktarianisa, 2011). Third, as shown by descriptive statistics that the high standard deviation on IB financing is rather widely dispersed, suggesting that overall mean could be driven by a few BMT, probably large BMT. This implies that IB financing might be concentrated only on few large BMT with minimum risks.

BMT funding growth is highly positively associated with BMT financing growth. The coefficient indicated that an increase of 1% in BMT funding growth will increase BMT financing growth by 0.29%. Tchuigoua (2014) maintains that deposit is one of resources used by MFI to provide loan. For some MFI, deposits also reinforce the credit contract and serve as collateral. All BMT in this sample are deposits-taken institutions. They require deposits (minimum for 3 month) as a prerequisite to provide financing. This result implies that deposit is still the main sources of funds for BMT to extend financing for their clients.

Both GDP growth and SME credit-to-GDP growth are highly significant in explaining BMT financing growth. The negative sign on GDP growth suggests that BMT financing growth will decrease about 2.11% with GDP growth rising by 1%. This finding is inconsistent with Tchuigoua (2014) and Ahlin et al. (2011) and other robust arguments on positive relationship

between credit supply-demand and economic growth. However, possible explanation is given by Wagner and Winkler (2013) who argue that growing economy is associated with a decline in the number of informal business sector, the main client group of MFI. Kiss, Nagy, and Vonnack (2006) argue that, at firm level, an increase in GDP is associated with increasing in productivity through higher profits and make it possible for firms to rely more on internal fund. At household level, households might want to decrease loan to smooth consumption at time when their income is temporarily exceed the expected levels.

The positive coefficient on SME credit-to-GDP ratio suggests that BMT funding growth increase by about 14.48% with credit-to-GDP ratio increase by 1%. Wagner and Winkler (2013) maintain that the impact of credit-to-GDP ratio might be non-linear. At one side, if MFIs and formal banks substitute one another, the increase in credit-to-GDP ratio is expected to decrease the MFIs credit growth since more people will have easier financial access to formal banking. On the contrary, if MFIs and banking sector complement each other, an increase in credit-to-GDP ratio is expected to increase MFIs credit growth as this will enable MFI to access commercial loans and extend this loan to their clients (Tchuigoua, 2014). Similarly, Ahlin et al. (2011) suggest that formal financial sector might complements MFIs by providing incentives to maintain good credit histories and by allowing enterprise to advance beyond microcredit. At this point, enterprise with good credit history which initially is MFI client has an opportunity to access financing from formal financial sector. The regression results support the second argument, in which BMT and the whole banking sectors complement each other. However, an interesting point should be made when this result is linked toprevious result suggesting that IB financing growth has a relatively low impact on BMT financing growth. As banking sector in Indonesia consists of both conventional and Islamic bank, a highly significant coefficient of credit-to-GDP ratio might indicate that there is a possibility commercial loan from conventional bank is one of determinants of BMT financing growth.

Linkage Program and BMT Level of Profit

Results on Panel 6 on Table 6 show that IB financing growth as percentage of BMT equity (FER) has significant impact on BMT ROE. The coefficient sign is positive (α = 1%) indicates that a 1% increase in IB financing-to-BMT-total equity ratio will increase BMT ROE by 0.07%. This result is consistent with study by Muriu (2011) who finds that debt-to-equity ratio has positive impact on profitability. He further explains that if MFI could finance their operation using long-term debt with higher margin than the cost of the debt, the shareholders would benefit as more earnings are being spread among the same number of shareholders. Similarly, Coleman (2007) argues that higher leverage will result higher level of outreach and higher premium. This premium then becomes MFI source of income and profitability.

Result shows that BMT can earn higher margin than cost of fund from IB, which in turn increase BMT's ROE. The use of leverage can reduce the agency problem between outside equity holders and manager. Higher leverage raises efficiency since this will increase manager motivation to maximize the shareholders value (Berger and Di Patti, 2006). In BMT case, this theory might be translated that higher IB financing will increase BMT manager motivation to raise efficiency, thus raise the profitability, to ensure BMT is able to make installments to IB.

The economic significance of IB financing to ROE is relatively small. This might be explained by the asymmetric information between IB and BMT. In this case, BMTs are the holder of information. Binks et al. (cited in Berggren, Olofsson, & Silver, 2000) argue that the uneven distribution between IB and BMT results in increase on informational cost that may reduce the profitability. In addition, based on interview result, one of interviewee indicates that although linkage program has allowed BMT to earn margin, the margin is relatively small and as the result it is difficult for BMT to accumulate capital from this spread. Another BMT

manager states that linkage program does not help BMT to be self-sufficient due to the short term financing period. In the case of BMT with small assets, it is difficult to maximize the fund turnover in order to maximize the return. Another possible explanation is related to financing risk. In executing model, BMT bears all the financing risk. When the default rate is high, this factor may limit BMT ability to earn high profit since the profit from linkage fund might be offset by BMT expense to cover the financing default.

Among control variable, deposits-to-BMT-total assets ratio is highly associated with increase in ROE in positive sign. An increase 1% in DAR ratio will increase BMT ROE by 0.38%. This result also consistent with Muriu (2011) who argues that large share of deposits-to-assets appears to boost MFI profitability since large deposit will lower overall MFI cost of fund. BMT financing-to-BMT-total assets ratio positively associated with ROE. The coefficient of FAR suggests that an increase 1% in FAR ratio will increase BMT ROE by 0.30%. This result is inconsistent with Muriu (2011) who finds negative relationship between FAR and profitability. However, he explains that MFIs specializes in lending which enables MFIs to earn more interest revenue due to higher risk and thus has a positive impact on ROE. The coefficient of negative ln assets might indicate that larger BMT tend to be less efficient (Berger & Di Patti, 2006).

Qualitative Analysis

This section reports semi-structured interviews report. Interviews are conducted to answer the second and the third research question regarding the factors that affect linkage program and the best linkage model.

Motivation, Awareness, and Effectiveness of Linkage Program

Most BMT join the linkage program due to the needs for additional fund. However, this factor is not the only motivation to join linkage program. Another factor includes the need to build synergy with other Islamic Financial Institutions and the need to maintain liquidity. On IB side, enlarging the market penetration is the only motivation to provide financing for BMT. Most BMT managers are aware with executing and channeling linkage model, however, they are not aware with joint financing linkage model since this model has not been applied widely.

In terms of the effectiveness of linkage program, most interviewees state that linkage program helps BMT to increase the number of BMT clients and help BMT to be self-sustained. BMTs in the sample use linkage fund to expand their financing. One interviewee states that the demand for BMT financing from local community is increasing so that BMT need external financing to meet this demand. In addition, linkage fund is also helping one BMT to increase its reputation due to its increase in liquidity to service fund withdrawal from its member as well as to provide financing. Although margin earned form this linkage fund is relatively small, but if the number of BMT clients increase, the margin will be significant. However, one interviewee states that linkage program does not help BMT to be self-sustained in the short-term financing. In the short-term period, BMTs are still unable to earn sufficient incomes which enforce BMTs to make the installment by using the financing principal. The overall results confirm the panel regression results which suggest that linkage program increase BMT level of outreach and profitability. From IB side, three of five respondents state that linkage program help Islamic Bank to fulfill the social objective to finance the poor.

Preferred Linkage Model

Among three linkage models, executing model appears to be most effective model, both for IB and BMT. Since joint financing model has not been applied there are only two linkage models; executing and channeling model. Currently, most BMT and IB use and prefer executing linkage model. Channeling model is used to finance clients with large amount of financing that is beyond BMT ability.

BMT prefer to use executing model since

Table 8. Comparison between Linkage Models

Comparison Between Linkage Model (BMT)	
Executing	Channeling
Advantages:	Advantages:
1. High level of flexibility	1. Larger Financing Size
2. Minimize the risk of losing customer	2. No financing risk
3. Higher spread between cost of fund and cost of financing	
4. Convenience	
Disadvantages:	Disadvantages:
1. Financing risk	1. Risk on losing customer
2. Collateral requirement	2. Rigid procedure and requirement
3. Additional monitoring costs	
4. Less-*Sharia* compliant	
Comparison Between Linkage Model (IB)	
Executing	Channeling
Advantages:	Advantages:
1. IB delegate financing to BMT	1. High level of security
2. BMT can develop financing concept	2. Rigid feasibility analysis
3. Easier feasibility analysis process	
Disadvantages:	Disadvantages:
1. Difficult to monitor	1. Takes longer time in feasibility analysis
	2. Takes more effort to monitor BMT one by one

this model has high flexibility in terms of the disbursement of linkage fund. BMT manage, distribute, monitor, and collect the repayment of linkage fund directly to their clients. Higher risk in executing model is followed by higher margin, about 2% - 3%. On the comparison, in channeling model, since IBs fully bear the risk, BMTs only earn small fee (about 0.25%) for serving as middlemen between IB and clients. In addition, executing model enable BMT to minimize the risk of losing their clients. In channeling model, BMTs serve as middleman between IB and clients, in which IB can access information about the clients. Unlike executing model, in channeling model IB interact with the clients and conduct direct survey before providing financing. Since channeling clients are perceived as potential clients, there is a risk that IB will take over these clients by providing direct financing to them and reduce BMTs' market share.

IB prefers executing model for three reasons. First, compare to channelling model, the analysis process in executing model is more straight forward since the object of the analysis is BMT instead of end users. Second, IB reduce the risk of financing since BMT bears all the risk. This guarantees IB to receive a full payment of the principal plus the profit-sharing from the financing. On the contrary, in channelling model, IB bear all the financing risk. The monitoring process in executing model is also easier as IB only needs to monitor BMT. Finally, since IBs have various financing segments, delegating the monitoring process to BMT in executing model allows IB to focus on these various financing segments. The comparison between executing and channelling model is presented on Table 8.

Key Factors on the Effectiveness of Linkage Program

BMT Key Factors on the Effectiveness of Linkage Program

Results from interviews findings suggest that among BMT internal factors, lack of trained personnel, and lack of managerial skill are the key factors that affect the effectiveness of linkage program. The external factors seem to have more impact on effectiveness of linkage program. These include lack of regulation and supervision, fairness issue on PLS, and competition between BMT and IB.

Two of seven BMT interviewees state that lack of trained personel affects the effectiveness of linkage program. For example, although training is less needed for financing officers to

collect the payments, training is highly important for marketing staffs who sell the products since these marketing staffs bring new products (*Sharia* compliant products). The other interviewees also indicate that there is lack of training for BMT staffs. However, this lack of training might not affect the effectiveness of the linkage program since most of their staffs are familiar with the process and the system.

In the case of lack of managerial skills, three of seven interviewees state that lack of mangerial skills affects the effectiveness program. This managerial skill usually related to lack of business focus and individual characters. For example, there is a case where due to lack of business focus, BMT managers provide financing to a capital-intensive project, such as property project, which is not suitable for BMT. There is also a case when due to manager's carelessness, the BMT have difficulties to access new financing from banks.

Lack of product diversification does not affect the effectiveness of linkage program. Although there are various types of *sharia* contract, most BMT use *murabahah*, *ijarah*, and *mudharabah* as their underlying contract for their products where largest financing proportion is dominated by *murabahah* contract. The linkage fund will be distributed in the form of these three contracts. It is not the type of underlying contract that affect the effectiveness of linkage program. The effectiveness of linkage program depend on the ability of BMTs' marketing staff to sell existing product and distribute the linkage fund through these product. In addition, two interviewees state that BMT have higher product diversification compared to IB and this variety of products become one of the reason why IBs are interested doing linkage program with BMT.

Lack of reporting standard became challenge for BMT only at the beginning of linkage program. Some IB partners are also involved in giving assistance and training on reporting. All interviewees state that combining both business and social aspects does not affect the effectiveness of linkage program. Two interviewees state that both business and social aspects are synergy. There is a case of one BMT in the sample which utilize synergy between social and business aspect of BMT. At the begining this BMT provide financing to extremely poor clients in the form of charity (using *zakat, infaq*, and s*hadaqah* fund) which is part of BMTs social function. At the first step, BMT provide the fund for free. After the recepient run the business and find the best pattern on their business, BMT then strengthen this by giving *qardul-hassan* loan. At the first step, there is no administration process. However, in the second step there is adminstration process. The clients need to sign a contract and they must pay the loan principal. The *qardul-hassan* loan is provided maximal twice. If these clients shows significant increase in cash inflow, then they can access regular financing from BMT that enable BMT to earn margin. Another interviewee states that when the business aspect of BMT is stagnant, social aspect can complement this stagnation by providing development or empowerment programs using social fund.

Among BMT external factors, lack of regulation and supervision, fairness issue on PLS and competition between BMT and IB affect the effectiveness of linkage program. The Ministry of Cooperatives & SME provides training to BMT about the new regulation and provides BMT performance appraisal and rating BMT. The Ministry of Cooperative & SME also requires BMT to submit their financial report regularly. However, this monitoring is less strict compared to IB standard and without sufficient feedback.

Two interviewees state that the profit sharing between BMT and IB is not fair enough. One interviewee states that the profit-sharing for IB is higher compared to conventional bank. The spread BMT earned is small because IB financing is more expensive compared to deposits fund received from BMT member. As the result, it is difficult to accumulate capital from the margin with current profit sharing. For example, one BMT charge 2-2.5% higher than cost of fund on its clients. Another BMT earn 2% margin in which 0.5% of this margin is paid for account officer fee. The rest interviewees state that the profit sharing between BMT and IB in linkage program is fair enough. Current profit

sharing scheme still allow BMT to maximize their financing. In addition, the flexibility in using the linkage fund also benefits the BMT.

Regarding competition between BMT and IB, most interviewees state that this does not affect the effectiveness of the linkage program. However, they state that most BMTs concern about this issue. For example, most BMT avoid using channelling model since this scheme requires BMT to provide comprehensive data about the clients. An interesting insight is there are some cases when IBs try to offer financing to BMT clients directly but the clients are uncomfortable with IB procedure and decide to borrow from BMT although with higher margin. All interviewees state that competition between BMT does not affet the effectiveness of linkage program. In addition, they also state that linkage program procedure is clear.

Among other factor from BMT point of view includes the risk-sharing. The underlying contract in executing model commonly is *mudharabah*. However, current practice is that BMT fully bear the default risk should clients fail to make the repayment. BMT are responsible to make regular payment and the principal of linkage fund. This practice raise two important issues. First, from *Sharia* perspective, it is not permissible. Under *mudharabah* contract, in the absence of BMT neglience, IB as *rab ul maal* should bear the risk if clients fail to make repayment. Second, from economic perspectives, this practice limits BMT income-accumulation process since the income is used to cover the default financing.

IB Key Factor on the Effectiveness of Linkage Program

Banking regulation is the only relevant key factor that may impact the effectiveness of linkage program. For example, the capital requirement from central bank will affect the loanable fund available. This will affect the allocation or proportion of IB financing to BMT. However, interview's results indicate that IB still has low level of confidence on BMT. IB concerns on BMT legal status, BMT ability to analyze and monitor the financing, and the gap between IB and BMT. Regarding the legal status, IB prefer to finance BMT who have legal status as Islamic Cooperatives. In addition, since Islamic Cooperatives are under the Ministry of Cooperatives, it is expected that the regulation and the monitoring on BMT to be more stringent since this will make IB work in analyzing BMT easier before giving the financing. IB also concern on the quality of BMT in analysing and monitoring their clients who will be financed. The gap between IB and BMT also affect the effectiveness of linkage program.

Discussion and Conclusion

The aim of this paper is to investigate the impact of the synergy between IB and BMT through linkage program on BMT levels of outreach and profitability. This paper also aims to investigate the most preferable linkage model and key factors on the effectiveness of linkage program. Using panel data regression and semi structured interview, results reveal that IB financing has positively associated with BMT financing growth and BMT ROE. This implies that IB financing enable BMT to increase the level of outreach and the level of profitability.

Currently, among three linkage models, executing model appears to be the most effective model. Both IB and BMT have their internal and external factors which affect implementation of linkage program. BMT's internal key factors that affect the effectiveness of linkage program include BMT managerial skill and the quality of human resources, while the BMT's external factor include the regulation and supervision, the PLS scheme between IB and BMT, and the competition between BMT and IB. Meanwhile, IB's internal key factors on the effectiveness of linkage program are banking regulation and low level of IB confidence on BMT ability.

This paper argues that although the economic significance of IB financing to BMT is still small, the synergy between IB and BMT benefits both parties and also can help in realizing *Sharia* objective to provide access to finance for the poor. The argument above is based on mutual benefits from IB-BMT linkage program. From BMT side, the benefits from joint link-

age program include an increase on the level of outreach and profitability. In addition, linkage program also allows transfer of knowledge from IB to BMT. From IB sides, linkage program allows IB to meet their social obligation and at the same time to minimize the risk from financing the poor. Most importantly, from economic point of view, linkage program is an income-generating activity that allows IB to earn profit and enlarge the financing diversification. In addition, BMT deposits their clients' saving fund on IB. These funds have low cost of fund which can be used by IB to extend short-term financing and generate income.

The results of this study have several implications. Firstly, at BMT level, it is important for BMT to balance both social and business aspects. Results indicate that some BMTs have left their social mission behind. They only disburse institutional *zakah* or *infaq* instead of acting as *amil*. This shifting on mission is inconsistent with the responsibility of BMT as IMFI. Based on *hadith* about how Prophet SAW (peace be upon him) respond to a man of Ansar who begged for him, Obaidullah and Khan (2008) describe the fundamental conditions of a successful microfinance program. This fundamental condition includes access and assess the poorest, transformation of unproductive assets with involvement of larger community in the process, meeting the basic needs, direct involvement in capacity building, technical assistance, transparent accounting, and liberty to use part of income to meet higher needs. In this case, BMT can use ZIS (*Zakah Infaq Shadaqah*) fund to identify the poorest segment of the society and meet their basic needs. Thus, ZIS fund should be disbursed in the form of *zakat, infaq,* or *shadaqah* for consumption needs. In the second step, in order to transform unproductive assets, BMT can use ZIS fund to provide *qardul hassan* to enable the poorest to start new business. To support the new business, it is important that BMT monitor and assist the business through direct involvement. In the third step, when the business can generate income consistently, BMT can provide regular financing using linkage fund by utilising executing model. Finally, as the business grow larger and need larger amount of financing, BMT can use channelling model to link the same client to IB.

Secondly, BMT should be careful in determining the margin rate charged to their clients. High cost of fund charged by IB can lead BMT to increase margin rate on final clients in order to earn profit. Although profitability is an important factor on sustainability, charging unreasonable margin will decrease the demand on BMT financing since demand for microfinance service is not inelastic. Unjustified high margin is inconsistent with the noble objectives of BMT to empower Muslim community. Moreover, high margin lowers the rate of repayment and thus lowers the profitability (Cull, Kunt, and Morduch, 2007). Instead of charging higher margin to their clients, it is preferable that BMT focuses on how to increase their efficiency so that they can maximize the spread between cost of fund and operating cost.

At the IB level, there are three implications. First and the most important implication is related to *Sharia* issue. As discussed previously, most BMTs use executing model with *mudharabah* as the underlying contract. It is expected that IB bear the financing risk instead of requiring regular fixed payment and principal to be guaranteed by BMT. In order to minimize the risk, IB can initiate to apply joint financing model that allow IB share the financing risk with BMT. Second, since the PLS rate between IB and BMT depends on IB cost of fund, IB should carefully identify and allocate funding from third party with the lowest cost of fund. This allows IB to charge lower cost of financing to BMT. It is expected that BMT is still profitable without charging high margin to their clients. Third, since most IB is less confidence with BMT ability to analyse and monitor the financing, transfer of knowledge may benefit both institutions. It is expected that transfer of knowledge will narrow down the gap between IB and BMT.

Fourth, at regulator level, linkage program requires better coordination between Bank Indonesia and The Ministry of Cooperatives & SME. However, there is a gap in regulation and supervision. The general framework is that Bank Indonesia support the program by setting

regulation that allows IMFI to get access to financial services while The Ministry of Cooperative & SME supporst this program by providing technical assitance to IMFIs to help them become feasible to access financing from bank. On the IB side, there is well-established banking regulation to facilitate the implementation of linkage program. To promote financial inclusion program in Indonesia, Bank Indonesia has stipulated Bank Indonesia Regulation (Number 14/22/PBI/2012) concerning on Loan and Financing Channelling by Commercial Bank and Technical Assistance in Developing Micro, Small, and Medium Enterprise. This regulation has mandated banking sector to have minimum of 20% MSME as their target market. Bank Indonesia also gives technical assistance to banks to prepare their human resources in providing financing to MSME. As an incentives, Bank Indonesia publishes banks ratings based on their credit portion on MSME. On the other hand, The Ministry of Cooperatives & SME has not played significant role in assisting BMT to become feasible for financing access. In order to have access on IB financing, BMT must have legal status as cooperative. However, this legal status is not sufficient. The regulation and supervision on BMT is not as strict as on banking regulation which increase the uncertainty for IB to provide financing to BMT.

Although Bank Indonesia has shown significant role in promoting and facilitating the linkage program, however, some banking regulations such as collateral, cash collateral, and business permit certificate requirements have hindered BMT to join the linkage program. Further consideration about this requirement for IMFI should be taken in order to increase the number of BMT in the linkage program. The Ministry of Cooperatives & SME has many tasks to be accomplished. The most important task is to make the regulation on BMT more stringent since this will help IB to do the analysis on BMT performance. There should be regular monitoring on BMT and proper feedback from this monitoring should be provided. Garmaise and Natividad (cited in Ghosh and Tassel, 2011) argue that when MFI receive favourable external ratings, there is a significant reduction in their cost of financing. Although The Ministry of Cooperatives & SME provide the regular training for BMT, the quality and quantity of the trainings should be improved and cover the BMT demands.

To conclude, both the IB and BMT have their own role in Islamic financial system. Ideally, as IB represents the largest proportion in Islamic financial system, IB should contribute more to achieve social objectives. However, it is unlikely that one institution does all the jobs. Due to their responsibility as *mudharib*, IB is responsible to manage their clients' fund to the best of their interest. In addition, the level of public understanding and acceptance on PLS scheme is still low. Mismanagement by IB in allocating their third party fund will decrease the level of public confidence on IB. However, IB still can fulfil its social objectives through two-steps financing. BMTs have competitive advantage on dealing with MSME clients that is difficult to be replicated by IB. Their close relationship with their clients and their flexibility in funding and financing become their most important competitive advantage. However, BMT scale is relatively small. They need additional fund to increase the scale of financing. The synergy between IB and BMT, if conducted properly and fairly, will help these institutions meet their social objectives.

Due to time and data constrain, this study has some limitation. First, the financial data is only consists of 26 BMTs within short periode. In addition, this financial data also limited to major items in BMTs' balance sheet and income statement without further detail description. Second, the sample in the interview is limited only in Jakarta which are considered less representative to describe the BMT population which mostly located in West Java, Central Java, and East java. An improvement can be made in further study by providing wide range of BMT's financial data. In addtion, to measure the level of outreach, it is important to have the exact number of BMT's clients before and after joining linkage program. The large number of both BMT and IB interview sample will also enhance the findings of further research.

References

Abdullah, B. (2006). *The Opportunity to Develop UMKM Sectors*. Bank Indonesia, Jakarta. Retrieved from http://www.bi.go.id

Ahmed, H. (2004). Frontiers of Islamic banking: a synthesis of social role and microfinance. *The European Journal of Management and Public Policy*, *3*(1), 120-140.

Ahlin, C., Lin, J., & Maio, M. (2011). Where does microfinance flourish? Microfinance institution performance in macroeconomic context. *Journal of Development Economics*, *95*(2), 105-120.

Jubaedah (2009). *Peran Strategis Linkage Program Bank Syariah Terhadap Penguatan Lembaga Keuangan Mikro Syariah: Studi Pada Bank Muamalat Indonesia* (Undergraduate Thesis). Retrived from http://repository.uinjkt.ac.id/dspace/handle/123456789/13343

Asutay, M. (2010). Islamic microfinance: fulfilling social and developmental expectations. *Islamic Finance Institution and Market*. London: Bloombury, 25-29.

Bambang. (2007). *Linkage Program BI Belum Padu*. Retrieved from http://www.antaranews.com/print/68789/linkage-program-bi-belum-padu

Bank Indonesia (2009). *Lampiran Siaran Pres N0.11/11/PSHM/Humas: Daftar Bank Umum Pelaku Penandatanganan Linkage Program*. Retrieved from http://www.bi.go.id/id/ruang-media/siaran-pers/Documents/86e5b1c903e9402db1f8bf7bf7a1ffc8lampiran_sp.pdf

Bank Indonesia (2012). *Bank Indonesia Regulation Number 14/22/PBI/2012 concerning on Loan and Financing Channelling by Commercial Bank and Technical Assistance in Developing Micro, Small, and Medium Enterprise*. Retrived from http://www.bi.go.id/id/peraturan/perbankan/Pages/pbi_142212.aspx.

Berger, A. N., & Udell, G. F. (1995). Relationship lending and lines of credit in small firm finance. *Journal of Business*, 68(3), 351-381.

Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance*, *30*(4), 1065-1102.

Berggren, B., Olofsson, C., & Silver, L. (2000). Control aversion and the search for external financing in Swedish SMEs. *Small Business Economics*, *15*(3), 233-242.

Blumberg, B., Cooper, D. R., & Schindler, P. S. (2011). *Business research methods, (3rd edition)*. Bershire : McGraw-Hill Education.

Brooks, C. (2008). *Introductory econometrics for finance*. New York: Cambridge university press.

Cull, R., & Morduch, J. (2007). Financial performance and outreach: a global analysis of leading microbanks. *The Economic Journal*, *117*(517), F107-F133.

Dhumale, R., & Sapcanin, A. (1999). *Technical Note of An application of Islamic banking principles to microfinance: A study by the Regional Bureau for Arab States, UNDP, in cooperation with the Middle East and North Africa Region, World Bank*. Retrieved from http://info.worldbank.org/etools/docs/library/128748/An%20application%20of%20Islamic%20bank%20principles.pdf

Dusuki, A. W. (2008). Banking for the poor: the role of Islamic banking in microfinance initiatives. *Humanomics*, *24*(1), 49-66.

Ghosh, S., & Van Tassel, E. (2011). Microfinance and competition for external funding. *Economics Letters*, *112*(2), 168-170.

Gujarati, D. (2012). *Econometrics by example*. London: Palgrave Macmillan.

Hadisumarto, W. B. M. C., & Ismail, A. G. B. (2010). Improving the effectiveness of Islamic micro-financing: Learning from BMT experience. *Humanomics*, *26*(1), 65-75.

Hoque, M., Chishty, M., & Halloway, R. (2011). Commercialization and changes in capital structure in microfinance institutions: An innovation or wrong turn? *Managerial Finance*, *37*(5), 414-425.

Huda, A. N. (2012). The Development of Islamic Financing Scheme for SMEs in a Developing Country: The Indonesian Case. *Procedia-Social and Behavioral Sciences*,

52, 179-186.

Jamaludin, N. (2013). *The Role of Government of Indonesia in Improving Islamic Microfinance: From Viewpoint of Siyasah Shar`iyyah*. Retrieved from http://www.kompasiana.com/bang-jamal/the-role-of-government-of-indonesia-in-improving-islamic-microfinance-from-viewpoint-of-siyasah-shariyyah_551c0b0ca33311d92bb65ab3

Karim, N., Tarazi, M., & Reille, X. (2008). *Islam micro finance: an emerging market niche*. Retrived from http://www.cgap.org/publications/islamic-microfinance-emerging-market-niche

Kiss, G., Nagy, M., & Vonnák, B. (2006). Credit Growth in central and eastern europe: trend, cycle or boom. In conference proceedings*, Finance and Consumption Workshop: Consumption and Credit in Countries with Developing Credit Markets* (pp. 16-17). *Florence*.

Kumara, R. (2010). *Analisis Uji Beda Kinerja BPR Yang Mengikuti Linkage Program Dengan BPR Yang Tidak Mengikuti Linkage Program Pada Wilayah DPC Depok* (Undergraduate Thesis). Retrived from http://library.gunadarma.ac.id/repository/view/1282/analisis-uji-beda-kinerja-bpr-yang-mengikuti-linkage-program-dengan-bpr-yang-tidak-mengikuti-linkage-program-pada-wilayah-kerja-dpc-depok.html/

Maesaroh, S. (2011). *Efektifitas linkage program Bank Syariah dalam penguatan pembiayaan lembaga keuangan mikro* (Undergraduate Thesis). Retrived from http://repository.uinjkt.ac.id/dspace/handle/123456789/1557

Muriu, P. (2011). Microfinance Profitability: Does financing choice matter? Available at http://ssrn.com/abstract=2017989

Obaidullah, M., & Khan, T. (2008). Islamic microfinance development: Challenges and initiatives. *Islamic Research & Training Institute Policy Dialogue Paper*, 2, 81.

Oktarianisa, S. (2011). *Peran Pemerintah di Koperasi Syariah Belum Maksimal*. Retrieved from http://www.danabergulir.com/update/kabar-lpdb/2011/08/04/peran-pemerintah-di-koperasi-syariah-belum-maksimal/

Rahman, A. R. A., & Rahim, A. (2007). Islamic microfinance: a missing component in Islamic banking. *Kyoto Bulletin of Islamic Area Studies*, *1*(2), 38-53.

Rusydiana, A. S., & Devi, A. (2013). Challenges in developing Baitul Maal wat Tamwiil (BMT) in Indonesia using Analytic Network Process (ANP). *Business and Management Quarterly Review*, 4(2), 51-62.

Saad, N. M. (2012). Microfinance and prospect for Islamic microfinance products: The case of Amanah Ikhtiar Malaysia. *Advances in Asian Social Science*, *1*(1), 27-33.

Sarantakos, S. (1994). *Social Research*. London: The Macmillan Press Ltd.

Seibel, H. D. (2008). Islamic microfinance in Indonesia: The challenge of institutional diversity, regulation, and supervision. *Sojourn: Journal of Social Issues in Southeast Asia*, *23*(1), 86-103.

Sekaran, U & Bogie, R. (2009). *Research Method for Business, A Skill Building Approach (Fifth ed.)*. West Susex: John Wiley & Sons Ltd.

Shaban, M., Duygun, M., Anwar, M., & Akbar, B. (2014). Diversification and banks' willingness to lend to small businesses: Evidence from Islamic and conventional banks in Indonesia. *Journal of Economic Behavior & Organization*, *103*, S39-S55.

Shahinpoor, N. (2009). The link between Islamic banking and microfinancing. *International Journal of Social Economics*, *36*(10), 996-1007.

Sholahuddin, M. (2013). Tantangan Perbankan Syariah dalam Peranannya Mengembangkan UMKM. *Proceeding at Seminar Nasional dan Call For Papers Sancall 2013*. Surakarta. ISBN: 978-979-636-147-2.

Tchuigoua, H. T. (2014). Institutional framework and capital structure of microfinance institutions. *Journal of Business Research*, *67*(10), 2185-2197.

Wagner, C., & Winkler, A. (2013). The vulnerability of microfinance to financial turmoil–evidence from the global financial crisis. *World Development*, *51*, 71-90.