

Working Paper
in Economics and
Development Studies



Department of Economics
Padjadjaran University

No. 201308

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The Case of Baitul Maal wa Tamwil
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Determinants of the Establishment of Islamic Micro Finance Institutions: The Case of Baitul Maal wa Tamwil (BMT) in Indonesia

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ABSTRACT

As a country with the largest number of muslim population in the world, Islamic micro finance institutions have a large potential to play a greater role in the country's aspiration to poverty reduction. However, the determinants of the establishment of Islamic Micro Finance Institutions, particularly in Indonesia, has not been extensively studied. This paper attempts to explore the determinants of the establishment of Baitul Maal wa Tamwil (BMT), one of the main Islamic microfinance institutions in Indonesia. A probit model of BMT establishment is estimated using an Indonesian village-level data. The result suggests that the extent of economic activities particularly in agriculture sector, and high accessibility to market are strong determinants of BMT establishment in Indonesian villages. It is also found that villages that experienced recent calamities particularly drought are more likely to have BMT established. This may indicate the role of BMT as a provider of financial service in the midst of hardship. Religion is among the strongest determinant of BMT establishment. Villages with Islam as the dominant religion is more likely of having BMT established. However, this effect is strong only in rural areas. In urban areas, this effect is weak.

Keywords: Micro Finance Institution, Baitul Maal wa Tamwil, Indonesia, Islamic banking
JEL code: P490, G21

1 INTRODUCTION

1.1 COUNTRY CONTEXT

Indonesia, to any standard, can be regarded as successful in increasing GDP per capita. Since the start of the “New Order” government, up to and prior to the 1997 Indonesian economic crisis, it has brought about increase in income per capita by almost four times. The increasing income of the average Indonesian has also been accompanied by outstanding reduction in poverty (See **Error! Reference source not found.**). Number of poor people fell from 54.2 million people in 1976 (40.1% of total population) to become 22.5 million people (11.3% of total population) in 1996 (Alisjahbana, Yusuf, Chotib, Yasin, & Soeprobo, 2003, p. 3)

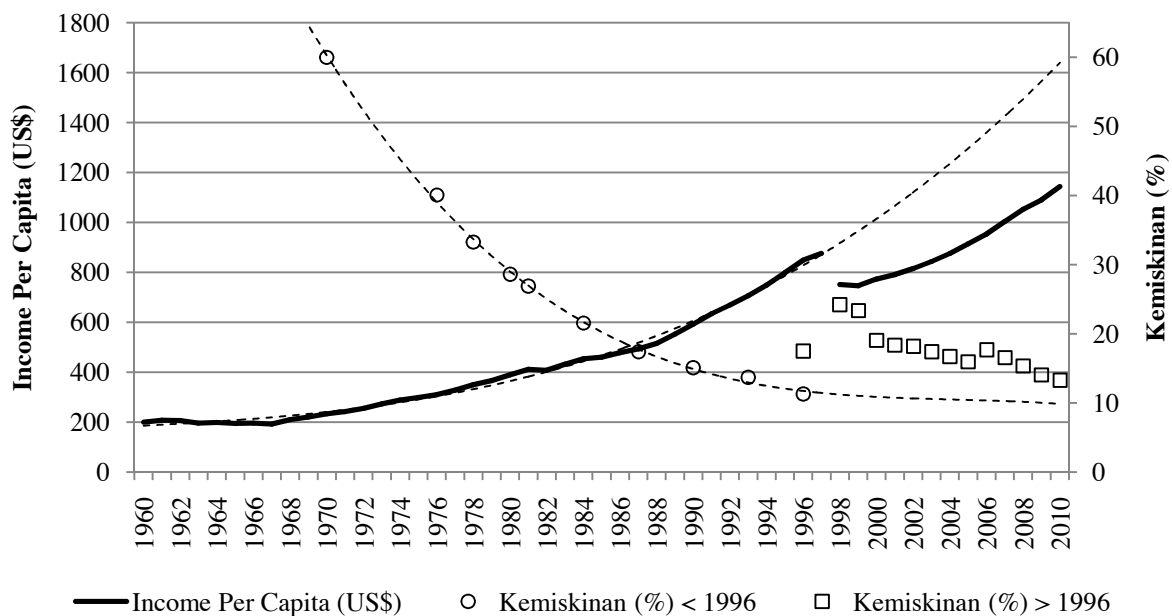


Figure 1. Long run trend of income per capita and poverty

While appreciating the achievement of the long-run Indonesian economic development described above, some problems in the social issues still remain. Firstly, the rapid increase in per capita income, despite reducing the poverty incidence has not been followed by the reduction in income inequality. The income growth of the poor is still lower than the rich, while a few of the richest enjoy the benefit of the development in a very large proportion. More recently there is a trend of increasing income inequality in Indonesia.

Secondly, the growth of poverty reduction has been slowing down in the 1990's compared to in the 1970's and 1980's. As can be seen from Table 1, there is stagnation in the reduction of the number of population living below poverty line, especially using national poverty line and international standard of \$2 per day. In fact, in the year 2009 there are still more than 120 million people living below the international standard poverty line of \$2 per day, more or less the same number of people as in the 1980's (Figure 2).

There is arguably some indications that the rate of poverty reduction in the period after the financial crisis is slower than the before financial crisis. Comparing the rate of poverty reduction for the last 11 years (2000-2011) with the rate of poverty reduction 1984-1996 (as shown in Table 1) suggest that the concern is quite well-founded. The rate of the reduction in

both the number of poor population and head count poverty index for the period of 2000-2011 is a lot slower compared to the period of 1984-1996, more notably for urban areas.

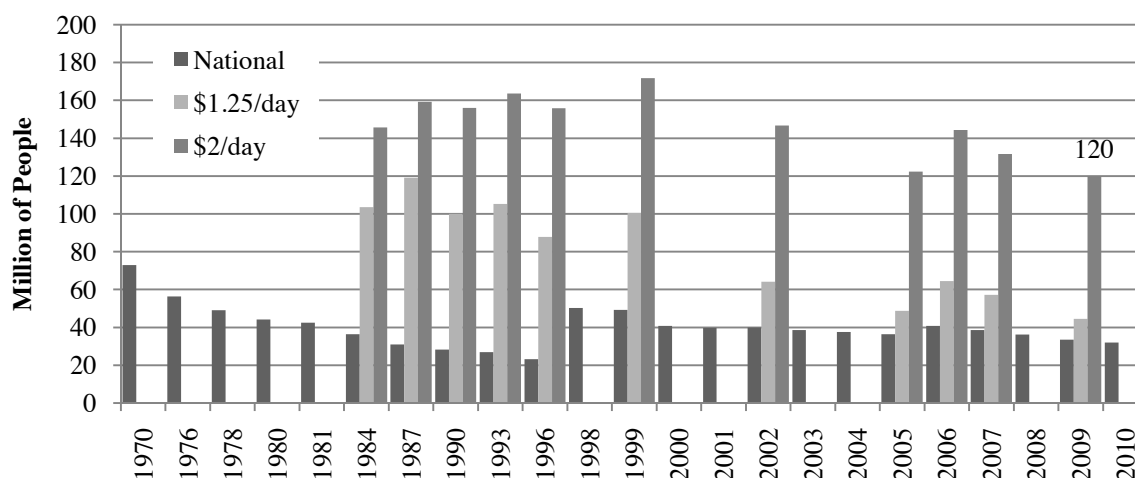


Figure 2. Number of people under poverty lines

Table 1. Trend in poverty incidence and number of poor population

Number of poor population (million, %)	1984	1996	1984-'96^a (%)	2000	2011	2000-'11^a (%)
Urban	9.3	7.2	-2.1	12.3	11.1	-1.0
Rural	25.7	15.3	-4.2	26.4	19.0	-3.0
Urban + Rural	35.0	22.5	-3.6	38.7	30.0	-2.3
			1984-'96^b			2000-'11^b
Poverty incidence (%)	1984	1996	(%)	2000	2011	(%)
Urban	23.1	9.7	-1.1	14.6	9.2	-0.5
Rural	21.2	12.3	-0.7	22.4	15.7	-0.6
Urban + Rural	21.6	11.3	-0.9	19.1	12.5	-0.6

Note: ^a) annualized change (%), ^b) average annual change
Source: BPS

In short, from social perspective alone, the success of Indonesian economic development could have been over rated.

1.2 ISLAMIC MICRO-FINANCE IN POVERTY ALLEVIATION

It is widely recognized that micro-finance has an important component in poverty alleviation strategies. Poor households face difficulty in generating either regular or substantial income to save for future and make them vulnerable to economic, political, and physical downturns. Their need for financial service can be fulfilled by the micro finance institution (MFI).

Microfinance experiences all around the world have now definitely found that the poor demand a wide range of financial services, are willing to bear the expenses related to them and are absolutely bankable. CGAP report that the target group of microfinance is not constituted by the poorest of the poor, who need other interventions such as food and health security, but those poor who live at the border of the so called poverty line, those who could

reach more easily a decent quality of life and who have entrepreneurial ideas but lack access to formal finance

The promoting of the microfinance has been seen to support the United Nation's target of the MDGs to reduce poverty up to 50% of all poor people in the world in 2015. The micro finance services can play important roles to achieve these goals. The government of Indonesia also initiated 2005 as a year of micro finance. The existence of several financial institutions has been recognized as an effective way of deepening the financial sector since it seeks to scale up financial inclusion through expanding access to financial services and subsequently contribute to wealth creation and poverty reduction (Hogarth, Anguelov and Lee, 2005; Mohan, 2006).

As a country with the largest number of muslim population in the world, Islamic micro finance institution has a high potential to play a greater role in the country's aspiration to poverty reduction. The Islamic world is enormous with more than 1.2 billion people, stretching from Senegal to the Philippines. Poverty rate is quite high in all Muslim countries except a few countries in Southeast Asia and the Middle East. Poverty levels have also been associated with high inequality alongside low productivity. Half of the Indonesia population (about 129 million) is living below the poverty line of US\$2 a day. While in South Asia two largest Muslim states - Bangladesh and Pakistan- alone account for 122 million each living below the poverty line where as 100 million Muslims of India are also living below the poverty line (IRTI, 2007, p.18).

1.3 BAITUL MAAL WA TAMWIL (BMT) IN INDONESIA

The Islam tenets regards poverty alleviation is one of the most important duties, and the God orders every Muslim to combat poverty and help poor and the needy through charities mainly in forms of zakat as well as infaq, shadaqah and waqaf. This practice has been in existence since the era of Prophet Muhammad. The Prophet established the Baitul Maal or house of treasure and employed an inclusive system to address the complex phenomena of poverty in the societies. It included basic safety nets for the needy, socio-economic empowerment to narrow the disparity among the citizens, and natural resources management for the welfare of human beings. Nowadays, the teaching of the Prophet on poverty is clearly relevant particularly in framework of the Islamic microfinance.

Structurally, BMT encompasses Baitul Tamwil and Baitul Maal. The Baitul Tamwil is designed to conduct financial intermediations through mobilizing deposits from member clients and financing commercial ventures. In addition, the Baitul Maal is dedicated to perform socio-religious roles by collecting charity donations from Muslims and helping the needy along with their spiritual lives.

Microfinance refers to making small loans available to poor people (especially those traditionally excluded from financial services) through programs designed specifically to meet their particular needs and circumstances (Khan, 2008; p.6).

Basically, the Islamic microfinance is an extension of the Islamic banking and finance concept which is free of riba (non-interest based) financing arrangements. Instead of charging interest, the transaction is in a form of profit and loss sharing contract and mutual partnership. In addition, its practices should be tied to tangible goods and real economic activities, prohibit speculative transactions, illicit business, cheating and deception as well as unjust practices. Above all, the practice of these faith based institutions must be in line with and guided by the Shariah Laws.

In Indonesia there are four types Islamic or Shariah financial institution. General Islamic commercial banks or BUS (Bank Umum Syariah), Islamic Business Unit or Unit Usaha Syariah (UUS), Islamic Rural Banks (Bank Perkreditan Rakyat syariah (BPRS) and the sub-rural financial institutions widely known as the Baitul Maal wa at-Tamwil (BMT). Unlike the first three types of Islamic banking, BMT is not explicitly regulated by the Banking Act No. 10, 1998

BMT is an Islamic micro-finance institution, established by individual or group initiatives to help micro-entrepreneurs as a strategy for eradicating rural poverty ,especially in villages or traditional markets, operationally based on Shariah principles and cooperation. It is the most simplified form of Islamic financial Institutions. Most of BMT enterprises are small and run in the form of cooperative type of business and some others operated in non-formal way. In some other countries BMT is community-based microfinance institutions that operate under the cooperative system.

Formal financial institutions take two forms: bank and non-bank. According to the Banking Act No. 10/1998, only Bank Umum (commercial banks) and Bank Perkreditan Rakyat (rural banks) are classed as ‘banks’. Non-bank formal financial institutions include various types of Lembaga Dana Kredit Pedesaan (LDKP, village-based institutions for small enterprise financing) and cooperatives. Informal financial institutions cover almost unlimited forms of saving-lending initiatives in society, such as Kelompok Swadaya Masyarakat (KSM, people’s self -help groups), Kelompok Simpan Pinjam (KSP, saving and credit groups), Lembaga Swadaya Masyarakat (NGOs) and KSM-based Bayt al-Māl wa al-Tamwīl (Islamic savings and lending initiatives). The categorization of Small and Micro Financial Institutions in Indonesia is summarized in table 2.

Table 2. Categorization of Small and Micro Financial Institutions in Indonesia

FORMAL		INFORMAL
Bank	Non-Bank	-KSM (<i>Kelompok Swadaya Masyarakat</i> -Self-Help Group-SHG)
Commercial Bank (Bank Umum)	-LDKP (<i>Lembaga Dana Kredit Pedesaan</i> - Village-based institution for SME financing)	-LSM (<i>Lembaga Swadaya Masyarakat</i> -Non-Governmental Organization)
Rural Bank (Bank Perkreditan Rakyat)	-Co-operative	-BMT (<i>Baitul Mal wa Tamwil</i> - Islamic co-operative or SHG)

In Indonesia, the root of BMT was developed in decade of 1980 by Muslim activists. Later on, the BMT has flourished since in the mid of 1990s, after the establishment of Bank Muamalat Indonesia, the first Syariah bank in the country. In general, the BMT institutions have been initiated and led by leading Islamic organizations such as PINBUK and Dompot Dhuafa foundation, Syariah banks, Islamic boarding schools (pesantren), respected clerics and Muslims patrons who have strong socio-economic and religious influences in the community.

An estimated figure from Pusat Inkubasi Bisnis Usaha Kecil (PINBUK) or Centre for Micro Enterprise Incubation mentioned that by September 2010, out of 3,068 BMTs under their supervision, financing has reached a total of 1,67 billion IDR. The total asset of the above institutions was estimated around 2.16 billion IDR. It is important to note that these data

underestimate the significance of BMTs in Indonesia, since not all BMTs are under the provision of PINBUK.

Although there is no formal regulation from the Central Bank of Indonesia (BI) regarding the operational of Baitul mal wa tamwil (BMT), BI urged many banks in Indonesia to have linkage program with BMT and other MFI due to the facts that this MFIs very important to the development of SMEs. (BI, Monetary Policy Quarterly Report Q-1, 2009)

BMTs have attracted many attentions. First, because they are generally unregistered under the normal practice rule of Bank Indonesia. Second, they have developed very significantly in quantity and spread in very wide areas of different provinces and have played significant role in bridging the access of financial services to the poor and SME.

However, socio, economic, and cultural determinants of the establishment of Islamic Micro Finance Institutions, particularly in Indonesia, has not been extensively studied. This paper attempts to explore quantitatively the determinants of the establishment of Baitul Maal wa Tamwil (BMT), one of the main Islamic microfinance institutions in Indonesia.

2. REVIEW OF THE LITERATURE

The development of the microfinance sector has increased attention from academics, trying to understand performance and development of MFIs. Within this research field, one strand of literature searches for the determinants for MFI-performance. Some of the investigations about the contribution of macro factors to the performance of MFIs are conducted by Ahlin et al., 2008. Vanroose (2006) has done a first attempt to link microfinance and the macro-economic environment for the Latin American region through a literature study on the region. Honohan (2004) studies a number of macro-economic variables that may explain the variation in the development of microfinance markets on a global level.

Annabel Vanroose (2008) investigated about the development of MFIs using the worldwide survey from CGAP (2004) expanded with data from the Mix Market and different rating agencies. Results indicate that microfinance is more present in countries that receive a higher proportion of international support. Moreover, the microfinance sector is more developed in the richer countries of the developing region. This means that within poor regions microfinance has developed fastest in the richer countries. Population density plays a significant role, but the level of industrialization and human capital does not.

Further investigation by Annabel Vanroose & Bert D'Espallier (2009) analyzed the relationship between performance of microfinance institutions (MFIs) and the development of the formal financial sector of the country in which the MFI is active. They found that MFIs reach more clients and are more profitable where access to the formal financial system is low. This finding is in line with the market-failure hypothesis: MFIs respond to a need that banks do not fulfill and flourish where the formal banking sector fails. However they also found indications of interdependencies between MFI-performance and formal financial sector development.

Kwon (2009) Investigated the impact of organizational, market and socio-cultural factors on the supply of insurance, lending and also savings services by MFIs in developing countries.

The research about the factors affecting to the distribution of MFIs in Ghana developed by Peprah & Muruka (2010). In their study they used Ghana Living Standard Survey (GLSS 4).

The study found that poverty and level of development are not significant in influencing the decision to establish MFI in a particular locality . Population size, population density and economic activities are important factors that drive the distribution of MFIs.

Literature on the determinants of the establishment of Islamic micro finance institution in Indonesia is quite rare especially those investigated BMT in macro analysis. One research conducted by Pusat Inkubasi Bisnis Usaha Kecil (PINBUK) or Centre for Micro Enterprise Incubation a study of development evaluation of *Pondok Pesantren* Cooperative (KOPONTREN), a cooperative operating in a widely established Islamic boarding schools in Indonesia, and BMT. The study was conducted based on the survey upon 24 BMTs and 30 KOPONTREN in three provinces, west Java, middle Java and east Java provinces. The study concludes that there are three external factors which possibly support the existence of KOPONTREN and BMT. They are (1) the consciences and willingness of Muslims to utilize and assist the Islamic financial institutions. (2) KOPONTREN and BMT basically serve the customers well, both in delivering the products or services, and collecting the customers obligation; (3) KOPONTREN and BMT provide the easy procedures to get the finance projects.

The Following table summarize the research regarding factors affecting the microfinance establishment and or BMT existence.

Table 3. Summary of the Studies on the determinants the MFIs performance, establishment or existence

Research by	Variables used	investigation	Data
Peprah & Muruka (2010)	poverty levels, population density , number of economic activities, population size and level of development	to test the factors affecting the distribution of Microfinance in Ghana	Ghana Living Standard Survey (GLSS 4)
Al-Azzam, Mimouni, Abu Ali (2012)	countrywide socioeconomic characteristics , financial access	Factors that contribute to the success of microfinance institutions “MFIs.” Investigate whether countrywide socioeconomic characteristics and financial access can impact MFIs’ performance	data on 222 MFIs
Vanroose (2008)	Population density, rural areas, the level of industrialization and inflation	development of microfinance institutions, which has been highly uneven and identifies factors that explain why microfinance institutions are reaching more clients in some countries than in others	cross-country analysis on a unique dataset covering 115 countries
Annabel Vanroose & Bert D’Espallier (2009)	access to the formal financial system, interest rate, inflation	analyzes the relationship between performance of microfinance institutions (MFIs) and the development of the formal financial sector of the country in which the MFI is active	a large unique panel dataset of 1,073 institutions over 10

			years.
Kwon, 2009	financial expense ratio, loan repayments in arrears, years of operation, number of borrowers, woman borrower ratio, life insurance penetration ratio and family size	The impact of organisational, market and socio-cultural factors on the supply of insurance, lending and savings services by MFIs in developing countries	600 microfinance institutions (MFIs) in 83 countries that were in operation during 1998–2007
PINBUK (Pusat Inkubasi Bisnis Usaha Kecil)	there are three external factors which possibly support the existence of KOPONTREN and BMT. They are (1) the consciences and willingness of muslims to utilize and assist the Islamic financial institutions. (2) KOPONTREN and BMT basically serve the customers well, both in delivering the products or services, and collecting the customers obligation; (3) KOPONTREN and BMT provide the easy procedures to get the finance projects.	Development evaluation of Pondok Pesantren Cooperative (KOPONTREN) and BMT.	survey upon 24 BMTs and 30 KOPONTREN in three provinces, west Java, middle Java and east Java provinces

3 METHODOLOGY AND DATA

3.1 A PROBIT MODEL OF BMT ESTABLISHMENT

The probability model of BMT establishment can be specified as (Greene, 2003):

$$D_i^* = \gamma X_i + u_i$$

and

$$D_i = 1, \text{ if } D_i^* = \gamma X_i + u_i > 0,$$

$$D_i = 0, \text{ otherwise}$$

where

$$\Pr\{D_i = 1 | X_i\} = \Phi(\gamma X_i),$$

$$\Pr\{D_i = 0 | X_i\} = 1 - \Phi(\gamma X_i)$$

D_i^* is a latent variable and D_i equals 1 if a village has BMT established and 0 otherwise, X_i is a vector of socio, economic, and geographical characteristics of the village, γ is the vector of parameter to be estimated and Φ is the standard normal cumulative distribution function, and u_i is the error term.

3.2 INDONESIAN FAMILY LIFE SURVEY (IFLS)

The data being used in this study is the Indonesian Family Life Survey which is a multi-purpose household survey conducted in 2007 (IFLS 4) by Rand Corporation and Gadjah Mada University. IFLS is a longitudinal survey conducted in 1993, 1997, 2000 and 2007. Its first wave in 1993 consists of 7,730 households drawn from 13 provinces in Indonesia covering around 83 percent of the country's population (Figure 3).

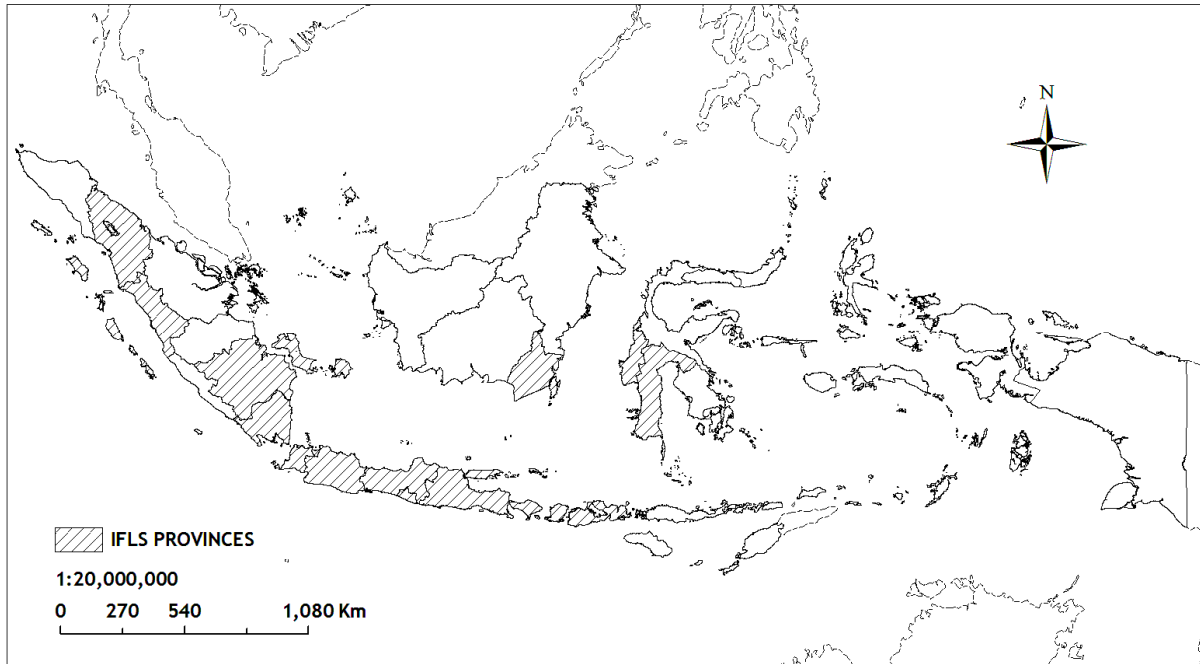


Figure 3. The coverage of IFLS sample

The household survey sample was stratified on provinces and randomly selected within provinces. The sample frame used was based on the 1993 SUSENAS, a nationally representative socio-economic survey of 60,000 households conducted by the Indonesian Central Bureau of Statistics.

For each IFLS community in which households were interviewed, extensive information was collected from community leaders and from staff at schools and health facilities available to community residents. This part of the information is known as the complementary to the household survey and is called the Community-Facility Survey (CFS). This CFS data is used in this study particularly using the information collected from the village head office. As many as 312 community/villages were surveyed. The information includes various aspects of banking and financial institutions that exist in the village or being accessed by the village population.

Based on the previous literature and data availability in the IFLS, we identify the following variables to be tested as the determinants of the establishment of BMT.

ECONOMIC FACTORS

- Presence of economic activities such as agriculture and manufacturing production activities in the village/community. The data have the information on whether there are crops cultivated by the members of the community and whether a factory (plant) in the

community including cottage/home industry operating in the community. It is expected that the presence of these activities is positively associated with the establishment of BMT.

- Accessibility to market which is measured by the distance from the office of the head village to the nearest market. It is expected that distance to market is positively associated with the establishment of BMT.
- The extent of financial activities in the community as measured by the presence of the activities of informal traditional saving-loan activities and whether revolving credit fund is operating in the villages. These variables are expected to be positively associated with the establishment of BMT.
- Quality and availability of economic infrastructures which are measured by the extent of electricity access (percentage of the households with access to electricity) and the quality of the road infrastructure. Road quality is identified by whether the road within the villages are accessible by wheeled vehicles. These variables are expected to be positively associated with the establishment of BMT.

SOCIAL FACTORS

The social factors that can be included is the extent of Islam as the main religion. It is expected that this variable has strong association with the establishment of the BMT.

GEOGRAPHICAL FACTORS

Geographical factors is measured by whether villages are located in urban or rural areas. It is expected that being in urban area increase the likelihood of BMT establishment.

OTHER FACTORS

We include recent experience of calamities measured by having experienced draught or flood in the last 5 years. The expected of the impact of these factors is rather unclear because it can be negative given the negative impact of disaster on financial prospect or positive being the demand for the financial services particularly credit will be high when population are in the midst of hardship.

Table 4.1. Summary statistics of variables

	With BMT	Without BMT	All
Presence of agriculture, 1=yes, 0=otherwise (%)	78.95	67.24	67.95
Presence of informal saving/loan group, 1=yes, 0=otherwise (%)	63.16	37.54	39.10
Presence of revolving fund credit, 1=yes, 0=otherwise (%)	78.95	59.04	60.26
Distance to nearest market, km	0.55	2.06	1.97
	(1.01)	(4.13)	(4.03)
Presence of public transport, 1=yes, 0=otherwise (%)	78.95	75.09	75.32
Electricity coverage (% of household with access)	96.84	91.70	92.02
	(5.05)	(17.01)	(16.57)
Religion, 1=Dominantly Islam, 0=otherwise (%)	94.74	89.80	90.10
Areas, 1=urban, 0=rural (%)	84.21	61.43	62.82
Drought in the last 5 years, 1=yes, 0=otherwise (%)	15.79	8.16	8.63
flood in the last 5 years, 1=yes, 0=otherwise (%)	21.05	28.57	28.12
	78.95	55.97	57.37
Number of Observations	19	293	310

Note: Number in parenthesis are standard deviation

Table 4.1 shows the statistical summary of the variables included in the analysis grouped by BMT presence. describes the mean of the data categorized by village with and without BMT presences.

It shows that villages with BMT presence is a little more agriculturally based than those without BMT. In the villages with the presence of BMT there are about 63,15% that in the villages there also exist other informal saving/loan group institutions and 78,94% showed the there also exist revolving fund as a source of informal financing. This may seem that the existence of BMT is purposed as a substitute to the informal saving/loan group or exist in the places where the traditions of informal saving/loan in the village are intense.

The existence of market in the villages with BMT showed that the mean distances to the market is about 0.55km showed that most of the village with BMT has close distance to the market as business center.

The infrastructure conditions of the villages showed that in the villages with the presence of BMT there about 78,95% that there will be the transportation for public and about 96,84% of the villages have access to electricity.

The Socio-cultural-demographic variables showed that almost 94,74% the religion of the community where BMT presences is Islam.

The geography factor showed that in the urban area, the mean of the existence of BMT is higher. Other variables such as droughts have means higher in the village with the existence of BMT and variable flood showed almost the same means either in villages with or without BMT.

4. RESULTS AND DISCUSSIONS

The results of the Probit regressions is shown in table 5. The probit model is estimated using the maximum likelihood estimation procedure and its quality of the prediction is high given its 93.87% of correct prediction. Seven out of eleven covariates are statistically significant and have expected signs.

Table 5. Results of the Probit Regression

	Coef.	Marginal effect
ECONOMIC FACTOR		
Presence of agriculture, 1=yes, 0=otherwise	0.686 (0.305)**	0.026 (0.013)**
Presence of informal saving/loan group, 1=yes, 0=otherwise	0.500 (0.229)**	0.026 (0.016)**
Presence of revolving fund credit, 1=yes, 0=otherwise	0.246 -0.283	0.011 (0.012)
Distance to nearest market, km	-0.202 (0.097)**	-0.009 (0.004)**
Presence of public transport, 1=yes, 0=otherwise	-0.029 -0.297	-0.001 (0.014)
Electricity coverage (% of household with access)	0.014 -0.011	0.001 (0.000)
LOCATION		
Areas, 1=urban, 0=rural	3.791 (0.536)***	0.245 (0.095)***
SOCIO-CULTURAL		
Religion, 1=Islam, 0=otherwise	3.685 (0.424)***	0.042 (0.019)***
Areas*Religion	-3.314 (0.675)***	-0.432 (0.182)***
OTHER FACTORS		
Drought in the last 5 years, 1=yes, 0=otherwise	0.737 (0.441)*	0.063 (0.056)*
Flood in the last 5 years, 1=yes, 0=otherwise	-0.335 -0.296	-0.013 (0.012)
Constant	-7.573 (1.191)***	
Observations	310	
Pseudo-R2	0.1692	
Percent of correctly predicted	93.87%	

Note: (***) significant at 1%, (**) significant at 5%, (*) significant at 10%
Numbers in parentheses are robust standard errors

The result suggests that economic factors that are significantly associated with BMT establishment are presence of agricultural activities (at 5% level), presence of informal saving-loan activities (at 5% level), and accessibility to market (at 5% level). The marginal effect suggests for example that having agricultural activities in the community increase the probability of having BMT establishment by 0.026. The estimated marginal effect of market distance suggest being closer to a market by 1km increase the probability of having BMT establishment by 0.009. This also indicates that BMT see the market as a business center where the supply and demand for loans are high so that BMT can make use its function as intermediary financial institution.

We cannot reject the hypothesis that infrastructure factors are not associated with BMT establishment as both infrastructure variables i.e., electricity coverage and road quality are not statistically significant despite showing correct signs (positive). This does not suggest that infrastructure quality does not play a role in the likelihood of BMT establishment as there may be other infrastructure variables that are not observed in the data.

Other factors that are statistically significant are experience with drought in the last 5 years (at 10% level), located in urban areas (at 1% level), and Islam being dominant religion (at 1% level). Experience with flooding is not associated with the likelihood of BMT establishment but drought experience is. Its marginal effect suggest that having a flooding in the last 5 years increase the probability of having BMT established by 0.063. Drought is a common natural disaster in Indonesia and it affects agricultural production. This result indicates that BMT may have play a role as a provider of financial service in the midst of hardship particularly during harvest failures in agricultural areas.

The significant and positive sign of informal saving/loan group variable indicates that the probability of BMT existence is higher in the villages such institutions or activities exist. The existence of this informal institution indicates the extent of financial cultures and activities in the community. The positive sign of the coefficient indicates that BMT and this traditional financial activities are complementary instead of substitutes.

Location, i.e., whether the villages are urban areas, are strong determinants of BMT establishment. Its marginal effect suggest that, being located in urban areas increase the probability of having BMT established by 0.245 (significant at 1% level). This is the highest marginal effect among the other dummy variables. Being located in urban areas indicate that in overall measure the villages is more developed rather than being located in rural areas. This may capture many economic factors that are associated with the level of development in the villages unaccounted for in the model specifications. This also implies that BMT has a very strong urban biased.

The Socio-cultural-demographic variables presented by religion variable showed positive and very significant in influencing to the establishment of BMT. Its marginal effect suggest that being located in a dominantly-muslim village increase the probability of having BMT established by 0.042 (significant at 1% level). This confirms that Islamic values (norms and principles) are strongly behind the establishment of BMT.

The coefficient of interaction variables (Area*Religion) is negative and strongly significant (at 1% level). The interaction variable is added to test whether the magnitude of the impact of religion (Islam dominance) is influenced by location (being in urban or rural areas). Its negative sign (and its relatively big magnitude) suggests that the positive effect of religion is

attenuated by being located in urban areas. In other words the effect of religion on the establishment of BMT is weakened if the villages are located in the city or urban areas.

5. CONCLUDING REMARKS

Indonesia is a country with the largest number of muslim population in the world and still face a big challenges in poverty reduction. As Islamic tradition is quite strong in the country, Islamic micro finance institutions have a large potential to play a greater role in the country's aspiration to poverty reduction. One of the institutions of which its establishment grows quite fast is Baitul maal wa Tamwil (BMT).

As the determinants of the establishment of Islamic Micro Finance Institutions, particularly in Indonesia, has not been extensively studied, this paper attempts to fill this gap. A probit model of BMT establishment is estimated using an Indonesian village-level data.

The result suggests that the extent of economic activities particularly in agriculture sector, and high accessibility to market are strong determinants of BMT establishment in Indonesian villages. It is also found that villages that experienced recent calamities particularly drought are more likely to have BMT established. This may indicate the role of BMT as a provider of financial service in the midst of hardship. Religion is among the strongest determinant of BMT establishment. Villages with Islam as the dominant religion is more likely of having BMT established. However, this effect is strong only in rural areas. In urban areas, this effect is weak.

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