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Unboxing the black box on the dimensions of social globalisation and the efficiency of microfinance institutions in Asia

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Keywords: *microfinance institutions; social globalisation; social efficiency; financial efficiency*

Abstract

Research background: Microfinance institutions (MFIs) play an important role in alleviating poverty. Thus, MFIs should be efficient in order to ensure that their objectives on social welfare and financial performance can be achieved by identifying the potential determinants, specifically on social globalisation.
Purpose of the article: This paper examines the impacts of the social globalisation dimensions of interpersonal, informational, and cultural globalisations on the financial and social efficiency of MFIs.
Methods: The data period covered the years 2011–2018; the data set consists of 176 MFIs from six Asian countries. The Data Envelopment Analysis (DEA) approach was employed to examine the MFIs' efficiency levels. Generalised Least Square (GLS) regressions were used to analyse the impacts of social globalisation and other determinants towards the efficiency of MFIs.
Findings and value added: Interpersonal globalisation had a significantly negative correlation with social efficiency, suggesting that increasing the number of foreigners in management intrudes on local managers' decisions. Informational globalisation had a significantly positive correlation with financial and social efficiency, which signifies that more information produces monopolistic profits in this industry. Finally, cultural globalisation had a positive correlation with social efficiency, demonstrating that a global trading culture improves the abilities and technological skills for labour development and enhances MFIs' social efficiency. In general, the Cobb Douglas Production theory explained the understanding of the impacts social globalisation has on MFI efficiency. Furthermore, the findings from this study could provide important scientific, practical gap and contribute new insights and implications to various parties. Firstly, governments or policymakers can establish effective national policies and strategies. Secondly, this study could support investors in monitoring and understanding the performance of MFIs. Finally, the research could fill scholarly gaps and uncover more potential factors that influence the efficiency of MFIs.

Introduction

The main focus of Microfinance Institutions (MFIs) is to provide financial services to people with low income (Silva & Chavez, 2015). Since the late 1970s, microfinance initiated the movement of creating economic opportunities to the poor, which was focussed in rural areas of Bangladesh before expanding to other countries around the world, with the expectation that microfinance can be served as a tool to eradicate the poverty issue in any country. MFIs provide credit in the form of small loans, insurance, or savings accounts to the poor, who face difficulties obtaining financial services from traditional financial institutions due to their lack of a stable income or collateral assets or their credit histories. Consequently, poor people can utilise the credit provided by MFIs to establish their own businesses and generate income in order to survive.

The efficiency of MFIs can be measured by how the MFIs allocate and utilise their resources, such as assets and employees, in order to produce measurable outputs — their loan portfolio and poverty outreach (Bassem, 2008). The efficiency of MFIs can be divided into two views of efficiency in order to capture the dual goals of microfinance institutions: financial

efficiency and social efficiency (Nieto *et al.*, 2009). Financial efficiency in MFIs is based on technical efficiency, in which MFIs are considered to achieve financial efficiency if they have generated larger productivity and according to their ability to generate revenue and profit from their financial activities so that they can maintain their operations. On the other hand, social efficiency indicates the ability of MFIs to manage their resources, such as assets and employees. Social efficiency is related to the welfare policy, as it evaluates the efficiency of MFIs in utilising the resources in order to bring benefits to the society, especially on the issues of poverty and involving women in economy. In its simple definition, social efficiency refers to the effectiveness of MFIs in providing loan portfolios in public outreach and helping to minimise poverty (Hussain *et al.*, 2020a).

The efficiency of MFIs could be affected by social globalisation. In general, globalisation is the increased integration of global economies through trade and capital flows, which is facilitated by the opening up of closed economies and societies as well as the progressive growth of information technology. Social globalisation is related to the spread of ideas, information, images, and people around the world (Alaeddin *et al.*, 2018; Dreher, 2006). There are three main components of the aspect of social globalisation, namely interpersonal, informational, and cultural globalisations.

Interpersonal globalisation can be defined as the communications between people around the world through daily physical interactions, telecommunications, or mail. Information globalisation refers to the spread of information and ideas globally and between formal and informal economies through newspapers, television, and internet. Cultural globalisation captures the diffusion of cultures and social norms, with the aim of reducing cultural barriers and information asymmetry between lenders and borrowers, which can reduce the transaction costs in processing MFI loans and administration costs stemming from evaluating the quality of the borrowers and conducting follow-up monitoring. Although MFIs have high growth in loan portfolios, they are facing challenges in maintaining financial viability and efficiency.

In order to gain a better understanding on the reasons for the challenges faced by MFIs in achieving optimal financial and social efficiency, this study aimed to examine the impacts of social globalisation's dimensions — interpersonal, informational, and cultural globalisations — on the financial and social efficiency of MFIs from six Asian countries: Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, and Thailand. The non-parametric Data Envelopment Analysis (DEA) approach was employed to examine the MFIs' efficiency at the first stage. Then, in the second stage, Generalised

Least Square (GLS) regressions were used to analyse the impacts of social globalisation and other determinants on the efficiency of MFIs.

This study will be able to provide novel findings specifically on interpersonal, informational, and cultural globalisation and both MFI's efficiency. To sum up, the overall results and findings of this study could provide a better understanding on MFIs' characteristic determinants, macroeconomic factors, and social globalisation measures of efficiency while delivering deeper insights into the efficiency of MFIs to various parties, such as MFIs, investors, and government policymakers.

The paper is laid out as follows: Section 2 provides reviews on the related literature, Section 3 discusses the methods and variables applied in this study, Section 4 illustrates the empirical findings and results for this research, and Section 5 concludes and discusses the implications of the study to various parties.

Literature review

Many of the prior studies have examined the efficiency of MFIs from various regions and countries to compare their financial and social efficiency and explore how the MFIs could sustain and consistently perform in their finances and provide the best quality outreach to the society (Hussain *et al*., 2020a; Khan *et al.*, 2017; Lebovics *et al*., 2016; Rauf & Mahmood, 2009; Shu & Oney, 2014; Wagner & Winkler, 2013; Widiarto & Emrouznejad, 2015; Zainal *et al*., 2019; Zainal *et al*., 2021).

Shu and Oney (2014) posited that the main objective of MFIs is to provide financial assistance to poor or lower-income people. However, at the same time they need to have stable profits to provide better services. A study by Rauf and Mahmood (2009) suggested that MFIs should shift from focussing solely on social welfare for the development of their economies to enhanced financial performance as a going concern and stability in this industry to keep providing a quality service for public outreach and to minimise poverty.

In fact, according to Widiarto and Emrouznejad (2015), in order to assure stability in supplying financial services to the poorest members of society, MFIs have to practise a dual function on alleviating poverty and improving financial performance. Their study focussed on the regions of Pacific South Asia and MENA to compare the Islamic and conventional MFIs' social and financial efficiency. The findings clearly revealed more priority on creating revenue in conventional MFIs, which leads to them having higher financial efficiency than social efficiency to ensure adequate

financial sources for facilities and welfare for the poor. In addition, the conventional MFIs performed better than the Islamic MFIs.

Research conducted by Khan *et al*. (2017) on MFIs in the developing region of north-western Pakistan were also consistent with previous findings. They found that the MFIs had shifted priority from alleviating poverty to profitability, indicating that their main concern is on financial rather than social efficiency. Another study also documented the same finding on higher financial efficiency relative to social efficiency in Vietnamese MFIs (Lebovics *et al*., 2016). Financial and social efficiencies are not mutually exclusive in view of implicit subsidies by the state and international donors, but the higher financial efficiency helps MFIs to achieve their goals related to welfare.

Focussing on financial performance rather than social welfare may be due to the uncertainty and inconsistency of subsidies in funding MFIs' business operations. Wagner and Winkler (2013) showed that MFIs are forced to produce their own income through varies and quality financial products, similar to the banking sector, for the society in general in order to generate a stable income. Thus, to ensure sustainability and consistent quality in the services they provide, MFIs have to meet two objectives: poverty reduction via social outreach and at the same time better financial strength to ensure continued business and sustainability in offering financial services to the poor.

Financial efficiency is significantly different to social efficiency in MFIs (Hussain *et al.*, 2020a). Hussain *et al.* (2020a) investigated the impact of competition freedom on the efficiency of MFIs between 2011 and 2017 in five Asian countries. The overall results suggest that financial efficiency is significantly higher than social efficiency. Furthermore, the inefficiency of both social and financial efficiency in MFIs is due to the managerial inefficiency that is measured by pure technical inefficiency, indicating that MFIs' management are not fully utilising the resources.

Zainal *et al*. (2021) reported similar findings on the financial and social efficiency of MFIs. Their study examined the impact of banking regulation and supervision on the financial and social efficiency of MFIs from southeast Asian countries. They found in general that the level of MFIs' financial efficiency was significantly higher than that of social efficiency, which indicates that the MFIs were more concerned about pursuing financial stability.

Another study by Zainal *et al*. (2019) investigated MFIs from ASEAN countries from 2011 to 2017 in terms of their financial and social efficiencies. The analysis revealed a managerial inefficiency, calculated based purely on technical efficiency, that lowered the MFIs' social efficiency.

This requires improvement from the management to enhance the overall efficiency of the social efficiency.

Most of the previous research examined the issues of financial institutions and MFIs' specific characteristics, namely size, age, profitability, and leverage to the efficiency (Abayie *et al*., 2011; Abrar & Javaid, 2016; Assefa *et al.,* 2013; Autio, 2005; Bibi *et al*., 2018; Efendic & Hadziahmetovic, 2017; Mia & Ben Soltane, 2016; Qayyum & Ahmed, 2014; Wijesiri & Meoli, 2015).

According to Qayyum and Ahmed (2014), the size of the MFIs, measured by total assets, had a significantly positive correlation with the technical and pure technical efficiency, indicating that a larger MFI can enhance the efficiency level due to synergy in the financial and management capabilities. Nevertheless, another study conducted by Bibi *et al*. (2018) suggests that size could negatively influence the MFIs' social efficiency due to shifting objectives towards commercialisation rather than solely focussing on outreach to the poor. A study by Efendic and Hadziahmetovic (2017) also revealed that smaller MFIs managed to attain quality financial and social efficiency in comparison with the large and medium-sized MFIs because the small MFIs were able to better monitor their clients' portfolios.

Abayie *et al.* (2011) and Autio (2005) discovered that there was a positive relationship between the age (measured by the duration of operation) and efficiency of MFIs because older MFIs can more easily obtain resources over a period of time and due to their experience had more efficient management tools, such as high-quality credit risk management, efficient performance on loan delivery, and handling lower-income borrowers' portfolios. In contrast, Assefa *et al.* (2013) suggested that older MFIs could be less efficient due to the lower repayment of loans by poor borrowers. Additionally, Muda *et al*. (2013) claimed that new banks are more profitable as compared to older banks, because new banks apply and adapt to new technologies.

Wijesiri and Meoli (2015) and Mia and Ben Soltane (2016) mentioned that MFIs with higher profitability measured by return on assets (ROA) are more likely to adapt to technological changes and invest more in innovations. Therefore, it can be said that MFIs that achieve greater financial and social performance will have greater growth and higher efficiency.

Abrar and Javaid (2016) concluded that there was a positive relationship between leverage (debt-to-equity ratio) and efficiency. MFIs managed to maintain liquidity when they managed their finances efficiently, being able to make repayments to their creditors and provide loan services to more borrowers. However, Mia and Ben Soltane (2016) found that MFIs which

highly rely on leverage will put themselves in a risky position, which affects their long-term sustainability.

Other studies also have investigated the impact of economic growth and inflation under macroeconomic conditions on MFIs' efficiency (Assefa *et al.*, 2013; Gaganis, 2016; Hussain *et al*., 2020a). The higher economic growth that is represented by gross domestic product (GDP) could provide a positive impact on the efficiency of the MFIs since the better economic performance may encourage MFIs to supply more financial services to society, which will boost their efficiency (Gaganis, 2016; Hussain *et al.*, 2020a). Meanwhile, Assefa *et al.* (2013) found a positive relationship between inflation and MFI efficiency, as although MFIs increase their interest rates on the services they offer, the number of borrowers is not harmed, but rather increases since the other financial institutions also increase their interest rates, but even more so.

Limited studies have examined the impact that the social globalisation dimensions — interpersonal, informational, and cultural globalisations — have on the efficiency of MFIs, since several studies focussed on the banking sector (Sufian & Habibullah, 2012a; Sufian & Kamarudin, 2016; Sufian & Habibullah, 2014; Sufian *et al.*, 2017).

Sufian and Habibullah (2012a) concluded that interpersonal globalisation has a positive influence on the efficiency of banks that operate in the Indonesian banking industry and suggested that global interaction networks have considerably lower transaction fees globally, helping to promote foreign trade and to eliminate obstacles that could impede or impact efficiency. This finding tends to support the 'limited form' of the global advantage hypothesis (Berger *et al.*, 2000). Under this hypothesis, Berger *et al.* (2000) argued that the institutions operating in one or a limited number of countries with specific favourable market or regulatory conditions in their home countries can perform their operations more efficiently than the domestic banks in other countries. Sufian and Kamarudin (2016) and Sufian *et al.* (2017) reported similar findings and revealed international tourism as one of the elements in interpersonal globalisation that can undeniably influence bank profitability through spending, given that tourists utilise banking services. In contrast, Sufian and Habibullah (2014) found that encouraging more foreign workers in the host country can interfere with local managers, since different opinions on policies may impact the bank's productivity.

Sufian *et al*. (2017) concluded that there was a positive relationship between information flows and the efficiency of the banks in Malaysia. One plausible reason could be the fact that capital account liberalisation is usually linked with the liberalisation of the financial services industry, which leads to greater competition and then erodes the monopolistic profits in this

industry. Badenhorst *et al.* (2013) agreed that information flows could positively affect the productivity of an organisation. Information sharing in complex relations is important to the functioning of business organisations. The flow of information influences the productivity and innovation of businesses, as the employees can take prompt action and plan for future activities if they receive the information in a timely manner. According to Sufian and Kamarudin (2016), there is a negative relationship between information flows and the performance of banks in South Africa. There may be an increase in skilled labour demand in both developed and developing countries due to technological advancements and financial globalisation, especially foreign direct investments. However, due to the limited access to the internet and technology in certain developing countries, the MFIs could not take advantage of all the latest technology and practices, which contributed to lower efficiency.

Furthermore, according to Sufian and Kamarudin (2016), there is a positive and significant relationship between cultural proximity and the efficiency of banks operations since the culture from other countries can minimise operational costs, e.g. if the host and home countries' languages are more less the same, the same financial products and services could be offered without involving excessive costs. The culture could also provide improvements in the technologies, such as new fintech practised could improve efficiency. However, a different culture could also create a conflict between the host and home countries in terms of transferring the knowledge, taking decisions, and controlling the workers, which may contribute to great misunderstandings and lead to inefficiency. A plausible reason could be the moral hazard problem on the part of the foreign bank's headquarters, which can result in a lack of screening and monitoring of the ability of the borrowers to repay the loans.

Therefore, this study identified the gaps from prior studies. Firstly, limited studies have been conducted that compared the MFIs' financial and social efficiency in cross Asian countries. Secondly, numerous studies have investigated the impact of MFIs' characteristics and macroeconomics on the efficiency of MFIs, but few have studied financial and social efficiency specifically. Finally, virtually none focused on the impact of social globalisation dimensions on the financial and social efficiency of MFIs, so this could be a novel issue in this study.

Methodology

Data

In this study, secondary data from a total of 176 MFIs in six selected Asian countries — Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, and Thailand — from 2011 until 2018 were collected due to the availability of the latest data from the database. There are three data sources for special determinants, macroeconomic factors, and social globalisation measures of MFIs. Firstly, the financial data from the World Bank and the Microfinance Information Exchange (MIX) market was collected to get all the data on inputs and outputs for the efficiency analysis and MFIs' characteristics (https://databank.worldbank.org/source/mix-market). The MIX market is a non-profit organisation that provides market data and information regarding the microfinance services industry. Next, in order to investigate the impacts of macroeconomics factors on the efficiency of MFIs, data was attained from the International Monetary Fund (IMF), which is an organisation that is accountable to 189 countries, cooperating to promote global monetary cooperation, facilitate global trade, boost the employment and economic growth rates, maintain financial stability, and minimise the poverty rate in the world. Lastly, the latest available information in the KOF Globalisation Index database for year 2018 was used as a measurement of the social globalisation aspect in this study (https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html). Therefore, to ensure consistency in data selection, this study focussed on data up to 2018, since the main issue of the study is to investigate the impact of social globalisation on the efficiency of MFIs.

Data Envelopment Analysis (DEA)

The non-parametric DEA approach was applied in the first stage of the analysis to investigate the efficiency of MFIs under the variable return to scale (VRS) approach. The technical efficiency (TE) scores can be divided into two components — pure technical efficiency (PTE) and scale efficiency (ScE) — by using Equation (1):

$$\begin{aligned} &\text{DEA } (x,y) = Min\ \phi_k^{VRS} | \left[\phi_k^{VRS} \geq 0\right] \\ &\text{s.t. } \sum_{k=1}^{K} \lambda_k\, y_k^m - s_m^+ = y_o^m,\ \text{m} = 1,..., \text{M} \\ &\sum_{k=1}^{K} v_k\, x_k^n + s_n^- = x_o^n,\ \text{n} = 1,..., \text{N} \\ &\sum_{k=1}^{K} v_k = 1;\quad k = 1,..., K \\ &\lambda_k v_k, s_m^+,\ s_n^- \geq 0 \end{aligned} \tag{1}$$

The vector of input is denoted as x = (x1, ..., xN) and the vector of output is denoted as y = (y1,…,yM); the VRS approach $\emptyset_k^{VRS}$ represents the PTE of the k-th decision-making unit (DMU) that develops a convex monotone hull of intersecting planes. The assumed DMU (k= 1,..,K), y_0^m and x_o^n are denoted as the DMU's output and input, respectively, while s_m^+ and s_n^- are denoted as the DMU's output and input slacks, respectively. The variables v_k and λ_k denote input and output weights, respectively.

ScE is a measurement for investigating the effect of the size of a DMU on the efficiency of the system and identifying inefficiency due to an inappropriate size of the DMU. Equation (2) exhibits the model of ScE scores of the k-th DMU:

$$\text{ScE}_k = \frac{TE}{PTE} = \frac{\phi_k^{CRS}}{\phi_k^{VRS}} \tag{2}$$

The variable ϕ_k^{CRS}represents the technical efficiency of the k-th DMU under the CRS approach. The DMU is scale-efficient (ScE) when ScE_k reaches 1, whereas the DMU is scale-inefficient (SIE) if ScE_k is less than 1.

To test the significant differences on efficiency score between financial and social efficiency, this study used the parametric t-test and non-parametric Mann–Whitney (Wilcoxon rank sum) test. To evaluate the homogeneity of variance in MFIs' financial and social efficiency by testing the equal variance hypothesis, the one-way ANOVA with the Welch test was applied. The additional non-parametric Mann–Whitney test was used to ensure consistency since the DEA also represent as the non-parametric frontier analysis approach and to obtained robust results.

Inputs, outputs, approaches, and the choice of variables

According to Sealey and Lindley (1977), the production approach and intermediation approach are the two main methods that are widely found in the MFI theory literature. However, in this study the intermediation approach is used to measure the financial and social efficiency of MFIs, similar to numerous prior studies (Hussain *et al.*, 2020a; Kamarudin *et al.*, 2014; Saw *et al.*, 2020; Sufian & Kamarudin, 2014a). Under the intermediation approach, Chu and Lim (1998) indicated that MFIs are treated as the intermediaries between the savers and the borrowers, which provide loans especially to the poor community, in order to achieve profit or for non-profit purposes. Therefore, the inputs and outputs were selected based on prior research to examine the financial and social efficiencies (Kamarudin *et al*., 2017; Kamarudin *et al*., 2013). The inputs used for the financial and social efficiencies are the same: x_1 represents the assets (total assets available to an MFI from capital or borrowings); x_2 is the operating expenses (all operating expenses); and x_3 is the personnel (salaries of the staffs). Meanwhile, the outputs used are different for the two efficiencies: for financial efficiency, y_{f1} represents the financial revenue (total revenue from gross loan portfolio, including profit margin for loans), while for social efficiency, y_{s1} is the average loan balance (average loan balance per borrower over gross national income per capita) and y_{s2} is the number of borrowers (number of actual borrowers).

Multiple regression analysis

The DEA approach was applied in the first stage analysis to investigate the efficiency of 176 MFIs from all countries during the study period, 2011–2018. Then, in the second stage of analysis, the Pooled Ordinary Least Square (POLS) estimation method was used to examine the impacts of MFIs' specific characteristic determinants, macroeconomic factors, and social globalisation measures on the financial efficiency and social efficiency of the MFIs under study (Banker & Natarajan, 2008; Banker *et al.*, 2010; Kamarudin *et al*., 2016; Sufian & Kamarudin, 2014b). However, prior to regression analysis, Pearson's correlation coefficient was determined to test for multicollinearity issues among the dependent variables. The regression models were estimated by applying White transformation (McDonald, 2009; White, 1980). The White test is a robust statistical test that is sensitive to heteroscedasticity, in which it shows a constant variance for any error variables. Meanwhile, for the robustness test, the Breusch and Pagan Lagrangian Multiplier (BPLM) test was applied in order to deter-

mine the appropriate estimation model to be used — either POLS or panel Generalized Least Square (GLS). In addition, a subsequent test, the Hausman test, was conducted to select the most appropriate estimation method, either a fixed effect model (FEM) or a random effect model (REM), in the case that the panel GLS model was indicated by the previous test (Al-Mamoorey & Al-Rubaye, 2020; Delawi & Ramo, 2020; Fayed & Ezzat, 2020; Gomez-Piqueras *et al.*, 2020; Gumus *et al.*, 2020; Hussain *et al.*, 2020a; Hussain *et al.*, 2020b; Hussain *et al.*, 2019; Mohsin *et al.*, 2020; Sell, 2020; Villena-Serrano *et al.*, 2020). Therefore, by setting the financial and social efficiency scores as the dependent variables, the baseline regression model can be estimated as below:

$$\begin{aligned}\text{Effeciency}_{i,t} = {} & \beta_0 + \beta_1 lnTA_{ti} + \beta_2 lnAge_{ti} + \beta_3 lnROA_{ti} \\ & + \beta_4 lnDTE_{it} + \beta_5 lnGDP_t + \beta_6 lnCPI_t \\ & + \beta_7 lnIPG_t + \beta_8 lnING_t + \beta_9 lnGUG_t + \varepsilon_{ti}\end{aligned} \tag{3}$$

From Equation 3 above, Efficiency stands for the financial and social efficiency scores derived from the DEA method. The MFIs' characteristics is a vector of their specific determinants, consisting of the size of the MFIs as measured by total assets (lnTA), the age of the MFIs as measured by the duration of operations (lnAge), the profitability of the MFIs as measured by return on assets (lnROA), and leverage as measured by the debt-to-equity ratio (lnDTE). Macroeconomics is a set of macroeconomic variables comprising economic growth as measured by gross domestic product (lnGDP) and inflation rate as measured by the consumer price index (lnCPI). Social globalisation measures is a set of KOF Globalisation Index data that includes interpersonal globalisation (lnIPG), informational globalisation (lnING), and cultural globalisation (lnGUG). The subscript $_i$ represents the individual MFIs, while t indicates the time period and ε is the random term.

Results and discussion

In order to avoid issues from the multicollinearity problem, Pearson's correlation coefficient was determined to ensure that the estimation results were valid. The multicollinearity problem in a regression model is considered critical if the pair-wise or zero-order correlation coefficient between two regressions exceeds 0.8. Table 1 shows that the absolute values of the Pearson correlation coefficients were relatively low and less than 0.8. This indicates that the majority of the proposed determinants' variables do not

indicate multicollinearity problems for any of the proposed models. Therefore, the analysis could be conducted on the selected variables.

Social and financial efficiencies of MFIs

Prior to testing the differences in the means of the MFIs' financial and social efficiency under the parametric *t*-test, the homogeneity of variances hypothesis was tested for the MFIs' financial and social efficiency by using one-way ANOVA and the Welch test (Table 2). Generally, based on the results, for most of the countries in each year (Panels A–F) the null hypothesis was rejected since the Welch's values were significant, apart from Thailand. However, according to Panel G (all countries in each year), the results showed that all the Welch's values were significant at a 1% level (reject the null hypothesis), indicating that all the values of the *t*-test will base on the equal variances not assumed.

Tables 3a to 3d display the univariate test for TE, PTE, and ScE on the MFIs' financial and social efficiencies. The test shows the differences in the mean scores of the MFIs in terms of financial efficiency (FE) and social efficiency (SE). Next, a series of robustness checks were performed, including the parametric *t*-test and non-parametric Mann–Whitney test. The analysis provided general results on all countries and years. Furthermore, this analysis also provided specific results for each year from 2011 to 2018 as well as each country.

The majority of the results reveal that all the TE, PTE, and ScE scores in financial efficiency were higher than social efficiency based on the mean different value. However, the observations in Tables 3c and 3d for Myanmar show that the PTE scores in social efficiency from 2011 to 2018 (except 2015) were higher than those for financial efficiency. Furthermore, in the ScE results, only Thailand in the years 2011, 2012, 2013, 2016, and 2017 had significantly higher social efficiency than financial efficiency. However, all the results from Myanmar and Thailand were statistically insignificant based on the parametric and non-parametric tests.

To be specific, TE represents the overall or managerial efficiency, PTE is purely managerial efficiency, and ScE is size efficiency for the financial and social efficiency of the MFIs. Therefore, this study focussed on TE as the main efficiency for both financial and social efficiency. Overall, the majority of the findings revealed that the TE scores in financial efficiency were significantly higher than for social efficiency in each year and each country, as measured by the significant mean difference. The results are also consistent with those from 'all countries in all years' in Table 3b, which indicates that the financial efficiency was higher than social efficien-

cy (mean difference: 0.52). Both the parametric *t*-test and non-parametric Mann–Whitney test results exhibited a mean difference between financial and social efficiency that was statistically significantly different at the level of 1%. Therefore, the results suggest that the three factors contribute to higher MFI financial efficiency rather than social efficiency, in all the countries over the study period. Firstly, the MFIs should shift from focussing solely on social welfare in order to develop their economics towards enhancing their financial performance as a going concern and stabilising the industry in order to keep providing a quality service to society and to minimise poverty. Secondly, the MFIs should be more financial efficient in order to ensure adequate financial sources for facilities and welfare for the poor. Finally, the uncertainty and inconsistency of the subsidies that fund MFIs' business operations forced them to produce their own income through varies and quality financial product, similar to the banking sector in general to generate a stable income. The results are also supported by several studies, such as one conducted by Widiarto and Emrouznejad (2015), which asserted that the MFIs' financial efficiency was higher than social efficiency due to the higher revenue generated to ensure their capabilities of reducing poverty and improving financial performance. Lebovics *et al*. (2016) also suggested that the MFIs managed to achieve their main objective of public outreach and welfare of society by targeting higher financial efficiency. In addition, a study by Hussain *et al.* (2020a) was consistent with the findings on the financial and social efficiency in MFIs. They reported that financial efficiency was significantly higher than social efficiency based on a sample of MFIs from five Asian countries.

Determinants of efficiency level in MFIs

A total of seven models regarding the MFIs' financial efficiency and social efficiency from all countries (Model 1), Cambodia (Model 2), Indonesia (Model 3), Malaysia (Model 4), Myanmar (Model 5), the Philippines (Model 6), and Thailand (Model 7) during the study period were constructed and analysed; they are presented in Tables 4 and 5. The regression estimation models were built as a baseline regression model that merely consists of variables representing MFIs' characteristic determinants, namely their size (lnTA), the total time in operation (lnAGE), their profitability as measured by the return on assets (lnROA), and the leverage level as measured by the debt-to-equity ratio (lnDTE). Next, macroeconomic variables — economic growth as measured by gross domestic product (lnGDP) and the inflation rate as measured by the consumer price index (lnCPI) — were added. For the following regression analysis, social globalisation measures,

namely interpersonal globalisation (lnIPG), informational globalisation (lnING), and cultural globalisation (lnCUG), were included in the models.

At the preliminary stage, all seven models for both financial and social efficiency indicated that the BPLM χ^2 was significant at the level of 1%. Hence, panel data GLS was more appropriate for all models in both financial and social efficiency of the MFIs, rather than the POLS model. Next, the Hausman test was conducted to determine the most suitable GLS estimation methods to apply to each model under regression analysis. Kamarudin *et al.* (2016) stated that the Hausman test can be carried out to determine the suitability of applying FEM and REM, under the condition that FEM is more appropriate in a model that has significant levels, whereas REM is more appropriate to apply in models that are insignificant. Therefore, FEM was applied to all models for both financial efficiency and social efficiency regression analysis, as all of the models returned significant Hausman χ^2 values at a level of 1%.

Based on Tables 4a and 5b (Model 1), the size of the MFIs (lnTA) is insignificant to both the MFIs' financial and social efficiency under the all countries analysed, though there were different findings for specific countries. In Tables 4a and 5a (Model 2), lnTA was significantly positive and negatively influenced the Cambodian MFIs' financial and social efficiencies. Meanwhile, for Indonesia, Malaysia, the Philippines, and Thailand, the MFIs' size had a negative relationship with social efficiency (Table 5a [Models 2–4] and Table 5b [Models 6–7]). The positive relationship define as the bigger MFIs size may have enhanced the financial efficiency in the Cambodian MFIs due to the synergy between the financial and management capabilities. However, the negative relationship with social efficiency indicates that large MFIs have difficulties monitoring the clients' portfolios and have less social efficiency due to shifting objectives towards commercialisation rather than solely focussing on public outreach. The positive and negative findings are consistent with studies conducted by Bibi *et al.* (2018), Efendic and Hadziahmetovic (2017), and Qayyum and Ahmed (2014).

Additionally, the total time in operation of the MFIs (lnAGE) demonstrated a significant negative correlation with the financial efficiency of the MFIs in all countries and in each specific country, as shown in Table 4a (Models 1–7). However, only Malaysia and Thailand indicated that lnAGE was negatively significant with social efficiency (Table 5a [Model 4] and Table 5b [Model 7]). This result implies that the older (younger) the MFIs are, the less (more) efficient. One explanation is that new or young MFIs adapt to new technologies and make an effort to discover new processes to eradicate problems, and this continuous learning process results in a reduc-

tion of labour and time lost to current problems, whereas older firms tend to experience obsolescence due to their inability to adapt to a changing business environment and senescence occurs because of their rigid regulations, routines, and structures.

Moreover, a significant positive relationship exists between the profitability of MFIs (lnROA) and the social efficiency of MFIs in all countries together and in all specific countries (except Indonesia) (Table 5a [Models 1, 2, and 4] and Table 5b [Models 5–7]). The higher (lower) the profitability of MFIs, the higher (lower) the social efficiency of MFIs. Thus, MFIs with a higher ROA are more likely to adapt to technological changes and invest more in innovations, as ROA positively associates with the progress in productivity and innovation over a period of time. Therefore, MFIs that achieve greater financial performance from profitability are able to increase their productivity and provide quality financial services to poor people, as also suggested by Wijesiri and Meoli (2015).

Tables 5a (Models 2–4) and 5b (Model 7) show that the coefficient of lnDTE (proxy of financial leverage) negatively influenced only social efficiency in all specific countries, except Myanmar and the Philippines. This indicates that the MFIs managed to maintain liquidity when they managed their finances efficiently, as they were able to make repayments to their creditors and to provide loan services to more borrowers.

Furthermore, there was a significant positive relationship between economic growth (lnGDP) and both the financial and social efficiency of MFIs in all countries together and all specific countries (Tables 4 and 5 [all models]), except financial efficiency in Cambodia. These results demonstrate that the higher (lower) the economic growth, the higher (lower) the financial efficiency and social efficiency of MFIs. Higher economic growth, represented by GDP, can provide a positive impact to the efficiency of the MFIs since the better economic performance may encourage the MFIs to supply more financial services to society, which will boost the MFIs' efficiency (Gaganis, 2016; Hussain *et al*., 2020a).

With regards to the impact of inflation (lnCPI) on efficiency, Tables 4a and 5a (Model 1) show that the coefficient of lnCPI had a positive relationship with both financial and social efficiency in the results for all countries. In the analysis of specific countries, the Philippines also displayed similar findings on financial efficiency (Table 4b [Model 6]), while Myanmar and the Philippines illustrated that inflation had a positive impact on social efficiency (Table 5b [Models 5–6]). The positive relationship between inflation and MFIs' efficiency explain assert a positive relationship between inflation and MFIs' efficiency because although MFIs may raise their interest rates on the services they offer, the number of borrowers is not affected —

it may even increase — since the other financial institutions also increase their interest rates even higher. This finding is consistent with a study conducted by Assefa *et al.* (2013).

Unboxing the black box: do social globalisation dimensions foster efficiency in MFIs?

Tables 4a (Models 2 and 4) and Table 4b (Models 5 and 6) exhibit the significant positive relationship found between interpersonal globalisation (lnIPG) and financial efficiency in specific countries — Cambodia, Malaysia, Myanmar and the Philippines — but an insignificant one in all countries analysed together. However, interpersonal globalisation in Thailand was significantly negatively correlated with financial efficiency (Table 4b [Model 7]). Meanwhile, social efficiency and lnIPG displayed a positive relationship in the MFIs in Cambodia and Malaysia (Table 5a [Models 2 and 4]). Nevertheless, the lnIPG coefficient was significantly negatively correlated with social efficiency in all countries and in Indonesia, Myanmar, the Philippines, and Thailand (Table 5a [Model 1] and Table 5b [Models 3, 4, 6, and 7]).

Interpersonal globalisation can be defined as the communications between people around the world through daily physical interactions, telecommunications, or mail. The positive relationship between lnIPG and MFIs' efficiency indicates that global interaction networks have considerably lower transaction fees globally, helping to promote foreign trade and to eliminate obstacles that could impede or impact efficiency. These findings support the 'limited form' of the global advantage hypothesis, which argues that institutions which operate in one or a limited number of countries with specific favourable market or regulatory conditions in their home countries can perform their operations more efficiently than the domestic MFIs in other countries. International tourism is one of the elements in interpersonal globalisation which can undeniably influence MFIs' profitability through spending, given the fact that tourists utilise MFIs' services. The results are in line with studies conducted by Berger *et al*. (2000), Sufian and Habibullah (2012a), Sufian and Kamarudin (2016), and Sufian *et al.* (2017). Nevertheless, the negative relationship between lnIPG and MFI efficiency suggests that by encouraging more foreign workers in the host country may interfere with local managers because of the different opinions on policies, which may impact the bank's productivity. The inconsistency and disparities between the host and home country on the interpersonal level among top management can constitute challenges to the MFIs, since each country has different behaviours, and if there is inadequate tolerance there could be

difficulties in achieving their objectives of improving their finances and helping the society. Therefore, the over foreigners in management may intrude on local managers' decisions. The finding is also consistent with Sufian and Habibullah (2014).

The results show that informational globalisation (lnING) significantly positively correlates with financial efficiency in all countries together (Table 4a, Model 1) and the specific countries of Indonesia and Thailand (Table 4b, Models 1 and 7). A similar finding was also revealed for social efficiency in all countries (Table 5a, Model 1) and Indonesia (Table 5a, Model 3), Myanmar, the Philippines, and Thailand (Tables 5b, Models 5–7). However, informational globalisation also had a negative impact on financial and social efficiency in Malaysian MFIs (Tables 4a and 5a, Model 4). The other two countries also had the lnING coefficient with negative sign with the financial efficiency in Myanmar and the Philippines (Table 4b, Models 5 and 6). The negative sign also revealed in Cambodian MFIs' social efficiency (Table 5a, Model 2).

Informational globalisation refers to the spread of information and ideas globally and between formal and informal economies through newspapers, television, and the internet. The positive relationship between lnING and the MFIs' efficiency could be due to the fact that capital account liberalisation is usually linked with the liberalisation of the financial services industry, which leads to greater competition and then erodes the monopolistic profits in this industry. Furthermore, information sharing in complex relations is important to the functioning of business organisations. The flow of information influences the productivity and innovation of businesses, as the employees are able to take prompt action and plan for future activities if they receive information in a timely manner. Studies by Sufian *et al.* (2017) and Badenhorst *et al*. (2013) reported similar findings. However, there is the possibility that there is a negative relationship between informational globalisation and the financial and social efficiencies of MFIs. There may be an increase in skilled labour demand in both developed and developing countries due to technological advancements and financial globalisation, especially foreign direct investment. However, due to limited access to the internet and technology in certain developing countries, an MFI might not take advantage of all the latest technology, which can contribute to lower efficiency. The negative impact of informational globalisation on efficiency also similar to the findings of Sufian and Kamarudin (2016).

The regression results revealed that cultural globalisation (lnCUG) insignificantly influenced financial efficiency in the analysis of all countries together. However, the results in specific countries revealed a significantly positive correlation between lnGUC and financial efficiency in specific

countries — Indonesia (Table 4a, Model 3) and the Philippines (Table 4b, Model 6) — but a negative on in Malaysia (Table 4a, Model 4) and Myanmar (Table 4b, Model 5). Furthermore, cultural globalisation had a positive relationship with social efficiency in all countries analysed together (Table 5a, Model 1) and similar a finding in Myanmar (Table 5b, Model 5). Nevertheless, a negative impact was found in this relationship in specific countries: Indonesia (Table 5a, Model 3) and the Philippines (Table 5b, Model 6).

In fact, cultural globalisation captures the diffusion of cultures and social norms, with the aim of reducing cultural barriers and information asymmetry between lenders and borrowers, which can reduce the transaction costs in processing MFI loans and administration costs in evaluating the quality of borrowers and in follow-up monitoring. Therefore, the significant positive relationship between cultural globalisation and the efficiency of MFIs operations can be explained when the culture from other countries minimises the operational costs (e.g. the language in Malaysia and Indonesia are more less the same, therefore the same financial product and services could be offered by MFIs operating in these countries without incurring excessive costs). Additionally, the culture could also provide improvement in technologies such as new fintech practised could improve the efficiency. Therefore, a global trading culture can improve the abilities and technological skills for the development of labour and enhancing the MFI's efficiency. However, the different cultures can also create conflict or a negative impact between the host and home countries in transferring knowledge, taking decisions, and controlling the workers, which may contribute to misunderstandings and lead to inefficiency. A plausible reason could be the moral hazard problem on the part of the foreign banks' headquarters, which may result in a lack of screening and monitoring of the borrowers' ability to make repayment to the banks.

Conclusions

The main objective of this paper was to investigate the impacts of dimensions of social globalisation, namely interpersonal, information, and cultural globalisation, on the efficiency of MFIs from the financial and social aspects. This study also determined the potential specific determinants and macroeconomic factors of MFIs that may influence their efficiency. In this study, data on a total of 176 MFIs from Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, and Thailand from 2011 to 2018 were collected for the purpose of the research.

Overall, the majority of the findings revealed that MFIs' financial efficiency was significantly higher than their social efficiency in each year and in each country. The results are also consistent with the results in terms of 'all countries and all years' and were confirmed by the parametric *t*-test and non-parametric Mann–Whitney test. Therefore, the first stage of analysis suggests that there are three factors which contribute to higher financial efficiency rather than social efficiency in MFIs in all the countries under study during the study period. Firstly, the MFIs should shift from focussing solely on social welfare for the development of their economies towards enhancing their financial performance as a going concern and stabilising this industry to continue providing a quality public outreach service and to minimise poverty. Secondly, the MFIs should be more financially efficient to ensure adequate financial sources to serve the poor peoples' facilities and welfare. Finally, the uncertainty and inconsistency of the subsidies which fund MFIs' business operations it forces them to produce their own stable income through varies and quality financial products, similar to the banking sector in general.

Likewise, the results from the second stage of analysis under the GLS, FEM estimation method revealed the MFIs' specific characteristic and the macroeconomic determinants of their efficiency. Based on the analysis of all countries together, the factor of age (lnAGE) negatively significantly influenced the MFIs' financial efficiency, while profitability (lnROA) had a positive relationship with the MFIs' social efficiency. The macroeconomic factors positively significantly influenced economic growth (lnGDP) and inflation (lnCPI) in both types of MFI efficiency in all countries investigated together. However, different findings were identified from the analysis of specific countries.

Therefore, the overall view on the impact of social globalisation on MFI efficiency is based on the results of the analysis of all countries taken together since the analysis from specific countries varied. The findings show that the interpersonal globalisation variable (lnIPG) significantly negatively correlated only with social efficiency, but insignificantly with financial efficiency in all countries together. This indicates that encouraging more foreign workers in the host country may interfere with local managers, given that different opinions on policies may impact the bank's productivity. The inconsistency and disparities between the host and home country on the interpersonal level among top management can constitute a challenge to the MFIs since each country has different behaviours, and if there is inadequate tolerance, there could be difficulties in achieving their objectives of improving their finances and providing public outreach. Therefore, the over foreigners in management may intrude on local managers' decisions.

The results demonstrate that informational globalisation (lnING) significantly positively correlated with financial and social efficiency in the analysis of all countries together. The positive relationship between lnING and MFI efficiency could be due to the fact that capital account liberalisation is usually linked with the liberalisation of the financial services industry, which leads to greater competition and then erodes the monopolistic profits in this industry. Furthermore, information sharing in complex relations is important to the functioning of business organisations. The flow of information influences the productivity and innovation of businesses, as employees are able to take prompt action and plan for future activities if they receive information in a timely manner.

The results for cultural globalisation (lnCUG) show that this dimension significantly positively correlates with the MFIs' financial efficiency, but not with their social efficiency in the analysis of all countries together. Therefore, the positive, significant relationship between cultural globalisation and the efficiency of MFIs operations can be explained when the culture from other countries minimises the operational costs (e.g. the language in Malaysia and Indonesia are more less the same, therefore the same financial products and services could be offered by the MFIs operating in these countries without incurring excessive costs). Additionally, the culture could also provide improvements in the technologies such as new fintech practised could improve the efficiency. Thus, global trading culture can improve the abilities and technological skills in the development of labour and can enhance the efficiency of MFIs.

Therefore, based on the information obtained from the study, proper and prompt actions could be implemented in order to achieve good results for MFIs in terms of financial and social efficiency. Firstly, governments or policymakers can establish effective national policies and strategies, making reference to the results and findings of this study. Effective policies and strategies could definitely aid MFIs in growing their business and providing financial aid or granting loans to the poor. Secondly, this study could aid investors in monitoring and better understanding the performance of MFIs in terms of financial and social efficiency. The performance of MFIs is relatively vital to investors in making the economic or investment decisions, as failing to make the right decision could lead to losses for investors. Finally, researchers who are interested in conducting related research in the financial industry could refer to the findings of this study and improve or extend this study by adopting the suggestions and eradicating the limitations of this study.

There are several limitations in this study which could be highlighted. Firstly, the selection of inputs and outputs under non-parametric DEA is

still an arbitrary issue, which could generate various findings on the financial and social efficiency indices. Secondly, the sample of this research was limited to 176 MFIs from six selected Asian countries (Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, and Thailand) and to a limited time frame of 2011 to 2018. Finally, the study period was restricted to the year 2018 because of the availability of data on social globalisation provided in the KOF Globalisation Index database.

Again, all of these limitations could be addressed or improved upon in future research. Other non-parametric or parametric frontier efficiency analysis approaches could be applied rather than DEA, such as a free disposal hull (FDH) approach, while the parametric approach consisting of three approaches — stochastic frontier (SFA), distribution free (DFA), and thick frontier approach (TFA) — with variations in the inputs and outputs selected. The sample could also include more MFIs from other countries or regions, such as South-east Asia and South Asia to generate a broader picture of MFIs' performance. Finally, future research may extend this study with the latest data on social globalisation once the KOF Globalisation Index database is updated.

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Annex

Table 1. Correlation matrix for the explanatory variables

	lnTA	lnAGE	lnROA	lnDTE	lnGDP	lnCPI	lnIPG	lnING	lnCUG
lnTA	1.000	0.144[a]	0.547[a]	-0.061[b]	-0.457[a]	-0.130[a]	0.096[a]	-0.225[a]	0.218[a]
lnAGE		1.000	-0.112[a]	0.232[a]	0.248[a]	-0.138[a]	0.252[a]	0.069[a]	-0.104[a]
lnROA			1.000	-0.239[a]	-0.636[a]	-0.219[a]	0.057[b]	-0.490[a]	0.458[a]
lnDTE				1.000	0.137[a]	-0.104[a]	0.578[a]	0.601[a]	-0.598[a]
lnGDP					1.000	0.039	-0.087[a]	0.112[a]	-0.158[a]
lnCPI						1.000	-0.352[a]	-0.051	-0.056[b]
lnIPG							1.000	0.580[a]	-0.256[a]
lnING								1.000	-0.219[a]
lnCUG									1.000

Note: The table presents the results from Pearson correlation. [a] and [b] indicate significance at 1% and 5%, respectively.

Table 2. Welch test for homogeneity of variances on MFIs' Financial and Social Efficiency

Efficiency	Year								
	2011	2012	2013	2014	2015	2016	2017	2018	All years
Panel A: Cambodia									
TE	433.87[a]	123.00[a]	244.75[a]	477.38[a]	964.85[a]	532.83[a]	685.46[a]	588.29[a]	2429.15[a]
PTE	76.85[a]	51.78[a]	83.35[a]	115.22[a]	191.46[a]	279.06[a]	378.58[a]	169.10[a]	852.93[a]
SE	28.72[a]	10.75[a]	16.11[a]	35.32[a]	63.92[a]	13.19[a]	15.53[a]	28.27[a]	149.12[a]
Panel B: Indonesia									
TE	488.84[a]	487.48[a]	384.03[a]	635.19[a]	856.98[a]	426.70[a]	440.41[a]	586.66[a]	3487.39[a]
PTE	272.10[a]	265.93[a]	211.31[a]	283.43[a]	374.01[a]	213.43[a]	232.68[a]	288.92[a]	1800.29[a]
SE	83.27[a]	80.28[a]	63.82[a]	117.10[a]	1406.68[a]	70.41[a]	75.06[a]	177.22[a]	639.92[a]
Panel C: Malaysia									
TE	28.541	126.09[b]	46.34[c]	65.60[c]	140.55[b]	516.90[a]	47.50[c]	1487.17[b]	420.97[a]
PTE	5.436	5.21	9.74	11.28[c]	3.83	10.69	16.69[c]	14.07[c]	53.33[a]
SE	4.578	0.01	0.55	1.04	1.70	1.36	2.21	1.21	11.63[a]
Panel D: Myanmar									
TE	3.76[c]	3.55[c]	3.13	1.44	121.91[a]	3.47[c]	2.72	5.84[b]	30.95[a]
PTE	0.50	0.14	0.09	0.03	11.37[b]	1.30	0.37	0.01	0.01
SE	28.48[a]	20.42[a]	10.86[a]	5.44[b]	25.37[a]	25.74[b]	15.06[a]	31.04[a]	113.77[a]
Panel E: the Philippines									
TE	443.97[a]	403.05[a]	271.58[a]	552.78[a]	1646.52[a]	297.63[a]	312.48[a]	516.69[a]	2828.50[a]
PTE	149.67[a]	171.40[a]	158.99[a]	180.09[a]	416.21[a]	165.06[a]	161.05[a]	215.51[a]	1280.34[a]
SE	221.62[a]	94.44[a]	84.11[a]	268.65[a]	707.32[a]	71.04[a]	93.18[a]	278.60[a]	825.56[a]
Panel F: Thailand									
TE	0.03	0.109	0.327	0.001	0.048	0.322	0.259	0.031	0.244
PTE	0.03	0.018	0.012	0.006	0.011	0.011	0.018	0.053	0.444
nSE	0.28	0.308	0.90	0.08	0.03	0.785	0.825	0.017	0.083
Panel G: All countries									
TE	852.79[a]	756.59[a]	582.70[a]	965.39[a]	2289.53[a]	661.17[a]	674.95[a]	988.31[a]	5673.45[a]
PTE	352.56[a]	376.74[a]	344.31[a]	414.92[a]	855.96[a]	360.77[a]	387.35[a]	483.28[a]	2868.36[a]
SE	310.69[a]	164.26[a]	145.97[a]	361.62[a]	1483.44[a]	143.01[a]	164.40[a]	422.41[a]	1576.30[a]

Note: [a], [b], and [c] indicate significance at 1%, 5%, and 10%, respectively.

Table 3a. Univariate test on technical, pure technical, and scale efficiency of MFIs financial and social efficiency

Countries	Efficiency	2011		2012		2013		2014		2015	
		Test a	Test b	Test a	Test b	Test a	Test b	Test a	Test b	Test a	Test b
All Countries	TE	-29.20 [a]	-15.21 [a]	-27.51 [a]	-14.95 [a]	-24.14	-14.58	-31.07 [a]	-15.39 [a]	-47.85 [a]	-16.19 [a]
		(0.52)		*(0.51)*		*(0.46)*		*(0.53)*		*(0.65)*	
	PTE	-18.78 [a]	-12.88 [a]	-19.41 [a]	-13.06 [a]	-18.56	-12.93	-20.37 [a]	-13.45 [a]	-29.26 [a]	-14.75 [a]
		(0.45)		*(0.46)*		*(0.43)*		*(0.47)*		*(0.62)*	
	SE	-17.63 [a]	-13.98 [a]	-12.82 [a]	-11.51 [a]	-12.08	-10.27	-19.02 [a]	-13.42 [a]	-38.52 [a]	-15.69 [a]
		(0.31)		*(0.27)*		*(0.25)*		*(0.39)*		*(0.72)*	
Cambodia	TE	-20.83 [a]	-5.27 [a]	-11.09 [a]	-4.72 [a]	-15.64 [a]	-5.24 [a]	-21.85 [a]	-5.27 [a]	-31.06 [a]	-5.33 [a]
		(0.51)		*(0.51)*		*(0.49)*		*(0.55)*		*(0.61)*	
	PTE	-8.77 [a]	-4.77 [a]	-7.20 [a]	-4.47 [a]	-9.13 [a]	-4.95 [a]	-10.73 [a]	-5.15 [a]	-13.84 [a]	-5.27 [a]
		(0.46)		*(0.49)*		*(0.51)*		*(0.57)*		*(0.68)*	
	SE	-5.36 [a]	-3.99 [a]	-3.28 [a]	-2.98 [a]	-4.01 [a]	-2.93 [a]	-5.94 [a]	-4.07 [a]	-7.99 [a]	-4.54 [a]
		(0.37)		*(0.29)*		*(0.31)*		*(0.45)*		*(0.59)*	
Indonesia	TE	-22.11 [a]	-8.90 [a]	-22.08 [a]	-8.90 [a]	-19.60 [a]	-8.83 [a]	-25.20 [a]	-9.05 [a]	-29.27 [a]	-9.01 [a]
		(0.65)		*(0.65)*		*(0.60)*		*(0.67)*		*(0.75)*	
	PTE	-16.50 [a]	-8.09 [a]	-16.31 [a]	-8.22 [a]	-14.54 [a]	-7.93 [a]	-16.84 [a]	-8.28 [a]	-19.34 [a]	-8.34 [a]
		(0.61)		*(0.61)*		*(0.56)*		*(0.63)*		*(0.71)*	
	SE	-9.13 [a]	-7.85 [a]	-8.96 [a]	-7.09 [a]	-7.99 [a]	-6.32 [a]	-10.82 [a]	-7.56 [a]	-37.51 [a]	-8.99 [a]
		(0.29)		*(0.33)*		*(0.29)*		*(0.38)*		*(0.82)*	
Malaysia	TE	-5.34 [b]	-1.55	-3.68 [a]	-2.00 [c]	-4.74 [a]	-2.17 [a]	-7.07 [a]	-2.17 [a]	-10.68 [a]	-3.77 [a]
		(0.25)		*(0.39)*		*(0.45)*		*(0.40)*		*(0.48)*	
	PTE	-2.33	-1.55	-2.56 [b]	-2.00 [c]	-3.38 [a]	-2.17 [a]	-2.23 [b]	-1.78 [c]	-3.37 [a]	-2.93 [a]
		(0.23)		*(0.46)*		*(0.43)*		*(0.40)*		*(0.35)*	
	SE	-2.14	-1.55	-1.23	-1.00	-3.12 [a]	-1.78 [c]	-2.22 [b]	-1.58	-4.20 [a]	-3.19 [a]
		(0.40)		*(0.30)*		*(0.44)*		*(0.41)*		*(0.54)*	

Note: 1) Figures in parentheses ( ) indicate that financial efficiency is higher than social efficiency mean. 2) Test a = parametric *t*-test; Test b = non-parametric Mann–Whitney [Wilcoxon rank sum] test. 3) Figures in italics indicate mean differences between financial and social efficiencies. 4) a, b, and c indicate significance at 1%, 5%, and 10%, respectively.

Table 3b. Continued

Countries	Efficiency	2016		2017		2018		All Years	
		Test a	Test b	Test a	Test b	Test a	Test b	Test a	Test b
All Countries	TE	-25.71 [a]	-14.74 [a]	-25.98 [a]	-14.76 [a]	-31.44 [a]	-15.42 [a]	-75.32 [a]	-39.97 [a]
		(0.50)		*(0.50)*		*(0.52)*		*(0.52)*	
	PTE	-18.99 [a]	-12.72 [a]	-19.68 [a]	-13.03 [a]	-21.98 [a]	-13.80 [a]	-53.56 [a]	-35.12 [a]
		(0.46)		*(0.46)*		*(0.48)*		*(0.48)*	
	SE	-11.96 [a]	-10.40 [a]	-12.82 [a]	-10.88 [a]	-20.55 [a]	-14.92 [a]	-39.70 [a]	-32.53 [a]
		(0.25)		*(0.26)*		*(0.35)*		*(0.35)*	
Cambodia	TE	-23.08 [a]	-5.27 [a]	-26.18 [a]	-5.27 [a]	-24.25 [a]	-5.27 [a]	-49.29 [a]	-13.89 [a]
		(0.57)		*(0.56)*		*(0.54)*		*(0.54)*	
	PTE	-16.71 [a]	-5.27 [a]	-19.46 [a]	-5.27 [a]	-13.00 [a]	-5.24 [a]	-29.20 [a]	-13.52 [a]
		(0.64)		*(0.64)*		*(0.57)*		*(0.57)*	
	SE	-3.63 [a]	-2.54 [a]	-3.94 [a]	-2.85 [a]	-5.32 [a]	-4.04 [a]	-12.21 [a]	-8.92 [a]
		(0.30)		*(0.32)*		*(0.37)*		*(0.37)*	
Indonesia	TE	-20.66 [a]	-8.83 [a]	-20.99 [a]	-8.85 [a]	-24.22 [a]	-9.00 [a]	-59.05 [a]	-23.65 [a]
		(0.63)		*(0.64)*		*(0.65)*		*(0.65)*	
	PTE	-14.61 [a]	-7.84 [a]	-15.25 [a]	-8.02 [a]	-17.00 [a]	-8.37 [a]	-42.43 [a]	-21.52 [a]
		(0.58)		*(0.59)*		*(0.61)*		*(0.61)*	
	SE	-8.39 [a]	-6.59 [a]	-8.66 [a]	-6.71 [a]	-13.31 [a]	-8.77 [a]	-25.30 [a]	-19.51 [a]
		(0.30)		*(0.31)*		*(0.39)*		*(0.39)*	
Malaysia	TE	-10.78 [a]	-2.17 [b]	-10.09 [a]	-2.17 [b]	-10.37 [a]	-2.18 [b]	-13.14 [a]	-5.04 [a]
		(0.49)		*(0.46)*		*(0.46)*		*(0.40)*	
	PTE	-3.71 [a]	-2.18 [b]	-3.41 [a]	-2.17 [b]	-3.76 [a]	-2.17 [b]	-7.96 [a]	-5.04 [a]
		(0.44)		*(0.40)*		*(0.42)*		*(0.42)*	
	SE	-1.91	-2.16 [b]	-2.36	-2.17 [b]	-1.85	-2.17 [b]	-4.70 [a]	-3.99 [a]
		(0.45)		*(0.50)*		*(0.47)*		*(0.38)*	

Note: 1) Figures in parentheses ( ) indicate that financial efficiency is higher than social efficiency mean. 2) Test a = parametric *t*-test; Test b = non-parametric Mann–Whitney [Wilcoxon rank sum] test. 3) Figures in italics indicate mean differences between financial and social efficiencies. 4) a, b, and c indicate significance at 1%, 5%, and 10%, respectively.

Table 3c. Continued

Countries	Efficiency	2011		2012		2013		2014		2015	
		Test a	Test b	Test a	Test b	Test a	Test b	Test a	Test b	Test a	Test b
Myanmar	TE	-1.94[c]	-2.60[a]	-1.88[c]	-2.52[a]	-1.19	-2.08[a]	-1.2	-1.28	-11.04[a]	-3.59[a]
		(0.19)		*(0.18)*		*(0.11)*		*(0.14)*		*(0.52)*	
	PTE	0.71	-1.02	0.37	-0.22	0.83	-0.84	0.17	-0.18	-3.37[a]	-2.78[a]
		0.07		*0.04*		*0.08*		*0.02*		*(0.38)*	
	SE	-5.34[a]	-3.14[a]	-4.52[a]	-2.79[a]	-3.90[a]	-2.69[a]	-2.33[a]	-1.94[b]	-5.04[a]	-3.18[a]
		(0.41)		*(0.35)*		*(0.30)*		*(0.28)*		*(0.63)*	
The Philippines	TE	-21.07[a]	-10.81[a]	-20.08[a]	-10.65[a]	-16.48[a]	-10.23[a]	-23.51[a]	-11.00[a]	-40.58[a]	-11.56[a]
		(0.49)		*(0.47)*		*(0.41)*		*(0.49)*		*(0.62)*	
	PTE	-12.23[a]	-9.06[a]	-13.09[a]	-9.38[a]	-12.61[a]	-9.20[a]	-13.42[a]	-9.43[a]	-20.40[a]	-10.24[a]
		(0.40)		*(0.41)*		*(0.38)*		*(0.41)*		*(0.59)*	
	SE	-14.89[a]	-10.50[a]	-9.72[a]	-8.58[a]	-9.17[a]	-7.74[a]	-16.39[a]	-10.33[a]	-26.60[a]	-11.16[a]
		(0.32)		*(0.24)*		*(0.21)*		*(0.40)*		*(0.68)*	
Thailand	TE	0.17	0.05	-1.19	-1.70	-0.18	-0.47	-1.14	-1.29	-3.3	-2.31[b]
		(0.05)		*(0.18)*		*(0.04)*		*(0.18)*		*(0.40)*	
	PTE	-0.18	-0.08	-1.73	-1.53	-1.14	-1.41	-1.26	-1.50	-2.48[b]	-1.83[c]
		(0.08)		*(0.37)*		*(0.26)*		*(0.25)*		*(0.31)*	
	SE	0.53	0.18	0.75	0.01	0.55	-0.47	-0.72	-0.22	-4.35[a]	-2.19[b]
		0.18		*0.12*		*0.18*		*(0.12)*		*(0.80)*	

Note: 1) Figures in parentheses ( ) indicate that financial efficiency is higher than social efficiency mean. 2) Test a = parametric *t*-test; Test b = non-parametric Mann–Whitney [Wilcoxon rank sum] test. 3) Figures in italics indicate mean differences between financial and social efficiencies. 4) a, b, and c indicate significance at 1%, 5%, and 10%, respectively.

Table 3d. Continued

Countries	Efficiency	2016		2017		2018		All Years	
		Test a	Test b	Test a	Test b	Test a	Test b	Test a	Test b
Myanmar	TE	-1.86 [c]	-2.39 [b]	-1.65	-2.34 [b]	-2.42 [b]	-2.52 [b]	-5.33 [a]	-6.19 [a]
		(0.18)		*(0.16)*		*(0.21)*		*(0.21)*	
	PTE	1.14	-1.37	0.61	-0.71	0.02	-0.04	0.06 [a]	-0.47 [a]
		0.12		*0.06*		*0.01*		*0.01*	
	SE	-5.07 [a]	-2.83	-3.88 [a]	-2.79 [a]	-5.57 [a]	-3.31 [a]	-10.29 [a]	-6.99 [a]
		(0.39)		*(0.32)*		*(0.39)*		*(0.38)*	
The Philippines	TE	-17.25 [a]	-10.31 [a]	-17.68 [a]	-10.32 [a]	-22.73 [a]	-10.86 [a]	-53.18 [a]	-28.24 [a]
		(0.44)		*(0.44)*		*(0.48)*		*(0.48)*	
	PTE	-12.85 [a]	-9.13 [a]	-12.69 [a]	-9.12 [a]	-14.68 [a]	-9.66 [a]	-35.78 [a]	-24.83 [a]
		(0.40)		*(0.39)*		*(0.43)*		*(0.43)*	
	SE	-8.43 [a]	-8.05 [a]	-9.65 [a]	-8.32 [a]	-16.69 [a]	-11.04 [a]	-28.73 [a]	-24.22 [a]
		(0.20)		*(0.22)*		*(0.33)*		*(0.33)*	
Thailand	TE	-0.97	-1.55	-0.99	-1.48	-1.66	-1.83 [c]	0.49	-0.64
		(0.18)		*(0.19)*		*(0.23)*		*(0.05)*	
	PTE	-2.10 [c]	-1.83 [c]	-1.96 [c]	-1.83 [c]	-2.26 [b]	-1.97 [b]	-0.67	-0.65
		(0.42)		*(0.40)*		*(0.39)*		*(0.08)*	
	SE	0.51	0.01	0.7	0.01	-0.15	-0.42	0.29	-0.87
		0.16		*0.12*		*(0.04)*		*0.03*	

Note: 1) Figures in parentheses ( ) indicate that financial efficiency is higher than social efficiency mean. 2) Test a = parametric *t*-test; Test b = non-parametric Mann–Whitney [Wilcoxon rank sum] test. 3) Figures in italics indicate mean differences between financial and social efficiencies. 4) a, b, and c indicate significance at 1%, 5%, and 10%, respectively.

Table 4a. Regression results on the financial efficiency of MFIs in all countries and in specific countries

Variable	All Countries			Specific Country								
	Model 1 (Overall)			Model 2 (Cambodia)			Model 3 (Indonesia)			Model 4 (Malaysia)		
	POLS	FEM	REM	POLS	FEM	REM	POLS	FEM	REM	POLS	FEM	REM
C	-2.471[a]	-0.874[a]	-1.873[a]	-0.939a	-1.227[c]	-0.968[a]	-0.263[a]	-3.357[a]	-0.693[b]	-0.339	-0.467[a]	-1.506[a]
	(0.656)	*(0.123)*	*(0.666)*	*(0.091)*	*(0.691)*	*(0.279)*	*(0.089)*	*(1.164)*	*(0.284)*	*(0.331)*	*(0.149)*	*(0.479)*
MFIs' specific determinants												
lnTA	0.016[a]	0.007	0.020[b]	0.009[a]	0.047[c]	0.010	0.016[a]	0.052	0.022[b]	0.018[a]	0.006	0.019[b]
	(0.005)	*(0.005)*	*(0.009)*	*(0.001)*	*(0.025)*	*(0.010)*	*(0.004)*	*(0.044)*	*(0.009)*	*(0.003)*	*(0.005)*	*(0.010)*
lnAGE	-0.034[b]	-0.083[a]	-0.045	-0.014[a]	-0.275[a]	-0.025	-0.039[a]	-0.229[b]	-0.054	-0.008	-0.076[a]	-0.019
	(0.017)	*(0.018)*	*(0.032)*	*(0.002)*	*(0.085)*	*(0.033)*	*(0.011)*	*(0.107)*	*(0.035)*	*(0.013)*	*(0.016)*	*(0.034)*
lnROA	-0.083[a]	0.086	-0.029	0.010	0.064	-0.022	-0.125[a]	0.057	-0.099[c]	-0.022	0.093	0.021
	(0.029)	*(0.120)*	*(0.049)*	*(0.013)*	*(0.394)*	*(0.045)*	*(0.010)*	*(0.402)*	*(0.059)*	*(0.023)*	*(0.110)*	*(0.048)*
lnDTE	-0.144[a]	0.001	-0.060[b]	0.102[a]	-0.007	0.072[a]	-0.032[a]	-0.007	-0.007	-0.006	0.002	-0.014
	(0.017)	*(0.005)*	*(0.023)*	*(0.006)*	*(0.018)*	*(0.023)*	*(0.009)*	*(0.016)*	*(0.019)*	*(0.011)*	*(0.004)*	*(0.023)*
Macroeconomic factors												
lnGDP	0.069[a]	0.072[a]	0.066[b]	0.017[c]	0.152	0.040	0.014[a]	0.188[b]	0.048[c]	-0.019	0.075[a]	0.131[b]
	(0.015)	*(0.014)*	*(0.026)*	*(0.009)*	*(0.095)*	*(0.027)*	*(0.004)*	*(0.093)*	*(0.027)*	*(0.043)*	*(0.015)*	*(0.061)*
lnCPI	0.003	0.001[c]	0.002	-0.002	0.004	-0.001	-0.001	0.005	0.001	-0.002	0.001	0.000
	(0.009)	*(0.001)*	*(0.006)*	*(0.006)*	*(0.003)*	*(0.006)*	*(0.001)*	*(0.004)*	*(0.006)*	*(0.002)*	*(0.001)*	*(0.006)*
Social globalisation												
lnIPG	0.393[a]	0.001	0.227[a]	-0.368[a]	0.877[c]	0.477	-0.274[b]	-0.171	-0.385	3.658[a]	4.241[a]	2.251
	(0.060)	*(0.011)*	*(0.075)*	*(0.107)*	*(0.479)*	*(0.376)*	*(0.114)*	*(0.700)*	*(0.981)*	*(0.579)*	*(0.473)*	*(3.286)*
lnING	-0.460[a]	0.032[a]	-0.237[c]	0.143	-0.584	-0.305	0.309[b]	0.815[b]	0.536	-9.539[a]	-10.149[a]	-7.265
	(0.161)	*(0.010)*	*(0.139)*	*(0.187)*	*(0.436)*	*(0.640)*	*(0.124)*	*(0.379)*	*(0.986)*	*(0.542)*	*(0.701)*	*(8.603)*
lnCUG	0.651[a]	-0.003	0.326[b]	0.359[c]	-0.540	-0.037	-0.113[a]	0.450[b]	-0.255	6.033a	-0.408	5.300
	(0.122)	*(0.015)*	*(0.138)*	*(0.204)*	*(0.442)*	*(0.687)*	*(0.034)*	*(0.174)*	*(0.213)*	*(0.408)*	*(1.654)*	*(6.032)*
BPLM χ^2		1208.960[a]			1306.020[a]			1542.360[a]			1547.560[a]	
Hausman χ^2		44.579[a]			31.762[a]			43.615[a]			31.996[a]	
R^2	0.130	0.592	0.023	0.545	0.633	0.026	0.604	0.633	0.011	0.106	0.594	0.007
Adj. R^2	0.125	0.590	0.017	0.542	0.577	0.020	0.602	0.577	0.004	0.100	0.593	0.001
F-statistic	23.258[a]	78.442[a]	3.692[a]	18.918[a]	11.447[a]	4.227[a]	63.299[a]	11.449[a]	1.706[a]	18.361[a]	18.023[a]	1.125[a]

Note: a, b, and c indicate significance at 1%, 5%, and 10%, respectively. Figures in parentheses and italics ( ) are Standard Errors.

Table 4b. Continued

Variable	Specific Country								
	Model 5 (Myanmar)			Model 6 (the Philippines)			Model 7 (Thailand)		
	POLS	FEM	REM	POLS	FEM	REM	POLS	FEM	REM
C	-0.269[a]	-0.710[a]	-0.767[a]	-0.230	-0.978[a]	-0.704[b]	-0.612[a]	-0.799[a]	-0.983[a]
	(0.101)	*(0.118)*	*(0.266)*	*(0.274)*	*(0.169)*	*(0.294)*	*(0.121)*	*(0.149)*	*(0.233)*
MFIs' specific determinants									
lnTA	0.014[a]	0.007	0.019[b]	0.015	0.006	0.023[b]	0.013[a]	0.006	0.021[a]
	(0.003)	*(0.005)*	*(0.009)*	*(0.011)*	*(0.005)*	*(0.010)*	*(0.003)*	*(0.005)*	*(0.004)*
lnAGE	-0.011	-0.076[a]	-0.029	-0.033	-0.045[a]	-0.048	-0.009	-0.077[a]	-0.025
	(0.010)	*(0.015)*	*(0.032)*	*(0.036)*	*(0.012)*	*(0.035)*	*(0.009)*	*(0.014)*	*(0.025)*
lnROA	-0.003	0.088	0.031	-0.109[a]	0.077	-0.063	-0.014	0.092	0.014
	(0.010)	*(0.112)*	*(0.045)*	*(0.040)*	*(0.102)*	*(0.055)*	*(0.015)*	*(0.126)*	*(0.035)*
lnDTE	-0.048[a]	0.002	-0.036[c]	-0.042[c]	0.001	-0.024	0.002	0.002	0.007
	(0.004)	*(0.004)*	*(0.019)*	*(0.022)*	*(0.004)*	*(0.023)*	*(0.012)*	*(0.005)*	*(0.029)*
Macroeconomic factors									
lnGDP	0.002	0.076[a]	0.056[b]	0.003	0.043[a]	0.039	0.023[b]	0.077[a]	0.054[c]
	(0.011)	*(0.014)*	*(0.026)*	*(0.015)*	*(0.012)*	*(0.028)*	*(0.011)*	*(0.014)*	*(0.031)*
lnCPI	0.000	0.001	0.002	-0.019[b]	0.001[b]	0.001	-0.028[b]	0.001	-0.001
	(0.001)	*(0.001)*	*(0.006)*	*(0.009)*	*(0.001)*	*(0.006)*	*(0.013)*	*(0.001)*	*(0.003)*
Social globalisation									
lnIPG	0.199[a]	0.201[a]	0.099	0.382	0.102[c]	-0.136	-0.305	-0.406[a]	-0.719[b]
	(0.034)	*(0.031)*	*(0.151)*	*(0.289)*	*(0.059)*	*(0.684)*	*(0.222)*	*(0.105)*	*(0.287)*
lnING	-0.654[a]	-0.526[a]	-0.354	-0.109[c]	-0.021[c]	0.017	0.456[b]	0.562[a]	0.771[a]
	(0.172)	*(0.079)*	*(0.465)*	*(0.057)*	*(0.013)*	*(0.231)*	*(0.206)*	*(0.081)*	*(0.270)*
lnCUG	0.451[b]	-0.096	0.165	-0.242	0.105[c]	0.143	-0.127[a]	-0.030	-0.050
	(0.186)	*(0.140)*	*(0.448)*	*(0.241)*	*(0.063)*	*(0.585)*	*(0.032)*	*(0.042)*	*(0.048)*
BPLM χ^2		1265.100[a]			1541.090[a]			1536.830[a]	
Hausman χ^2		19.442[a]			44.258[a]			29.328[a]	
R^2	0.592	0.594	0.036	0.027	0.593	0.008	0.021	0.593	0.007
Adj. R^2	0.590	0.593	0.030	0.020	0.592	0.002	0.015	0.592	0.000
F-statistic	25.569[a]	14.585[a]	5.805[a]	4.258[a]	6.520[a]	1.262[a]	3.371[a]	15.717[a]	1.069[a]

Note: a, b, and c indicate significance at 1%, 5%, and 10%, respectively. Figures in parentheses and italics ( ) are Standard Errors.

Table 5a. Regression results on the social efficiency of MFIs in all countries and in specific countries

Variable	All Countries			Specific Country								
	Model 1 (all countries)			Model 2 (Cambodia)			Model 3 (Indonesia)			Model 4 (Malaysia)		
	POLS	FEM	REM	POLS	FEM	REM	POLS	FEM	REM	POLS	FEM	REM
C	6.196[a]	-16.900[a]	-9.366[a]	-3.479[a]	-5.427[a]	-4.058	0.172	23.931[a]	-2.130	2.794	-7.133[a]	-8.357
	(2.051)	*(2.536)*	*(2.003)*	*(0.611)*	*(0.699)*	*(3.177)*	*(0.452)*	*(2.345)*	*(1.469)*	*(2.880)*	*(0.580)*	*(6.494)*
MFIs' specific determinants												
lnTA	-0.057[a]	-0.014	-0.029	-0.105[a]	-0.113[b]	-0.058[a]	-0.049[a]	-0.081[b]	-0.014	-0.066[a]	-0.084[c]	-0.037[a]
	(0.015)	*(0.067)*	*(0.027)*	*(0.011)*	*(0.053)*	*(0.018)*	*(0.015)*	*(0.037)*	*(0.034)*	*(0.008)*	*(0.050)*	*(0.013)*
lnAGE	-0.143[a]	-0.076	0.040	-0.016[c]	0.165	0.007	-0.204[a]	0.675[b]	-0.211b	-0.010	0.552[b]	0.061
	(0.052)	*(0.337)*	*(0.097)*	*(0.008)*	*(0.171)*	*(0.103)*	*(0.050)*	*(0.293)*	*(0.100)*	*(0.038)*	*(0.228)*	*(0.120)*
lnROA	-0.081	1.690[c]	0.911[a]	0.943[a]	1.355[a]	0.624	-0.341[a]	0.723	-0.146	0.332	1.297[a]	0.812
	(0.092)	*(0.965)*	*(0.148)*	*(0.137)*	*(0.492)*	*(0.423)*	*(0.087)*	*(0.529)*	*(0.242)*	*(0.204)*	*(0.417)*	*(0.597)*
lnDTE	-0.108[b]	-0.007	-0.153[b]	0.344[a]	0.042[b]	0.203	-0.077[b]	0.058[b]	-0.031	0.182[a]	0.056[a]	-0.074
	(0.053)	*(0.113)*	*(0.070)*	*(0.092)*	*(0.021)*	*(0.357)*	*(0.030)*	*(0.029)*	*(0.048)*	*(0.068)*	*(0.017)*	*(0.081)*
Macroeconomic factors												
lnGDP	0.145[a]	1.551[a]	0.442[a]	0.247[a]	0.573[a]	0.311[b]	0.117[a]	0.581[a]	0.301[c]	-0.472	0.584[a]	0.921
	(0.046)	*(0.234)*	*(0.079)*	*(0.039)*	*(0.090)*	*(0.157)*	*(0.040)*	*(0.054)*	*(0.168)*	*(0.339)*	*(0.078)*	*(0.693)*
lnCPI	-0.026	0.055[b]	0.020	-0.008[a]	0.002	0.013	-0.034	0.001	0.003	-0.132[a]	0.002	0.021
	(0.028)	*(0.019)*	*(0.019)*	*(0.001)*	*(0.002)*	*(0.019)*	*(0.027)*	*(0.001)*	*(0.014)*	*(0.022)*	*(0.002)*	*(0.016)*
Social globalisation												
lnIPG	2.207[a]	-1.969[a]	-0.340	2.770[a]	1.873[a]	2.667[b]	-32.679[a]	-21.212[a]	-31.456[a]	16.973[a]	4.647[a]	9.587[b]
	(0.188)	*(0.286)*	*(0.224)*	*(0.430)*	*(0.339)*	*(1.211)*	*(4.256)*	*(1.487)*	*(2.610)*	*(4.502)*	*(1.567)*	*(3.820)*
lnING	-3.276[a]	0.906[c]	-0.651	-2.086[a]	-1.853[a]	-3.037[a]	32.620[a]	11.436[a]	31.448[a]	-39.127[a]	-7.697[a]	-16.004
	(0.505)	*(0.497)*	*(0.418)*	*(0.383)*	*(0.411)*	*(0.821)*	*(4.276)*	*(0.820)*	*(2.517)*	*(8.982)*	*(3.344)*	*(10.898)*
lnCUG	-0.354	1.694[a]	2.309[a]	-0.246	-0.055	0.902	-5.199[a]	-16.630[a]	-5.054[a]	22.020[a]	0.411	7.654
	(0.383)	*(0.627)*	*(0.414)*	*(0.575)*	*(0.680)*	*(1.458)*	*(0.925)*	*(1.131)*	*(0.357)*	*(5.814)*	*(2.873)*	*(7.698)*
BPLM χ^2		956.550[a]			1360.710[a]			1295.500[a]			1334.250[a]	
Hausman χ^2		162.521[a]			101.543[a]			115.542[a]			105.519[a]	
R^2	0.173	0.675	0.044	0.273	0.994	0.037	0.230	0.573	0.126	0.076	0.595	0.032
Adj. R^2	0.168	0.626	0.038	0.269	0.994	0.031	0.225	0.569	0.120	0.070	0.594	0.026
F-statistic	32.564[a]	13.812[a]	7.142[a]	58.446[a]	1192.168[a]	6.043[a]	46.432[a]	23.801[a]	22.410[a]	12.768[a]	12.109[a]	5.126[a]

Note: a, b, and c indicate significance at 1%, 5%, and 10%, respectively. Figures in parentheses and italics ( ) are Standard Errors.

Table 5b. Continued

Variable	Specific Country								
	Model 5 (Myanmar)			Model 6 (the Philippines)			Model 7 (Thailand)		
	POLS	FEM	REM	POLS	FEM	REM	POLS	FEM	REM
C	-1.602[a]	-16.150[a]	-4.218[a]	0.868[a]	-4.587[a]	-2.430[a]	-2.215[a]	-7.369[a]	-4.409
	(0.461)	*(2.221)*	*(0.775)*	*(0.210)*	*(1.019)*	*(0.858)*	*(0.778)*	*(0.591)*	*(2.698)*
MFIs' specific determinants									
lnTA	-0.067[a]	-0.013	-0.034	-0.044[a]	-0.094[a]	-0.011	-0.057[a]	-0.087[c]	-0.027[c]
	(0.015)	*(0.100)*	*(0.027)*	*(0.006)*	*(0.034)*	*(0.028)*	*(0.006)*	*(0.048)*	*(0.014)*
lnAGE	0.031	-0.23	0.005	-0.161[a]	0.515	-0.146	0.038	0.630[a]	0.024
	(0.051)	*(0.313)*	*(0.095)*	*(0.028)*	*(0.324)*	*(0.100)*	*(0.034)*	*(0.216)*	*(0.097)*
lnROA	0.532[a]	1.488[b]	0.758[a]	-0.208[a]	1.398[a]	0.193	0.564[a]	1.305[a]	0.745
	(0.073)	*(0.714)*	*(0.131)*	*(0.031)*	*(0.521)*	*(0.160)*	*(0.159)*	*(0.418)*	*(0.500)*
lnDTE	-0.053	-0.013	-0.004	-0.306[a]	0.052	-0.152[b]	0.057	0.056[a]	0.079
	(0.033)	*(0.076)*	*(0.056)*	*(0.021)*	*(0.039)*	*(0.067)*	*(0.063)*	*(0.017)*	*(0.177)*
Macroeconomic factors									
lnGDP	0.167[a]	1.504[a]	0.391[a]	-0.008	0.908[a]	0.243[a]	0.163[a]	0.569[a]	0.349[b]
	(0.043)	*(0.292)*	*(0.077)*	*(0.021)*	*(0.114)*	*(0.081)*	*(0.032)*	*(0.078)*	*(0.155)*
lnCPI	-0.095[a]	0.051[a]	0.024	-0.034	0.005[a]	0.027	-0.117[a]	0.002	0.017
	(0.027)	*(0.014)*	*(0.017)*	*(0.026)*	*(0.002)*	*(0.020)*	*(0.023)*	*(0.002)*	*(0.020)*
Social globalisation									
lnIPG	0.833	-5.527[a]	0.836[b]	2.465[b]	-2.358[a]	0.440	0.346	-1.390[b]	-1.602[b]
	(0.692)	*(0.381)*	*(0.423)*	*(1.081)*	*(0.421)*	*(2.104)*	*(0.229)*	*(0.700)*	*(0.748)*
lnING	-9.718[a]	8.260[a]	-9.706[a]	-0.378[b]	0.52[4a]	0.028	0.418[a]	1.447[a]	1.892[a]
	(2.139)	*(1.021)*	*(1.307)*	*(0.182)*	*(0.090)*	*(0.711)*	*(0.154)*	*(0.478)*	*(0.595)*
lnCUG	10.813[a]	14.284[a]	10.812[a]	-1.851[b]	-0.758[a]	-0.300	-0.438[a]	-0.111	-0.060
	(2.063)	*(0.586)*	*(1.259)*	*(0.938)*	*(0.230)*	*(1.798)*	*(0.074)*	*(0.142)*	*(0.152)*
BPLM χ^2		1511.750[a]			1264.770[a]			1388.080[a]	
Hausman χ^2		118.887[a]			109.313[a]			105.760[a]	
R^2	0.136	0.719	0.108	0.151	0.596	0.041	0.092	0.595	0.031
Adj. R^2	0.130	0.676	0.102	0.145	0.595	0.034	0.086	0.594	0.025
F-statistic	24.417[a]	16.972[a]	18.762[a]	27.573[a]	16.174[a]	6.559[a]	15.674[a]	17.711[a]	4.973[a]

Note: a, b, and c indicate significance at 1%, 5%, and 10%, respectively. Figures in parentheses and italics ( ) are Standard Errors.