

Article

Investigating the Performance of the Islamic Banking System and Social Welfare

Yao Ming Lee^{1,*}, Hazman Samsudin¹ and Jumadil Saputra¹

¹ Department of Economics, Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia; hazman.s@umt.edu.my (H.S.); jumadil.saputra@umt.edu.my (J.S.)

* Correspondence: p4962@pps.umt.edu.my

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Abstract: This study was conducted to investigate further how Islamic Banking Performance may improve social welfare in Malaysia since the bank put one of its objectives to improve livelihood through its Shariah non-compliance fund. Reports highlighted that exceeding Shariah's non-compliance risk will cause force majeure to the bank and even the risk of bankruptcy. This study aims to discuss and clarify the risk of non-compliance with Sharia Law in the Islamic financial system. The data for this research is based on annual financial reports ranging from the year 2014 until 2019, consisting of 8 Islamic Financial Institutions (IFIs) in Malaysia, namely; Affin Bank, Alliance Bank, Ambank, Bank Islam, Hong Leong Bank, Maybank, OCBC Al-Amin bank and Public bank. Three-stage least square method incorporates the mediator variable in the simultaneous equation model. The result of this study pointed out that both variables significantly impact each of them. In short, the Shariah non-compliance funds can indeed affect the main factor of bank failure, capital adequacy ratio, but it has a positive effect on social welfare through GDP at the same time. Therefore, to balance the relationship between the two points, the government must formulate effective maintenance methods for Islamic Financial Institutions (IFIs) in Malaysia. Under the premise of improving social welfare, the IFIs can also safely maintain and operate.

Keywords: Islamic financial institutions; shariah non-compliance risk; capital adequacy ratio; social welfare; three stages least square



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1. Introduction

Finance is the core of the modern economy. Under the trend of economic globalization, the global financial industry is also showing a more open and diverse pattern. Currently, the Islamic financial industry shows strong vitality, and It is very active in the global economy. Apart from Islamic countries, many non-Islamic countries are joining the ranks of Islamic finance (Banking system). According to Karasik et al. (2006), nearly 80 countries (including non-Islamic countries) have started operating Islamic banks and

related businesses globally. Besides the unique meaning due to the limited influence of Islamic law, Islamic Banking also has the general characteristics of the commodity market financial system.

So, what's the difference between conventional banking and Islamic banking? The economic life of Muslims is rooted in the decision of the holy religion. Ariff & Lewis (2014) highlighted the basic operation of Islamic Financial Institutions is based on profit and loss sharing. Besides, Islamic banks cannot charge interest on giving the loan or receiving the deposit. According to Usmani (2021), the word "interest" is derived from the Arabic word "*Riba*". The broad interpretation of "*riba*" in the Hadith is any profit or income earned without work, such as profit from chance and certain barter exchanges of varying quantities or delayed delivery by one party is considered to have interest, should be among the prohibited. We all know that banks can't escape interest, which is why Islamic Banks classify profits from interest as Shariah Non-Compliance Income (SNCI). The amount of SNCI will give back to society to offset the sin of receiving interest. However, Bälz & Cambridge (2008) pointed out that Shariah Non-Compliance Income (SNCI) is challenged because it does not abide by Islamic law.

Then, Hamid & Ginea (2015) said that Islamic financial banks might suffer financial losses due to non-compliance activities determined by the Sharia Supervision Committee. On the other hand, the profit-and-loss sharing concept (Mudarabah) of Islamic Bank alleviates certain risks for banks, but it also exposes banks to face the new risks. For avoiding the interest (*riba*), the income from the interest must be donated to charity or given back to the societies. This option will decrease a bank's profits and indirectly increase the bank's operating costs. Due to this reason, International Omar & Hassan (2019) stated that if the SNCR increases significantly, it may expose banks to reputation and bankruptcy risks. SNCR may significantly impact banks' Capital Adequacy Ratio (CAR). Further consideration, CAR might be affected social welfare through Gross Domestic Product (GDP) per capita.

In this case, Shingjergji & Hyseni (2015) selected five banks' annual financial data from 1999 to 2006, the annual real GDP growth rate and the bank's non-performing loan rate as the variables to define the relationship between them. Undeniable, her empirical results are consistent with a significant relationship between both. In addition, Ebenezer et al. (2018) selected 16 commercial banks from 2009 to 2015 to study the relationship between the variables. Again, his analysis shows that operational risk and GDP play an important role in the performance of commercial banks during the study period. Considering their relationship, does it indirectly clarify that GDP is significantly affected by Banks' CAR? Does Islamic Banking affect social welfare? This kind of curiosity drove the research motivation.

Malaysia is in the row of Muslim countries that are not only developing an Islamic Banking system but also a complete Islamic Financial system. Islamic Finance (Islamic Banking system) started in Malaysia in 1983, Bank Islam Malaysia Berhad (BIMB). Islamic finance generally refers to financial entities established and operated following the framework of Sharia. The core of the Islamic financial system is to prohibit the collection and payment of interest. It advocates risk sharing, personal rights and responsibilities, property rights, and the sanctity of contracts. It emphasizes that funds must involve actual economic production activities and emphasizes the fair distribution of wealth. And the invested enterprises must also confirm the principles of social ethics. The core of Islamic finance is an Islamic bank with no interest. Modern Islamic financial forms are inextricably linked to religions. For example, any new Islamic financial products must be approved by Islamic jurists before they can be issued.

Another example is the financial supervision system of the Islamic world in countries and countries. There will be organizations similar to religious advisory committees at both levels of the company to define the relevant business of Islamic financial institutions to ensure that their business and operations comply with the requirements of *Shariah* law. God allows finding a legitimate transactions and commodity trading. However, Islamic law strictly prohibits any transaction involving injustice, fraud or exploitation, thus forming an Islamic financial philosophy that allows for loans but strongly condemns the high-profit exploitation financial philosophy. Under this philosophical guide, a large Islamic financial system was formed and shaped.

Unfortunately, not many studies have been done on the variables (related to Shariah Non-compliance Risk, Capital Adequacy Ratio and social welfare), and it is very lack of study in this area. Most researchers have focused on distinguishing between Islamic and conventional banks or the potential between them. Because of the shortage of research, we decided to use past research as references to study new topics. Moreover, Islamic Banking will indirectly improve social welfare. Social welfare refers to the social insurance system in which the state guarantees a certain standard of living to provide all citizens with funds and services that can improve their quality of life as much as possible. Due to the disparity between the rich and the poor being quite big in Malaysia and leading to data deviation, thus, Islamic Banking is chosen to be the topic. In addition, this issue is more relevant to the Islamic Financial Institutions because they clearly

state that it is committed to improving social welfare through certain provisions, such as Shariah Non-compliance funds. The source of this fund is the bank's income through interest. The purpose is to avoid violating Sharia law compliance (interest is prohibited). However, the research on this path and matters is very limited and getting more effective information in Malaysia isn't easy.

After investigation, most past studies used a standard single linear model equation to test the model and regarded the variables as having a direct relationship. However, these studies believe that the impact of welfare is indirect rather than direct. Therefore, a single linear equation measurement model cannot meet the requirements of this research. Generally, the bank's main goal is still the entity that maximizes profits, and the impact of welfare may only appear indirectly after the accumulation of profits. As a result, non-Islamic law-compliant funds rely on the accumulation of profits, which has an indirect impact. This study will use 3SLS as the specification model to measure the three layers of effect brought by Islamic Banking. Only in this way we can accurately measure the indirect impact brought by a single variable. This study is to identify the relationship between SNCR, CAR and social welfare. Then, this study seeks to relate the impact of Shariah non-compliance funds and bank profits toward social welfare in Malaysia. In addition, investigate the simultaneous equation model to consider the indirect impact on social welfare.

2. Literature Review

This section will discuss in more detail and depth the Shariah Non-compliance Risk (SNCR) and independent variables that had been reviewed in the previous section. Besides, it will review more on 1) to determine the impact of Inflation Rate (INFLAT), Return on Assets (ROA), Return on Equity (ROE), Liquid ratio (LIQ) on Islamic Banks' Capital Adequacy Ratio (CAR), 2) to determine the impact of Islamic Banks' Capital Adequacy Ratio (CAR) and Unemployment Rate (UE) on Shariah Non-compliance Risk (SNCR), 3) to determine the Shariah Non-compliance Risk (SNCR) on social welfare. This section can help build up the concept or model from the theories and methods. In addition, research conducted for the previous review can assist in determining the variables used in this study. It can help avoid this problem and be more effective in the next few sections. In general, some facts deviate from theory, and the identification of the difference between theory and fact can be drawn from the literature through empirical research and comparison. Therefore, there is always room for improvement through literature review to make the research more comprehensive.

According to Sairally (2013), discussions on the development of the act of Islamic Finance featured the benefit, and financial productivity thought processes of Islamic Financial Services as opposed to their anxiety for socio-economic value and government assistance recently. A uniqueness between the financial aspects of writing on Islamic Finance and the course taken by the practical field of Islamic banking and finance has emerged throughout the long term. Thus, she conducted a study to discuss the assessment. Salma's study showed that the discoveries uncovered that most the Islamic Financial experts had faith in crediting a coordinated social job to Islamic Financial Services. In any case, the acts of the Islamic Financial Services mirrored a more restricted way of dealing with corporate social responsibility. Most of the Islamic Financial Services were the important issue around meeting their legitimate, monetary and Shariah obligations. It worried about the objectives of benefit boost, and for their exchanges to meet Shariah's consistency, corporate social responsibility was drilled as a fringe movement by the Islamic Financial Services rather than being indispensable, well-thought-out and purposeful strategy choice of the board. Many Islamic financial institutions have subtly changed and gradually developed to focus on interests. It is also an indirect overturn of the purpose of Islamic laws.

Moreover, Mohieldin (2012) also recognized the development potential of Islamic financial institutions. Global Shariah-compliance financial assets have expanded in recent years, reaching about US\$1 trillion in 2010, up from about US\$5 billion in the last part of the 1980s. In 2011, the total volume of Sukuk issuances rose to about US\$50 billion. Although the Sukuk market is little contrasted to conventional with regular fixed-pay or securitized items, the more fragile exhibition of traditional instruments during the emergency is consolidating with a more noteworthy acknowledgement by backers that Sukuk is a viable choice to support market craving.

In addition, the research study by Boukhatem & Moussa (2018) conducted a test to set up a theoretical framework for the relationship between Islamic Financial Institutions' performance and economic growth for 13 countries in the MENA region from the period 2000 to 2014. They proved the statement with strong evidence that the development of IFIs stimulated economic growth. The discoveries recommend that legislatures consider carrying out proactive and great monetary and institutional strategies for Islamic Finance. These previous studies stated clearly the potential of Islamic finance. In order to further the studies, this study will use conventional bank investigation factors to measure the growth of Islamic finance.

Based on previous studies, Capital Adequacy Ratio (CAR) is the main factor affecting financial institutions' performance. However, it can be concluded that there are only a few numbers of past research on the performance of the Islamic banking system and social welfare, linking the relationship between Shariah Non-compliance Risk (SNCR) and Capital Adequacy Ratio (CAR) and social welfare. One of the basic requirements of banks and financial institutions is adequate capital. Therefore, every bank and financial organization must maintain a balance between the available risks in capital and assets. For conducting the studies, some specific variables are decided for the add-on, for instance, Inflation Rate (INFLAT), Return on Assets (ROA), Return on Equity (ROE) and so on.

2.1 Impact of Inflation Rate (INFLAT), Return On Assets (ROA), Return On Equity (ROE), Liquid Ratio (LIQ) on Islamic Banks' Capital Adequacy Ratio (CAR)

The capital adequacy ratio is crucial in deciding the degree of hazard assimilation of a financial foundation. This issue has been talked about generally as it is a significant measuring stick to check the total image of banking execution. Capital ampleness is firmly identified with the monetary presentation of related countries. As pointed out from the past research, the Inflation rate (INFLAT) has a statistically significant impact on CAR. For proving this statement, Yahaya et al. (2016) organized research to identify the impact of CAR on the financial performance and economics of Japanese regional banks. The study used five variables representing economic performance: unemployment rate, inflation rate, real exchange rate, money supply, and gross domestic product. The study consisted of 10 years of data from 2005 to 2014, and 64 regional banks were evaluated. The research results show that the INFLAT has a certain degree of influence on the bank CAR. It is the same results get from Thi Hien's studies.

Nguyen (2020) determine the effect of the CAR on bank interest under the Basel II implementation basis in Vietnam. In this investigation, bank productivity is estimated by resource return and value return. Regardless of the share of capital strength, he also controls different determinants of profit potential, including the bank's explicit factors (proportion of capital adequacy, net income advantage, unpaid advances, non-premium salaries, ownership, and administrative factors addressed by the bank's use of Basel Standards), and macroeconomic indicators (rate of GDP expansion, rate of expansion). Thi Hien's paper investigates the return of information on an example of 22 Vietnamese banks from 2010 to 2018. The results proved that inflation significantly and positively related to Vietnamese bank profitability in CAR. Since a higher inflation rate builds the vulnerability on the lookout, leading banks to have higher capital measures. Another outcome is a positive connection between the capital adequacy ratio and the inflation rate. Yahaya et al. (2016) also underlined this situation in the literature. On the other hand, Bokhari et al. (2012) showed no relationship between capital adequacy ratio with economic growth and inflation rate.

Apart from using INFLAT, return on assets (ROA) and return on equity (ROE) will also be chosen as the variables to identify CAR clearly. ROA and ROE have a very strong correlation with the banks' CAR. It is because the statement of (Batani et al., 2014) proved a positive correlation between loan assets ratio (LAR), ROE, ROA and CAR. They are focusing on the financial factors of Iran's private bank from 2006 to 2012. In addition, from studying the determinants of CAR in the banking system of Saudi Arabia, ROA was positively significant with CAR Polat & Al-khalaf (2014). Numbers of past studies have proved and shown the significant relationship between CAR, ROA and ROE. However, the past studies by Shingjergji & Hyseni (2015) stated explicitly that there is a lack of relationship between ROA, ROE and CAR. The variables are not correlated at all. Due to the distinct differences, ROA and ROE were selected to define their relationship with CAR, and the disagreement can be rejected or accepted.

There is no denying that the Islamic Financial System has its fascinating features. Some researchers directly study CAR's determinants in the Islamic banking system. Abusharba et al. (2013) examined the banks' CAR in Indonesia using several variables. Then the results showed that ROA and Liquidity (LIQ) were positively related to CAR. As stated, liquidity can also be considered a manipulative variable in the study. In order to verify this variable, similar studies are used to clarify it.

Osama & Saleh (2018) investigate the determinants of CAR on commercial banks in Egypt. For example, asset quality, bank size, liquidity, profitability, and risk and management quality. The liquidity represented only in loans to deposits significantly correlates positively to the capital adequacy ratio. Asset quality is significantly correlated positively to the capital adequacy ratio. Also, earning assets to total assets appears to impact the capital adequacy ratio. Moreover, in India, Abusharba et al. (2013) reported that CAR is negatively related to loan assets ratio LAR, assets quality and management efficiency, but the liquidity was positively related to CAR.

2.2 Impact of Capital adequacy ratio (CAR) and Unemployment rate (UM) on Shariah non-compliance risk (SNCR) and Social welfare

To manage the operational risk and evaluate the banks' CAR, they develop a framework for it Abusharba et al. (2013). While Herring (2002) argue that insurance is part of the entire risk management process, the capital adequacy ratios focus should be on the residual risk after insurance. To reiterate, there is a difference in the measurement of risk between conventional banking and Islamic banking. Conventional banking uses the gross income to measure operational risk; Islamic banking uses Shariah Non-compliance income (SNCI) to measure SNCR. Simply put, the two different types of risks are the same indicator.

According to Odunga et al. (2013), the studies show that the operating efficiency and risk-based capital ratio of the previous year have had a positive and significant impact on the bank's operating efficiency. The amount of R² obtained from the returned income is 0.4135, which means that 41.35% of the bank's operational efficiency results from credit risk and capital adequacy measures. The company's performance history will affect how it streamlines its operating strategy. Banks should look for mechanisms to increase risk-based capital ratios to improve operational efficiency and maintain market competitiveness. It shows that CAR has an inseparable relationship with SNCR.

Li et al. (2009) selected the net profit of five banks' annual financial data from 1999 to 2006, the annual real GDP growth rate, bank total capital adequacy and the bank's non-performing loan rate as the variables to define the relationship between them, and used EVIEWS to perform regression analysis. Their empirical results are consistent with this value, and they have a significant relationship. While Ebenezer et al. (2018) identified that existing studies are sketchy in developing economies while most studies are largely theoretical and have lesser empirical evidence. Data on audited financial reports selected by 16 commercial banks for 2009 to 2015 have been collected, making up to 112 observations. In the results, the firm performance is measured by net interest margin while the operational risk is proxy by cost to income and total operating expenses to total assets ratio. The controlled variables used in this study include bank size and GDP growth rate. Based on the random effect analysis in the model as compared to operational risk, GDP play an important role in the performance of commercial banks during the period of study. This clarify that GDP are significantly affected by Banks' CAR. There is strong relationship between these two variables.

To investigate the relationship between GDP per capita and social welfare, Van den Bergh & Antal (2014) stated that GDP per capita is an informative indicator of social welfare across various countries. Therefore, how much the social welfare can identify by measuring GDP. Besides, based on Hanif et al. (2019) analysis conducted using the stepwise, the result shows that the macroeconomic unemployment rate is the main factor affecting and influencing the bank's operation. Then, the unemployment rate can influence bank steadiness (expanding operational risk). The increasing unemployment rate may prompt a generous decrease in the interest for new advances, prompting a huge decay in the proportion of revenue procuring resources for premium acquiring liabilities. Cristea et al. (2014). In addition, Badalashvili (2017) highlighted that unemployment seems to have a strong impact on the capital adequacy ratio of Greek banks. Although this paper is focused on the Greek economy, it may help identify the correlates of bank capital ratios in Malaysia.

2.3 Research Framework

This section is to generate a theoretical framework to capture the relationship between Shariah's Non-compliance risk, capital adequacy ratio and social welfare. The theoretical framework is a structure that supports a research study's theory and makes it easier to explain the relationship between variables.

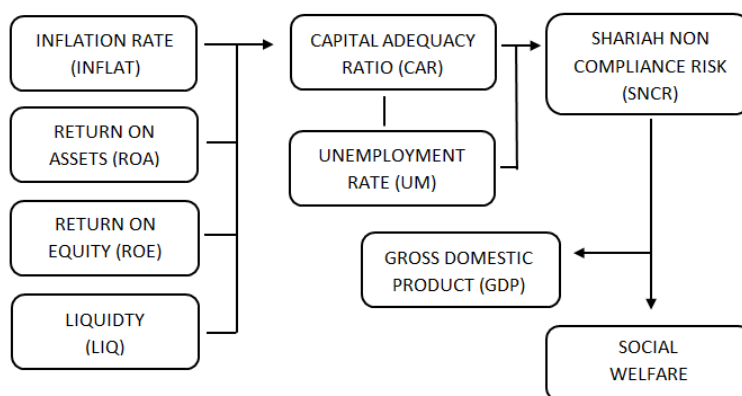


Figure 1. Relationship between Shariah non-compliance risk, capital adequacy ratio and social welfare.

Figure 1 shows the relationship between Shariah's non-compliance risk, capital adequacy ratio and social welfare. Based on Figure 1, Shariah non-compliance risk is one of the variables affecting social welfare (estimate through GDP). This variable is expected to have a positive relationship with social welfare, which means an increase in SNCR will also increase social welfare. The previous studies proved that social welfare in a country could display by estimating the Gross Domestic Product. The next variable that affects the SNCR is the capital adequacy ratio and unemployment rate. The two variables are expected to have a positive relationship with SNCR. As the previous section shows a strong relationship between both variables (either positive or negative), we can also establish the model. The last model that selected variable as capital adequacy ratio can be affected by numbers of variables, which are inflation rate, return on assets, return on equity and the liquidity of a bank.

The relationship between SNCR, CAR and social welfare has not yet been clarified. We bridge this gap in two important directions. First, we use our model to show how one unified theoretical framework is broadly consistent with the observed dynamics of both economic growth as well as the Shariah Non-compliance Risk and Bank's Capital Adequacy Ratio. Secondly, we estimate our model using the method by the inflation rate, unemployment rate and GDP in Malaysia for 6 years, from 2014 to 2019. It allows us to show how its predicted adoption patterns match the patterns observed in the data. Most previous studies have focused on the benefits of Islamic finance and laws or contrasted them with the conventional banking system. Little is known about whether Islamic finance will lead to bankruptcy due to Shariah Non-compliance funds and whether it can improve the social welfare of our country. Therefore, this research will refer to the results of the previous research and use the measurement of the relationship between Shariah Non-compliance funds and social welfare as a starting point. This research aims to analyse the development of Islamic financial institutions in Malaysia and determine the short-term and long-term relationship between their SNCR, the country's economy and social welfare.

3. Materials and Methods

Data collection of this research is based on secondary data from 2014 to 2019. A total of eight Islamic Banks in Malaysia will be used as the study target of this research: Affin Islamic Bank Berhad, Alliance Islamic Bank Berhad, Ambank Islamic Bank Berhad, Bank Islam Berhad, Hong Leong Islamic Bank Berhad, Maybank Islamic Berhad, OCBC Al-Amin Bank Berhad and Public Islamic Bank Berhad. The variables used are Inflation rate (INFLAT), Return on Assets (ROA), Return on Equity (ROE), Liquid ratio (LIQ), Capital Adequacy Ratio (CAR), Unemployment Rate (UM), Shariah Non-compliance Risk (SNCR), Gross Domestic Product (GDP) and social welfare.

As stated, we will choose Three-stage Least Square (3SLS) as my method to measure the variables simultaneously at a time. According to Zellner and Theil (1962), the 3SLS is a method that goes one step further than using the Two-stage Least Square (2SLS). 2SLS is a method of calculating structural equations involving two steps. The first step is to calculate the simplified form of the interference moment matrix, and the second step is to estimate the combination coefficients of the moment matrix structure. While 3SLS method further uses the 2SLS estimated moment matrix of the structural disturbances to simultaneously estimate all coefficients of the entire system.

3.1 Source of Data

Data collection of this research is based on secondary data from 2014 to 2019 in Malaysia. Then, the data was collected from both banks' annual financial statement reports. Data exported from the annual report are individuals using the internet, which is presented in value of basic information.

3.2 Definition of Operational Variables

3.2.1 Shariah Non-Compliance Risk (SNCR)

According to Basiruddin & Ahmed (2019), Shariah Non-Compliance Income (SNCI) represents Shariah Non-Compliance Risk (SNCR) since the revenue from these activities is excluded from the bank's income and is given to charity. Since the costs are incurred but no revenue is generated, the net losses on these bank transactions. Shariah non-compliance risk (SNCR) refers to the risk caused by the Islamic Bank's failure to comply with the Shariah rules and principles established by Shariah consultants or related institutions in the jurisdiction where Sharia Bank operates. Islamic banks must ensure that their contract documents comply with the rules and principles of Sharia in terms of preparation, termination and elements that may affect the execution of the contract. Non-compliance with Shariah law can lead to failure to recognize income and losses (IFSB, 2005a). In addition, most fund providers use Islamic banking services in principle, so their perception of Islamic banks' compliance with Islamic rules and principles may be important to maintaining customer loyalty.

3.2.2 Capital adequacy ratio (CAR)

The capital adequacy ratio (CAR) measures the bank's available capital and the percentage of the bank's risk assessment. The capital adequacy ratio, also known as the capital risk-weighted asset ratio (CRAR), is used to protect those depositors and promote the stability and efficiency of the global financial system. In addition, the capital adequacy ratio (CAR) can ensure that the bank has enough buffer and resistance before bankruptcy. Regulators will determine the bank's management risk based on the bank's capital adequacy ratio (CAR). The capital ratio shall not be less than 8%. The capital adequacy ratio (CAR) stipulated in Pillar 1 of Basel II is as follows:

$$CAR = \frac{\text{Tier 1} + \text{Tier 2}}{\text{Risk - Weighted Assets}} \quad (1)$$

3.2.3 Unemployment rate (UM)

The unemployment rate is characterized as jobless workers in the complete workforce. Labourers are viewed as jobless if they right now don't work, notwithstanding the way that they are capable and able to do as such. The unemployment rate gives experiences into the economy's extra limits and unused resources. According to Noor et al. (2007), the average percentage of unemployment rate at 3.1% in 2000.

3.2.4 Inflation rate (INFLAT)

The inflation rate is the rate increment or diminishing costs during a predetermined period, normally a month or a year. The rate discloses to you how rapidly costs rose during the period. Statistics Malaysia released December inflation data on 22 January 2021. In December, the Consumer Price Index (CPI) fell 1.4% year on year and recorded negative year-on-year growth for 10 consecutive months. Inflation for the whole year of 2020 is -1.2%, the first annual deflation since 1969. Looking forward to 2021, Malaysia's inflation level is expected to return to positive growth due to the low base effect and the accelerated recovery of economic activities. However, the government's re-implemented Movement Control Order (MCO 2.0) in mid-January this year will bring downside risks to the inflation data in the first quarter. The development of the epidemic and the vaccination progress will also bring certain uncertainty to the inflation level in the second half of the year.

3.2.5 return on assets (ROA)

Return on Assets (ROA) is also net profit after tax/total assets. It is used to measure how much net profit is created per unit of an asset—a useful indicator for evaluating a company's profitability relative to its total asset value. The calculation method is the company's annual profit divided by the total asset value, and

the return on assets is generally expressed as a percentage. Sometimes called return on investment. The calculation of return on assets (ROA) is as follows:

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}} \quad (2)$$

3.2.6 Return on equity (ROE)

Return on equity (ROE) is determined by separating the organization's net gain by investors' value to quantify the organization's effectiveness in creating benefits. Numerous components might influence ROE. For instance, an organization has persevered through numerous ominous factors or started a stock repurchase plan. Another impediment of utilizing ROE to assess stocks is that it avoids the organization's elusive resources, for example, protected innovation rights and brand mindfulness from the computation. Even though ROE can assist financial backers with distinguishing productive stocks, it likewise has its deficiencies and isn't the lone marker that financial backers should examine when assessing stocks. The calculation of ROE is as follows:

$$ROE = \frac{\text{Net Income}}{\text{Shareholder's Equity}} \quad (3)$$

3.2.7 Liquidity ratio of the bank (LIQ)

The liquidity ratio of the Bank (LIQ) is also named current assets. It refers to the assets that an enterprise can realize or use in a business cycle of one year or more than one year and are an essential part of enterprise assets. In the transition of liquidity, starting from the currency form, changing its form in turn, and finally returning to the currency form, various forms of funds and production. The circulation is closely integrated, the turnover speed is fast, and the realization ability is strong. Strengthening the audit of the current asset business is conducive to determining the legality and compliance of the current asset business, checking the correctness of the accounting treatment of the current asset business, exposing its drawbacks, and improving the use of current assets. The calculation of the liquidity ratio of the bank (LIQ) is as follows:

$$LIQ = \frac{\text{Liquid Assets (Quick Assets)}}{\text{Current Liabilities}} \quad (4)$$

3.2.8 Gross domestic product (GDP)

Gross domestic product is a proportion of the all-outs worth of creation of all occupant delivering units of a country in a predetermined period before deducting stipends for utilization of fixed capital. A creating unit is considered an inhabitant in a nation if it holds its focal financial interest in the monetary domain of that country. A nation's financial domain comprises the geographic region. It is regulated by an administration inside which people, merchandise and capital circle uninhibitedly. The gross domestic product can be estimated by utilizing three methodologies creation approach (the amount of significant worth added), the use approach (the amount of definite consumption) and the pay approach (the number of livelihoods appropriated by occupant maker unit). The results of Tabash & Dhankar's (2014) study show a relationship between Islamic bank financing and GDP. They additionally tracked down that the extension of Islamic Finance has made a positive and significant contribution to the development of investment as estimated by local and foreign investment inflows. Because of these outcomes, they also suggest policymakers should focus harder on Islamic Finance to stimulate the economy of Malaysia.

3.3 Model Specification

The model is a realistic design that has been simplified to explain the relationship between variables and understand the dependent variable's value based on the independent variable's value. Therefore, we will develop the model based on the literature discussed in the previous section. We find that Inflation rate (INFLAT), return on assets (ROA), return on net assets (ROE), current ratio (LIQ), capital adequacy ratio (CAR), and Unemployment rate (UM), Shariah Non-compliance Risk (SNCR) and social welfare. In addition, this research focuses on eight Islamic banks in Malaysia so panel data analysis will be used in this specification model. Consequently, the model for the hypotheses will be formed as follows:

$$\text{LSNCR}_{it} = \alpha + \beta_1 \text{LCAR}_{it} + \beta_2 \text{LUM}_{it} + \varepsilon_{it} \quad (5)$$

The model for the hypothesis two will be formed as follows:

$$\text{LCAR}_{it} = \alpha + \beta_1 \text{LINFLAT}_{it} + \beta_2 \text{LROA}_{it} + \beta_3 \text{LROE}_{it} + \beta_4 \text{LLIQ} + \varepsilon_{it} \quad (6)$$

The model for the hypothesis three will be formed as follows:

$$\text{LUM}_{it} = \alpha + \beta_1 \text{LGDP}_{it} + \varepsilon_{it} \quad (7)$$

Where LSNCR is log shariah non-compliance risk, LCAR is log capital adequacy ratio, LUM is the log unemployment rate, LINFLAT is the log inflation rate, LROA is log return on assets, LROE is log return on equity, LLIQ is log liquidity, LGDP is log gross domestic product, α is constant, β is coefficient of the regression and ε is error terms

3.4 Method of Estimations

3.4.1 Three-stage least squares (3SLS)

The three-stage least squares method is a complete information estimation method for simultaneous equation models, referred to as 3SLS method. The so-called "complete information estimation method" refers to using all available information while simultaneously estimating all equations in the model. The basic idea of this method is to use the estimation error of the two-stage least squares method to construct the statistics of the covariance matrix of the random disturbance term of the model to perform generalized least squares estimation on the entire model. The main steps of applying this method are: (1) The model system is required to be identifiable, and all the defining equations (i.e. identities) are removed; (2) The least-squares estimation is made on the simplified model of the model; (3) The above estimator is used as a tool Variables carry out least-squares estimation (namely two-stage least squares estimation) on the model structure, and calculate the estimation error; (4) Construct the statistics of the variance of the disturbance term with the two-stage estimation error, and perform generalized least squares estimation. The estimation result of this method has better asymptotic validity than two-stage least square estimation under certain conditions.

3.4.2 Cholesky decomposition theorem

In order to eliminate the limitations of the LU decomposition and the excessive accumulation of errors, the method of selecting the principal elements is adopted. But for a special positive definite matrix, all the principals and sub-forms of the order are non-singular, and all the principals are non-zero, so it is not necessary to choose the principals. For positive definite matrices, efficient Cholesky decomposition can be used. It can measure the stability of the model with a very small error to ensure the model's practicality.

4. Results

In this section, the study needs an analysis test to clarify the statement and achieve the study's objectives. Kunhibava (2012) highlighted that 17 local Islamic Banks existed and operated in Malaysia. However, not all institutions are transparent and display data publicly, resulting in many data unavailable. Due to the limitation, the data for this research is based on annual financial reports ranging from 2014 to 2019. It consists of only 8 Islamic Financial Institutions (IFIs) in Malaysia, namely; Affin Islamic Bank Berhad, Alliance Islamic Bank Berhad, Ambank Islamic Berhad, Bank Islam (M) Berhad, Hong Leong Islamic Bank Berhad, Maybank Islamic Berhad, OCBC Al-Amin Bank and Public Islamic Bank Berhad. To conduct the analysis test, the variables are Shariah Non-compliance Risk (SNCR), Capital Adequacy Ratio (CAR), Unemployment rate (UM), Inflation rate (INFLAT), Return on Assets (ROA), Return on Equity (ROE), Liquidity (LIQ) and Gross Domestic Products (GDP). The study will test the relationship between the variables and identify the significant level for those variables. The approach selected for the model is Three-Stages Least Squares (3SLS), followed by the diagnostic tests, *Cholesky* Decomposition Theorem, to ensure the stability of the model and the reliability of the result. After that, the Residual Correlation Matrix is used to investigate the differences between the actual correlations.

The Three-stage least square method, starts from a paper by Zellner & Theil (1992). In classical specifications, although structural disturbances may correlate across equations (contemporary correlation), it is assumed that disturbances do not correlate with the same variance and sequence in each structural equation. Thus, the classical norm means that the interference covariance matrix in each equation is diagonal, while the overall covariance matrix of the system is non-diagonal. SNCR, CAR and UM build the

first model. The dependent variable for the second model is CAR, followed by independent variables such as INFLAT, ROA, ROE and LIQ. At the same time, UM has been chosen as the dependent variable in the third model and GDP as an independent variable. The relationship and significant level between the variables will be identified for these three reduced models.

Table 1. Results of the correlation of SNCR, CAR, UEMPLOY for the first model.

Variable	SNCR	CAR	UEMPLOY
SNCR	1.000	0.1463	0.0868
CAR	0.1463	1.000	0.2706
UEMPLOY	0.0868	0.2706	1.000

The result obtained by ordinary correlation is hoped to be close to 1, proving that the two variables have a stronger relationship. However, in the correlation of regression (3SLS), the researcher expects that the exogenous variables do not have a strong relationship. It is because if there is a strong relationship between two variables X, there is a relationship between X1 and X2, which may also indirectly make X1 or X2 a Y variable. The rule of 3SLS Regression is that variable X cannot have too strong a relationship between regressions, and its relationship only stays between X and Y. In other words, both Variable X cannot be close to 1 in 3SLS Regression. Otherwise, it is proof of multi-collinearity. Thus, Table 1 shows that the correlation between each variable is not more than 0.2. Indeed, the researcher can identify that the relationship between the various endogenous variables is not strong, which is why the results obtained in 3SLS can be close to perfect.

Table 2. Results of the correlation of CAR, INFLATION, ROA, ROE and LIQ for second model.

Variable	CAR	INFLATION	ROA	ROE	LIQ
CAR	1.000	-0.071	-0.238	-0.341	0.079
INFLATION	-0.071	1.000	-0.044	0.047	0.072
ROA	-0.238	-0.044	1.000	-0.244	0.019
ROE	-0.341	0.049	-0.244	1.000	-0.281
LIQ	0.079	0.072	0.019	-0.281	1.000

Table 2 shows the correlation test for the second model is quite satisfactory. Both relations between the variables are very weak. In the correlation of regression (3SLS), the researcher expects that the exogenous variables do not have a strong relationship. So, the results of this correlation test perfectly fulfil the requirement of the regression of 3SLS. The rule of 3SLS Regression is that variable X cannot have too strong a relationship between regressions, and its relationship only stays between X and Y. In other words, both Variable X cannot be close to 1 in 3SLS Regression. Otherwise, it is proof of multi-collinearity.

Table 3. Results of the correlation of UEMPLOY and GDP for the third model.

Variable	UEMPLOY	GDP
UEMPLOY	1.000	0.695
GDP	0.695	1.000

Table 3 captures the correlation test for the third model. The unemployment rate and Gross Domestic Product (GDP) are close to 1 or 0.7. It means there is a strong relationship between the two variables. A single movement in the unemployment rate will cause changes in GDP. Therefore, researchers can use the unemployment rate to examine social welfare through GDP. The relationship between the unemployment rate and GDP is strong, and GDP can reflect people's social welfare. It can also prove that the unemployment rate can indirectly affect social welfare. After the correlation test for both models, the next step is identifying their relationship through method 3SLS.

Table 4. Result of three stage least square for three model.

Variables	Coefficient	t-statistic	Probability
CAR	0.041036	109.6124	0.000
UM	8.748095	56.7345	0.000
2 nd MODEL	2.339556	2.61721	0.0098
3 rd MODEL	-60.27002	-2.995639	0.0032

Durbin-Watson: 0.550279

Table 4 shows that all the dependent and independent variables are significant. 2nd model in the table represent $LCAR_{it} = \alpha + \beta_1 LINFLATION_{it} + \beta_2 LROA_{it} + \beta_3 LROE_{it} + \beta_4 LLIQ_{it}$, while 3rd model represent $LUNEMPLOY_{it} = \alpha + \beta_1 GDP_{it}$. The result shows that CAR and UM have a significant effect at 1 per cent or 0.01. It means the independent variable, CAR and UM are significantly related to SNCR. Any changes in the two independent variables will affect or impact Shariah's Non-compliance Risk. Then, the second model shows a probability of less than 0.05 and a significance of 1%. As stated, the variables in the second model: CAR, INFLAT, ROA, ROE, and LIQ are significantly and have a strong relationship with the first model, which means the changes in the first model can affect those variables indirectly. In addition, the third model also shows similar results, with the probability at 0.0032 and significance at 1%. This result is enough to illustrate the relationship between the various variables. Both models have an inseparable relationship, whether direct or indirect. A slight change in any one model will affect the other two models. In addition, the value of Durbin Watson showed at 0.550279. The value of the DW test normally lies between 0 to 4. If the D-W value is around 2 (between 1.7 and 2.3), there is no autocorrelation. However, the results show a positive autocorrelation between both variables, and the data deviates from the value 2. It indicates a very strong positive autocorrelation among the variables.

Table 5. Result of a diagnostic test using Cholesky.

Component	Jarque-Bera	df	Probability
1	4.339783	2	0.1142
2	19.16254	2	0.0001
3	4.494941	2	0.1057
Joint	27.99726	6	0.0001

Cholesky decomposition is an incredible mathematical enhancement procedure that generally utilizes indirect variable-based math (Krishnamurthy et al., 2020). It disintegrates the Hermitian positive distinct lattice into the lower triangle framework and its form parts. It can be utilized later to perform arithmetical tasks ideally. The diagnostic test result showed that the probability for the three models at 0.0001, also known as significance at 1%. Its means both of the models are normally distributed. This result also brings out a strong conclusion that these three models are very stable. Identifying the three-layers effect, whether directly or indirectly, is very suitable, brought from Shariah Non-compliance Risk.

5. Conclusions

Islamic finance has encountered achievements throughout many years as a vital piece of the Islamic life framework. Islamic Finance currently returns as Modern Islamic Financial Institutions (IFI), which have filled worldwide. Normally, this number will bounce up to USD 6.5 trillion by 2020. The Financial Stability Report in 2016, the absolute worldwide resources of IFIs have expanded fundamentally from USD 150 billion in the 1990s to USD 2 trillion. Despite its overall spread, remembering for some Non-Muslim countries like China, it is noticed that IFIs improvement is profoundly gathered in the Middle East and Asian countries. So, does an Islamic bank need to exist? This study and research results can explain its effect on a country. The Shariah law upheld by the Islamic Bank has an inseparable relationship with the social welfare of the Malaysian people. There is an inseparable relationship between SNCR and CAR, which can also show that they influence each other, whether they rise or fall. It can also prove that too many SNCR are distributed as benefits toward social welfare. In the long term, bank operations will be affected. Currently, Islamic banks are indeed a kind of detached existence. And this research is not to encourage the end of Islamic banking operations but to understand its inseparable relationship with society and make appropriate countermeasures after clarifying the relationship.

The purpose of this study is to identify the relationship between SNCR, CAR and also social welfare. Then, relate the impact of Shariah Non-compliance funds and bank profits towards Social Welfare in Malaysia. From the results shown, we can be sure that SNCR can indeed affect bank operations (through affecting CAR), and if not handled properly, it can even lead to bankruptcy. At the same time, it can also improve and enhance our country's social welfare. What to say? The above test uses the unemployment rate and GDP as the proxy, which can also be called mediating variables, to measure social welfare. Previous studies above can also prove that the unemployment rate and GDP can be used to measure social welfare so that this statement can be established. All in all, SNCR can cause bank bankruptcy and increase social welfare.

The purpose of this research has been achieved, and a good interpretation has been obtained. It can be seen that Islamic finance does indeed have great development potential. Apart from improper operation, the laws and regulations in Islamic finance can benefit bank users and enhance the country's social welfare. When people's social welfare improves, everyone's life will become more comfortable. It is of great help to the next generation of people. In general, social welfare is improved through Shariah Non-compliance funds, and the people's living standards are also improved. Then under such high-quality conditions, the children's educational quality will be improved accordingly. It is the non-indirect impact brought by Shariah Non-compliance funds by affecting social welfare. Undeniably, this has also made Malaysia much easier on the road to recovery and economic improvement. However, as the saying goes, water can carry and overturn a boat. Properly handling this can bring benefits to the people, but if not careful, it may cause a serious loss.

5.1 Recommendation

As mentioned above, excessive SNCR, as a charitable donation, will cause a crisis in bank operations. So, is the purpose of this research to eliminate Islamic financial institutions? Absolutely no. It is to enable relevant responsible persons to make protection regulations better. For example, SNCR spending can be restricted, and Islamic financial institutions can be protected so that even if banks spend too much SNCR, they can have enough time to recover and avoid the risk of bankruptcy. Azahar & Hanif (2018) and Hassan et al. (2014) stated that the Takaful and insurance benefits protection plan is an innovative product launched by the Malaysian Deposit Insurance Corporation (PIDM). It aims to provide clear protection for Takaful certificates and policyholders to prevent the loss of part or all of the benefits of insurance company members in the event of failure. The main goal of Takaful and insurance interest protection is to increase public confidence in the Malaysian financial system by protecting the owners of Takaful certificates and insurance policies from loss of profits. It is a very successful case done by the government. The people are assured of having a bank under the asylum to conduct transactions. As a result, the researchers hope to use the results of their research to allow the third party as a reference to create a regulation that protects explicitly Islamic financial institutions. In this case, Islamic financial institutions can improve social welfare, but there is no need to worry about the end of banking operations.

5.2 Limitations of the study

First of all, the sample size of the panel data model in this study is very small, including only 8 Islamic financial institutions in Malaysia. From 2014 to 2019 (6 years), there were 48 observations. The results will be more convincing for a large data sample because it covers more observations. Unfortunately, not all Islamic financial institutions' internal data are transparent and open. That is why the researchers only selected 8 of the 17 banks as the research objects. Of course, there is no obstacle in collecting the basic income and expenditure of the bank, but when the researcher is collecting more confidential data, such as SNCR (as a charitable donation to help people in need), non-performing loan, return on equity, and so on. This incident posed a challenge to the discovery and became a limitation in our research. Therefore, we can only collect a very limited time and a very limited of variables to conduct the analysis test.

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