Does Islamic banking social function matter towards bank commercial performance?

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Introduction

Background

As an Islamic financial institution, Islamic banks must of course be guided by sharia principles. Sharia principles emphasize that economic actors always uphold legal ethics and morals in economic activities. The realization of the sharia concept, basically the Islamic economic / banking system has three basic characteristics, namely (a) the principle of justice, (b) avoiding prohibited activities, and (c) paying attention to aspects of expediency (Ali 2008). The principle of benefit (maslahah) makes Islamic banks not only as institutions that pursue corporate profits alone (commercial / profit-oriented), but also must meet the benefits for many parties (social-benefit oriented). On this basis, in Law No. 21 of 2008 concerning Sharia Banking, it is also stated that Islamic banks are not only obliged to carry out the function of collecting and distributing public funds, but also can carry out social functions in the form of baitul mal institutions, namely receiving funds derived from zakat, infaq, alms, waqf, grants, or other social funds and distributing them to those in need in order to achieve benefits.

Apart from the role of the social function of Islamic banks which has great potential in supporting the national economy and improving the welfare of the public in general, the implementation of its own social functions by Islamic banks is still not optimal. For example, the social function in receiving funds derived from ZISWAF or other social funds which are then distributed through LAZ or *nazir*. The potential for this social fund is very large, including zakat of IDR 234 trillion per year (BAZNAS, 2021) and cash *waqf* of IDR 180 trillion (Ministry of Religion, 2021). However, the realization is still small compared to its potential, namely zakat of IDR 71.4 trillion (BAZNAS, 2021) and the total cash waqf collected and placed in banks (sharia) is only IDR 328 billion, while project-based waqf reaches IDR 597 billion (BWI, 2021). The distribution of financing in *qard* contracts by Islamic banks is also still very low. As of November 2021, the portion of qard financing was only IDR 11.6 trillion (5.74%) compared to the total financing of Islamic banks' receivables of IDR 201.8 trillion.

Kuncorowati, Achsani, & Hafidhuddin (2018) found in the *waqf* risk management of Dompet Dhuafa (one of *waqf* organizer), a total of 47 risks were identified in the management of land and building waqf. These risks consist of 16 risks in the *waqf* collection process, 17 risks in the *waqf* management process and 13 risks in the *waqf* benefit distribution process. In another study done by Nazir & Ryandono (2019), all national *amil* zakat institutions that have been studied have carried out operational risk management processes. At the risk identification stage of the national *amil* zakat institution, there are 14 identified risks. At the stage of measuring and evaluating the risk of Yatim Mandiri having the greatest likelihood and impact of operational risks of system failures and internal process failures, Yayasan Dana Sosial Al-Falah (YDSF) has the greatest likelihood and impact of operational risks of outside threats and failures in managing humans.

Another fundamental difference lies in the core function of Islamic banks. As stated in Law No. 21 of 2008 concerning Sharia Banking, the function of Islamic banks, both full-pledged (in Bahasa is called Bank Umum Syariah or BUS) and business unit (in Bahasa is called Unit Usaha Syariah or UUS) is not only obliged to accomplish the function of collecting and distributing public funds, but also can carry out social functions in the form of *baitul maal* institutions whose activities include receiving funds derived from zakat, *infaq*, almsgiving, grants (Zakat-*Infaq-Sadaqa-Waqf* or ZISWAF), or other social funds and distributing them to zakat management organizations (in Bahasa is called Lembaga Amil Zakat or LAZ). BUS and UUS can also collect social funds of cash *waqf* and distribute them to *waqf*

managers (nazhir) in accordance with the will of the *waqf* giver (wakif). The implementation of social functions as referred to must be in accordance with the provisions of laws and regulations.

Sharia banking is regulated based on Law No. 21 of 2008 which is defined as a matter related to full-fledged sharia commercial banks and sharia business units and covers institutions, business activities and processes in carrying out their business activities. Meanwhile, Islamic banks are banks that carry out business activities based on Islamic law principles or sharia principles. The sharia principle in question is the rule of agreement based on Islamic law (Al Quran and Al Hadith) between banks and other parties covering macro and micro values. Macro values consist of the values of justice, *maslahah*, zakat, free from interest (usury), free from non-productive speculative activities such as gambling (maysir), free from unclear and dubious things (gharar), free from damaged or unauthorized things (bathil), and money as a medium of exchange. Micro-values consist of *siddiq* (honesty), *tablig* (socialization), *amanah* (trust), and *fatonah* (professionalism) (Ascarya 2007).

Based on its business activities, Islamic banking is divided into three types, namely Sharia Commercial Banks (BUS), Sharia Business Units (UUS) and Sharia People's Credit Banks (BPRS). According to Law No. 21 of 2008, Sharia Commercial Banks are Islamic banks that in their activities provide services in payment traffic and in their business activities, which are based on sharia principles. Sharia Business Unit is a work unit of a Conventional Commercial Bank that carries out business activities based on sharia principles. Islamic Rural Bank is a Sharia bank that in its activities does not provide services in payment traffic.

Based on Law No. 21 of 2008 concerning Sharia Banking, Islamic banks and UUS are obliged to carry out the function of collecting and distributing public funds. Islamic banks can collect public funds in the form of 1) deposits in the form of current accounts, savings, or other forms that are equated with it based on *wadi'ah* contracts or other contracts that do not conflict with sharia principles; 2) investments in the form of deposits, savings, or other forms that are equated with it based on *mudaraba* contracts or other contracts that do not conflict with Sharia principles. Meanwhile, in terms of disbursement of public funds, Islamic banks distribute 1) profit-sharing financing based on *mudaraba* contracts, *musharaka* contracts, or other contracts that do not conflict with sharia principles; 2) financing based on *murabaha* contracts, *salam* contracts, *istisna* contracts, or other contracts that do not conflict with sharia principles; 3) financing based on *qard* contracts or other contracts that do not conflict with sharia principles; 4) financing for the rental of movable or immovable goods to customers based on ijara contracts and/or purchase leases in the form of *ijara muntahiya bittamlik* or other contracts that do not conflict with sharia principles.

Islamic banks can also 1) carry out debt takeovers based on *hawalah* contracts or other contracts that do not conflict with sharia principles; 2) conducting debit card and/or financing card business based on sharia principles; 3) buying, selling, or guaranteeing at your own risk third party securities issued on the basis of real transactions based on sharia principles, among others, such as *ijara, musharaka, mudaraba, murabaha, kafalah*, or *hawalah* contracts; 4) purchase securities based on sharia principles issued by the government and/or Bank Indonesia; 5) accept payments from bills on securities and make calculations with third parties or between third parties based on sharia principles; 6) conducting custody for the benefit of other parties based on an agreement based on sharia principles; 7) provide a place to store goods and securities based on sharia principles; 8) moving money, both for their own interests and for the benefit of customers based on sharia principles; 9) function as a trustee under the *wakalah* contract; 10) provide letter of credit or bank guarantee facilities based on sharia principles; and 11) carry out other activities that are commonly carried out in the banking sector and in the social field as long as they do not conflict with sharia principles and are in accordance with the provisions of laws and regulations.

In addition, based on the same law, Islamic banks can also carry out social functions in the form of *baitul maal* institutions, namely receiving funds derived from zakat, *infaq*, almsgiving, grants, or other social funds and distributing them to zakat management organizations. Sharia banks and UUS can collect social funds derived from *waqf* money and distribute them to *waqf* managers (nazir) in accordance with the will of the *waqf* donor (wakif).

Several previous studies have used and built several indicators to measure the implementation of social functions and social performance of Islamic banks. Part from this research includes Fitrijanti & Alamanda (2013); Hameed *et al.* (2004) and Mukhibad, Nurkhin, & Khafid (2016) use the performance of zakat and *qard hasan* funds as indicators of the social performance of Islamic banks. In addition, Falikhatun, Assegaff & Hasim (2016); Sa'ad & Ibrahim (2015) shows that *qard hasan* financing is social financing that can be used as an indicator of social performance. According to Karim (2007), *qard* is a contract for lending money, while *qard hasan* is essentially almsgiving, because this contract does not require repayment of additional amount apart from principal amount.

Islamic banks in carrying out their social functions can contribute significantly in supporting the national economy and improving people's welfare. Through the distribution of *qard* and *qard hasan*, for example, Islamic banks can help MSMEs that have always experienced limitations in terms of capital and the ability to repay loans. The distribution of *qard hasan* funds in the form of productive policy funds can be one of the solutions offered from the Islamic banking sector. Through ZISWAF distribution, Islamic banks can help the poor and poor to open up economic access and improve their welfare. The social function is expected to improve the image and loyalty of the public to Islamic banks (Antonio 2001). The fulfilment of social functions can also be beneficial for Islamic banks themselves as stated in the QS. Al-Baqarah verse 245 Allah also says as follows.

"Whoever wants to lend a loan to Allah, a good loan (to provide for his property on the way of Allah), then Allah multiplies the payment to him by multiples of a lot. And Allah narrowed and expanded (sustenance) and to him ye were returned."

Therefore, this study aims to determine the effect of the performance of social functions on the performance of commercial functions of Islamic banks in Indonesia from the perspective of risk management and profitability. Hoping that by knowing the effect can spur Islamic banks in Indonesia to fulfil their social function obligations more optimally. In addition, this study also seeks to build an index that can be used as a performance measurement tool for the social functions of Islamic banks in Indonesia.

Objectives

Does the implementation of the social functions of Islamic banks affect the commercial performance of Islamic banks? Does the implementation of social functions affect the risk profile of Islamic banks?

Literature Review

Theory of social function in Islamic Banking

The Islamic banking system is different from the conventional banking system. The difference lies in that Islamic banking is not only required to generate profits but is also required to realize sharia values in every business operation. Therefore, Islamic banks have two important functions, namely commercial functions and social functions (Setiawan, 2009).

Antonio (2001), apart from having a function as investment managers and providers of financial services, Islamic banks also have social services. The concept of Islamic banking requires that Islamic banks carry out social services, through charity funds (*qardh*), zakat or social funds in accordance with Islamic principles. According to *Rivai et al.* (2010), Islamic banks through their products have two main roles, namely as business entities (tamwil) and social agencies (maal). Islamic banks as business entities (tamwil), play the following roles: (1) Investment managers, Islamic banks act as managers of investment funds from fund owners (shahibul maal) and channel them to productive distribution so as to generate profits that will be shared between Islamic banks and fund owners. Collection of funds by Islamic banks is carried out on the principles of *wadiah yad dhamanah* (entrusted), *mudharabah* (profit sharing), and ijarah (leasing); (2) Investors, funds will be managed through productive sectors and do not violate sharia provisions; (3) Providers of financial services, banking financial services are carried out on the principle of wakalah (giving), kafalah (bank guarantee), hiwalah (transfer of debt), etc. Islamic banks as social bodies (maal), are Islamic banks functioning as managers of social funds for collection and distribution of zakat, infaq, alms and endowment funds (ZISWAF) and distribution of benevolent funds (qardhul hasan). In Law no. 21 Article 4 of 2008 concerning Islamic banking, states that Islamic banks also carry out social functions in the form of baitul maal which receive funds originating from zakat, infaq, alms, grants or other social funds and distribute them to zakat management organizations.

Bank performance: definition and indicators

Return on Assets (ROA)

ROA shows the ability of management to acquire deposits at a reasonable cost and invest them in profitable investments. This ratio indicates how much net income is generated per dollar of assets. The higher the ROA, the more the profitable the banks are (Kumbirai and Webb, 2010). This ratio is widely used as a proxy for profitability. Peterson and Schoeman (2008) interpreted ROA as an important tool indicating operational efficiency of the bank (Siraj and Pillai, 2012).

Liquidity Ratio

Liquidity ratios indicate the ability of the bank to meet short-term financial obligations on time and hence avoid financial distress (Al-Hares *et al*. 2013). This study measures the liquidity ratios by taking the total financing to deposits ratio of Islamic banks (FDR).

Asset Quality

Monitoring asset quality indicators is important since risks to the solvency of financial institutions often derive from impairment of assets. Asset quality depends on the quality of credit evaluation, monitoring and collection within each bank, and could be improved by collateralizing the loans, having adequate provisions against potential losses, or avoiding asset concentration on one geographical or economic sector. Meanwhile, any analysis of asset quality needs to take into account indicators of the likelihood of borrowers to repay their loans (Hassan and Bashir, 2003). Therefore, this study used the ratio of non-performing loan to total financing distributed by Islamic banks as a measure to determine the asset quality. Lower the ratio, higher will be the quality of assets.

Operating Efficiency

Operating efficiency ratio (OER) or cost to revenue ratio is measured by taking the ratio of total operating expense to total operating income. This ratio indicates how efficiently firm uses its assets,

revenues and minimizing the expenses. In other words, it shows how well firm could reduce the expenses and improves productivity (Widagdo and Ika, 2008).

Hypothetical relationship between social function and commercial banking performances

Based on the previous description, it can be concluded that the objectives and functions of Islamic banks are not only about business functions but the presence of Islamic banks also has a social function. This social function is expected to encourage economic growth and equity so that funds do not only circulate to a few.

Ryandono (2010) has stated that profit-sharing-based financings, such as *mudharaba* and *musharaka*, have the principle of goodness which will encourage community economic empowerment and improve people's welfare. If the welfare of the community increases, it will increase funds collected by Islamic banks and thus increase financing distributed by Islamic banks. The distribution of financing carried out by Islamic banks can generate benefits, not only for customers but also Islamic banks themselves, particularly in the form of profit sharing that has been agreed upon. This shows that the greater the funds disbursed by Islamic banks to the community, the greater the income and net profit of Islamic banks.

Not only profit-sharing-based financing, *qardh* financing in Islamic banks has a social mission which help among people in need. On the commercial side, it can improve the bank's image and increase public loyalty to Islamic banks, so as to increase the profitability of Islamic banks. The social performance, like zakat and waqf collection and distribution, will also grow trust and a sense of belonging from the community that they can realize that the presence of Islamic banks brings benefits and can indirectly affect the company's profitability. Wulandari and Hidayah (2013) also stated that companies that have good social performance will be responded positively by investors, and vice versa.

Based on the elaboration, this research chose ROA as proxy for profitability and NPF as proxy for risk performance. The hypothesis in this study can be concluded as follows:

H0: The performance of social functions of Islamic banks has a positive and significant effect on profitability performance as represented by ROA.

H0: The performance of Islamic banks' social functions has a negative and significant effect on the performance of Islamic banks' financing risk as measured by NPF.

Previous Studies

Several studies related to implementation of Islamic banks social function are summarized in Table 1.

Methodology

Research Design

This study aims to see the effect of the performance of social functions of Islamic banks on the performance of their commercial functions. However, before arriving at the influence analysis, the research first maps out various indicators that can be used to measure the performance of the social function of Islamic banks. Mapping is done by conducting a review of the literature that examines the social function of Islamic banks. After various indicators of the social functions of Islamic banks have been successfully mapped, further research determines which indicators are relevant to be used in assessing the performance of social functions of Islamic banks. This is done by asking the opinion of

experts regarding the selection of priority indicators of social function. The results of the expert assessments were analysed using the Analytical Hierarchy Process (AHP) method.

Based on the AHP, priority weights are obtained for each selected indicator of the social function of Islamic banks according to the opinions of experts. These weights are then integrated into the Principal Component Analysis (PCA) to obtain the final weights that will be used in compiling the performance index of the social functions of Islamic banks. The final result will be in the form of a social function performance index for each Islamic bank in Indonesia. This index is then used to estimate the impact of the performance of social functions of Islamic banks on the performance of their commercial functions. The research design is summarized in Figure 1.

Data and Data Source

The data used in this study consisted of primary data and secondary data. Primary data is mainly related to qualitative data of Islamic banks, such as social activities carried out, inclusion efforts and internal religious activities of Islamic banks. Primary data was obtained through a survey on every BUS and UUS in Indonesia using a questionnaire. While secondary data is taken from the OJK database. The secondary data used is bank financial performance data, such as total assets, total liabilities, total equity, total profit, ROA, ROE, NPF, FDR, BOPO, and so on. The secondary data used is an annual data from 9 BUS and 20 UUS with a span of five years from 2017 to 2021, subjected to the data availability. Details related to the data used in this study is summarized in Table 4.

Analytical Hierarchy Process (AHP)

Analytical Hierarchy Process (AHP) is a qualitative analysis and quantitative analysis of multi-objective decision analysis methods. It initially introduced by Saaty (1980). It designed a multilevel hierarchy of goals, criteria, sub-criteria, and alternatives as the basis for the general decision problems. There are three fundamental principles that define AHP: a hierarchical structure, the relative importance (or weight) given to each decision criteria; and consistent judgment. The relative importance (or weight) of each criterion, which reflects reasonable human judgment on elements in the same category, is determined through a pairwise comparison method. Using a pairwise comparison, linguistic judgments can be converted into numerical scales of 1-9. Scale 1 means the two elements are of equal importance, and scale 9 means one is extremely more important than the other (Table 2).

The steps of using AHP to solve problem are: first, create a hierarchical structure of the problem; secondly, determining matrix structural pairwise comparison; then, judging the relative weight by the matrix elements as follow:

$$A = \left(\frac{a_{11}\ a_{12} \dots . . a_{1n}}{a_{21} \dots \dots \dots \dots \dots . \dots \dots \dots \dots \dots \dots \quad \dots \dots \dots \dots \dots \dots \quad \dots \dots \dots \dots \dots \dots \ a_{n1} \dots \dots \dots a_{nn}} \right)$$

Then, calculate the combination weight of each layer element. The actual relative weights of decision elements can be obtained by computing the normalized eigenvector of A that satisfies the following equation:

$$A. w = \lambda. w$$

where λ is the eigenvalue associated with eigenvector w. This process should be performed at all levels of the criteria to obtain all the relative weights of the decision elements.

In the last step, do the consistency test which can be performed to verify the reasonability of the decision makers' pairwise comparison. The measure of consistency is obtained by a consistency index (CI) and a consistency ratio (CR), which are defined as follows:

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

$$CR = \frac{CI}{RI}$$

where n is the number of decision elements, and the random consistency index (RI) is an experimental value provided by Saaty (1990).

Meanwhile, the extended social function indicators used to solicit expert opinions are given in Table 3. These extended social function indicators and its operationalization were summarized from various library sources.

Despite the usefulness of AHP, its limitation lies in its overreliance on the intuition of decision makers. To overcome the shortcomings posed by the obscurity and arbitrariness in AHP, the present study integrates principal component analysis (PCA) and AHP to determine the weights. In contrast with AHP, the weights obtained from PCA are derived from actual data, and more weight is assigned to criteria that have more information. On the other hand, PCA itself has the problem of merely using the data distribution without considering the domain-related knowledge. Therefore, in the combined model of AHP and PCA, tangible real data are elevated to an equal position with intangible intuition; thus, both have the same importance in producing the weights integrated into decision elements.

Principal Component Analysis (PCA)

Principal Component Analysis (PCA), one of the most widely used multivariate statistical techniques for dimensionality reduction. PCA identifies a lower dimensional variable set that can explain most of the variability of the original variable set.

A number of studies have integrated the weights obtained from AHP into PCA. For example, Lee *et al.* (2010) who propose a hybrid approach for weapon systems selection that combines analytic hierarchy process (AHP) and principal component analysis (PCA) to determine the weights to assign to the factors that go into these selection decisions. These weights are inputted into a goal programming (GP) model to determine the best alternative among the weapon systems. Gharizadeh *et al.* (2020) propose an integrated approach for sustainability performance assessment in qualitative and quantitative perspectives. Gharizadeh *et al.* (2020) used principal component analysis and analytic hierarchical process techniques to improve the discerning power and effectiveness of the conventional Data Envelopment Analysis (DEA) to measure the performance and efficacy of insurance firms based on different economic aspects whose values may cause economic recession or growth.

Panel Data Regression

Panel data regression was employed in this study to examine the relationship between social and commercial performances of Islamic banks in Indonesia. Both ordinary least square (OLS) and fixed effect model (FEM) were used to estimate the impact of Islamic banks social performance on its commercial performances. Non-performing financing (NPF) was used as a proxy of Islamic bank risks, while return on asset (ROA) was used as a measure of its profitability. The following model is used to execute a panel data regression in this study.

$$ROA_{it} = \beta_0 + \beta 1 Social\ function\ index_{it} + \beta 5 bopo_{it} + \beta 6 fdr_{it} + \beta 7 npf_{it} + \beta 8 realGDP + \beta 9 policyrate + \beta 10 inflation$$

$$NPF_{it} = \beta_0 + \beta 1 Social\ function\ index_{it} + \beta 5 bopo_{it} + \beta 6 fdr_{it} + \beta 7 \quad _{it} + \beta 8 realGDP + \beta 9 policyrate + \beta 10 inflation$$

The operational definition of variables used in the model are given in Table 4.

Result and Discussion

Commercial and Social Performances of Islamic Banking in Indonesia: A Descriptive Analysis

This section discusses the patterns of commercial and social performance of Islamic banks in Indonesia. Islamic banking industry in Indonesia are generally divided into full-fledged Islamic commercial banks (BUS) and Islamic business units of conventional banks (Islamic commercial bank windows) or UUS. The division into three types of banks is intended to see the differences in characteristics between BUS and UUS that can affect the fulfilment of Islamic bank social functions. For example, from the operations side, UUS operates within and dependence on conventional parent banks such that, typically, the overhead costs of the window (e.g., computer systems, building maintenance costs, support personnel, etc.) are borne by the parent conventional bank. Obviously, this is different from BUS which have to pay for these costs by themselves (Sole, 2007). In addition, UUS policies regarding the implementation of its social functions can also be influenced by the policies of its parent conventional bank. Therefore, there is a possibility of differences in treatment in the implementation of social functions between BUS and UUS. Meanwhile, the analysis of social function on the entire Islamic banking industry in Indonesia is carried out separately with the aim to see whether there are also differences in behaviour if the commercial and social performance data of BUS and UUS were combined. The commercial performance discussed includes non-performing loans (NPF) as a proxy for bank risks and return on assets (ROA) as a measure to banking profitability. Meanwhile, social performance is measured from the collection of *zakat* from the community, employees and the corporations of Islamic banks themselves, as well as the disbursement of *qard al hassan*.

In the following, a scatter plot image is presented between social and commercial performance indicators of the 29 Islamic banks that are the focus of this study. At the level of Islamic bank windows (UUS), the social performance in general actually shows a negative relationship to their commercial performance which is represented by ROA. In Figure 2, it can be seen that the higher the social performance of an Islamic bank windows, the lower the bank's ROA. This applies especially to social performance in terms of managing zakat, both from the community, employees and the Islamic bank corporation itself. This may indicate that UUS sees the implementation of social functions as a burden. Meanwhile, in terms of *qard al hassan* distribution, there is a slightly positive relationship to ROA. This indicates that UUS performs more of its social functions in the form of *qard al hassan* disbursement which then has a positive impact on its profitability.

On the other hand, the correlation between social function performances and NPF of UUS is given in Figure 3. It can be seen that the management of zakat, especially those collected from the community and employees, has a positive correlation with UUS NPF. Meaning that the more the community and employee zakat were collected and distributed, the higher the NPF of UUS. In line with the correlation result of ROA, it can be concluded that the management of zakat is kind of a burden for UUS. Meanwhile, the management of UUS corporate zakat and also the distribution of *qard al hassan* has actually led to a decrease in the level of bad financing risk faced by UUS.

Figure 4 illustrated the scatter plot between social and commercial performance, which is ROA, of the full-fledged Islamic commercial banks (BUS). In harmony with the correlation results of UUS, it is evident that the higher the social performance of a full-fledged Islamic commercial banks, the lower the bank's ROA. This applied particularly to social performance in terms of managing zakat, both from the community and Islamic bank employees. However, in contrast with UUS, the management of zakat which sourced from the corporate of full-fledged Islamic bank has actually led to an increase in the level of BUS profitability. It is also the same with the disbursement of *qard al hassan.* Nevertheless, the correlation is rather weak.

In relation to the bank financing risks expressed by the level of non-performing financing (NPF) ratio, the four indicators of Islamic banks social function are generally accompanied by a decline in the level of NPF. The management of zakat community, employees and corporate of Islamic banks has led to a reduction in the level of risk of Islamic banks non-performing financing. Likewise with the social indicator of the *qard al hassan* disbursement. This illustrated in Figure 5.

On the other hand, the following figures describe the relationship between the social and commercial performance of Islamic banks in Indonesia at the industry level as a whole. Figure 6 shows that the zakat management which sourced from the community and corporate of Islamic banks went along with the profitability of Islamic banks as indicated by declining in ROA. Meanwhile, the zakat management which sourced from employee as well as the distribution of *qard al hassan* shows the opposite result and is positively correlated with ROA, although the relationship is quite weak. This finding is in line with the correlation results between the social and commercial performance in the case of Islamic bank windows.

In general, there is an indication of a positive relationship between social and the commercial risk of Islamic banks at the industry level, especially in terms of bad financing which is represented by the non-performing financing (NPF) ratio. Based on Figure 7, it can be seen that all the social performance indicators of Islamic banks go hand in hand positively with the level of non-performing loan ratios. Except for indicators of corporate zakat management which show that a decrease in NPF is in line with the increase in zakat management sourced from corporate of Islamic banks. The same relationship patterns are also be seen in the correlation results between the performance of social functions and NPF in the case of Islamic bank windows. This may indicate that Islamic bank windows is a driving force in the Islamic banking industry as a whole, particularly in terms of social performance. This could happen considering that there are more UUS in Indonesia than BUS. These results also indicated some differences in the behaviour of the social function implementation by Islamic banks as a full-fledged, a unit business or an industry as a whole. Therefore, panel data regression estimates are also applied separately to each case of Islamic banks in Indonesia to find out whether the impact of social functions differs significantly between them.

AHP Results

To obtain the results of the AHP, opinions were asked regarding the relevant indicators for measuring the performance of the social function of Islamic banks to the relevant experts. There were 9 experts whose opinions were asked from banking and social finance institutions in Indonesia, such as representatives of Bank Syariah Mandiri, UUS Bank Permata, OJK Sharia Banking Supervisor, Bank of Indonesia, National Board of Zakat (Baznas), Ministry of Religious Affairs, Indonesia Waqf Board (BWI) and also academician. Based on the results of AHP estimation, the eleven selected indicators of social performance of Islamic banks and its respective weight are summarized in Table 6. The weights

resulted from AHP are then integrated into the PCA to obtain a PCA-weighted index that will be used to build a social function index of Islamic banks in Indonesia.

PCA-Weighted Index

There are two different approaches to determine the weight of indicators, namely, subjective weighting and objective weighting. Subjective weighting is a way to give indicator weights based on the judgment of experts, who subjectively determine that specific indicators are more important than the others. In this study, we obtained the weights of inputs and outputs by AHP and integrated AHP with PCA. The number of variables was also reduced by weighted principal component analysis (WPCA), as in the study by Lee *et al.,* (2010), Hui and Honggeng (2011), and Beiragh *et al.,* (2020), and Kurek *et al.,* (2021) In details, the steps are described as follow.

1. Data Standardization:

$$\frac{X_{ij} = (x_{ij} - \underline{x_i})}{\sigma_i}$$

X_{ij} the standardized data, x_{ij} the data of variable Xi of bank j, $\underline{x_i}$ the mean of variable Xi, σ_i the standard deviation of variable Xi.

2. Establish the weighted standardized index PCA:

$$X_{ij}^{*} = w_i X_{ij}$$

X_{ij}^{*} the weighted standardized index, w_{ij} the important weight of variable i determined by AHP.

3. Calculate correlation matrix and establish the principal components:

$$PC_k = \sum_{j=1}^{n} \quad u_{kj} X_{ij}^{*}$$

PC_k the k-th principal component, k the number of establish PC, u_{kj}.

4. Calculate cumulative variance contribution rate:

$$E = \frac{\sum_{k=1}^{m} \quad \lambda_k}{\sum_{j=1}^{n} \quad \lambda_j}$$

The value of E is on behalf of the percentage of the first m principal components' information responds to the total information. m generally takes the minimum m which satisfy to **E ≥ 80%.**

5. Using the variance contribution rate of each principal component **to be its weight.**

The eigenvalue, variance contribution rate and cumulative variance contribution rate of the principal components are shown in the Table 5.

Meanwhile, the weight of each indicator both for AHP and PCA are summarized in Table 6. As shown in the table, according to the results of AHP, zakat and waqf management is the main priority indicator in assessing the social performance of Islamic banks according to expert respondents as they have submitted the highest weight of 14.3%. It is followed by community economic empowerment as well as ethics and compliance of Islamic bank employees in second and third place with a weight of 12.8% and 10.9%, respectively. Meanwhile, expert respondents have put the Islamic bank tax contribution

to the government as the least priority in social performance assessment of Islamic banks in Indonesia. It is weighted the lowest of 5.3%.

On the other hand, the weights resulted based on PCA calculation also demonstrated that the zakat and waqf management is the main priority indicator in assessing the social performance of Islamic banks. It is shown the highest weights of indicator at 21,9%. The PCA calculation also put the indicator if Islamic bank tax contribution to the government in the last place as its weight is the least at 1,95%.

6. The comprehensive evaluation index value:

$$Z = \sum_{k=1}^{m} \left[\frac{\lambda_k}{\sum_{j=1}^{n} \lambda_j}\right] * \left[\sum_{j=1}^{n} u_{kj} X_{ij}^{*}\right]$$

Regression Results

This section explained about the panel data estimation results for the three Islamic bank cases which are summarized in Table 7. Based on the Chow test, it can be concluded that the most appropriate model to use in estimating the panel data is common effect (CE), rather than fixed effect (FE). Therefore, the following estimation results are based on the common effect panel regression model. The panel data estimation results have also fulfilled all the classical assumptions such as normality, autocorrelation, multicollinearity, and heteroscedasticity.

Based on the table, it is verifiable that the performance of social function significantly affected the performance of commercial function of Islamic banks in Indonesia. The estimation results at the level of Islamic bank windows (UUS) indicated that the performance of social functions has a positive and significant influence on its ROA. This implied that the higher the performance of social functions, the higher the ROA of UUS. The estimation results also show that an increase in the performance of social functions has an impact on a decrease in NPF, though it is not significant, either at the significant level of 1%, 5% or 10%. Regardless, the two findings are in accordance with the hypotheses that have been determined.

On the level of full-fledged Islamic commercial banks (BUS), the estimation results also conformed with the established hypothesis, where the social function has a positive effect on ROA. However, the effect is not significant. On the other hand, an increase in the performance of social functions can significantly reduce the level of risk of non-performing financing at BUS. This can be seen from the table that the result of social function performance estimate is negative and significant to the NPF of BUS.

Meanwhile, in the level of overall industry of Islamic banks in Indonesia, the estimation results show a significant effect of the performance of social functions on both indicators of the commercial performance of Islamic banks in general. Social function performance has a positive effect on ROA and is significant at the 1% confidence level, and has a negative and significant effect on NPF at the 5% confidence level. The results of both are also in accordance with the hypotheses that have been set.

Conclusion and Recommendation

This study aims to determine the effect of the implementation of social functions on the commercial functions of Islamic banks in Indonesia as seen from two indicators, namely ROA as a proxy for profitability and NPF which measures the risk of financing channelled by Islamic banks. The results of the study show that the performance of social functions has a positive and significant effect on ROA

and a negative and significant effect on NPF of Islamic banks at the industry level as a whole. The implementation of the social function also significantly increases the ROA of UUS, although it does not necessarily reduce the NPF significantly.

Conversely, an increase in the performance of social functions can significantly reduce the level of financing risks of a full-fledged Islamic bank (BUS), although it does not significantly affect its profitability. It is hoped that this finding will encourage Islamic banks in Indonesia to optimize the implementation of their social functions.

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