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Research paper



The Impact of Intellectual Capital, Credit Risk and Corporate Social Responsibility on Banks' Profitability: Empirical Analysis of the Selected Malaysian Islamic Banks

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Abstract

The present research provides new empirical evidence on the impact of bank-specific characteristic factors (ie: intellectual capital, credit risk, and corporate social responsibility) and macroeconomic indicators (ie: nominal GDP growth rate and inflation rate) on the profitability of Islamic banks. The empirical analysis concentrates on the Malaysian Islamic banking industry over the period of nine years, from 2008 to 2016, by applying correlation analysis and multiple regression analysis. The paper finds that greater intellectual capital positively affects the profitability of Islamic banks operating in Malaysia. It means that intellectual capital is the main determinant effects on Malaysian Islamic banks' financial performance. A high intellectual capital exhibits the higher profitability level of Islamic banks. Whereas, credit risk, corporate social responsibility, and nominal GDP growth rate have a strong positive impact on return on equity (ROE) but not return on assets (ROA). Interestingly, there is no positive correlation between the inflation rate and the financial value of Malaysian Islamic banks. Thus, the success of Islamic banks in Malaysia relies on its efficiency of employing resources and profitability.

Keywords: *Islamic Banks, Intellectual Capital, Corporate Social Responsibility, Profitability, Macroeconomics* .

1. Introduction

In the banking system, commercial banks act as pivotal financial intermediaries in the economic development and prosperity of a nation (Ishaq, Karim, Ahmed & Zaheer, 2016). It influences economic growth, the savings return and the gross return for investment purposes (Demirguc-Kunt & Huizinga, 1999) and even controls the money supply (Ishaq et al., 2016). In other words, it furnishes long-term advantages for the economy expands (Ramlan & Adnan, 2016). In addition, it creates a competitive environment in the banking system to meet its customers' satisfaction and expectations (Ramlan & Adnan, 2016; Doumpos, Hasan & Pasiouras, 2017). Basically, there are two types of commercial banks: 1) conventional commercial banks and 2) Islamic banks (Ramlan & Adnan, 2016). These two banks are different from the aspect of its goals; risk-sharing practices; interest rates; foundation; products and management (Basah & Yusuf, 2013; Ramlan & Adnan, 2016).
In the banking arena, Islamic banks are financial institutions that apply Islamic jurisprudence principles to banking activities and to materialise the Islamic economic system (Hassan, 1999; Matar, 2017). For example, Islamic banks hold the principle of investing in businesses and investment must be based on legally permitted activities; avoiding gambling and speculation of transactions; paying zakat to benefit society; prohibiting interest rate practices for all transactions and complying Shari'ah (Islamic) principles, neither at a supervision level nor advice on the bank propriety of transactions (Basah & Yusuf, 2013; Matar, 2017). Islamic banking has two types of monetary resources which are self-resource and an external resource. Self-resource of Islamic banks usually consists of retained earnings and the paid-in capital of bank reserves. Whereas, the external resource refers to Islamic investment bonds, credit cards, financial guarantees, insurance letters, deposits of different types current accounts (ie: safe-keeping contacts), account covering funds documents, charities, grants, fee-based services, alms-giving box resources, profit-and-loss sharing financing, sales receivables and profit-sharing investment accounts (International Monetary Fund, 2015; Matar, 2017).
In view of Islamic financing, it relies on asset-based whereby the transaction must be done via sharing, engaging in agency contracts or exchanging. Furthermore, exploitation of parties on transactions is disallowed in order to create fair transactions. The ownership and profit entitlement relationship and the consequences of contracts must be recognised clearly and transactions of illegal products/ sectors are totally banned such as in activities of alcohol, tobacco, pornography, and arms. With this end in view, shari'ah risks can be alleviated and it can ensure stakeholders adhere to shari'ah compliance consistently (Ginena, 2014).
Islamic banking has been established as a practical reality since 1970's (Awan, 2009), based on countries' diverse political, religious environments, government effectiveness, cultural, corruption control and financial structures (Yanikkaya & Pabuccu, 2017; Doumpos et al., 2017). It is claimed that Islamic banks are strong, resilient when there is the global financial crisis (Doumpos et al., 2017; Matar, 2017).The example of countries have launched the Islamic banking sector are Saudi Arabia (1974), the United Arab Emirates (1975), Kuwait (1977), Bahrain (1978), Iran (1979),

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Pakistan (1980), the United Kingdom (UK) (1982), Malaysia (1983), Sudan (1984), Europe and North America (Hassan, 1999; Farook, Hassan & Lanis, 2011; Ramlan & Adnan, 2016; Yanikkaya & Pabuccu, 2017). In Malaysia, the existence of Islamic segment in the financial system as a transmission mechanism function of monetary policy is successful (Ousama & Fatima, 2015; International Monetary Fund, 2016). It leads the country to have low and stable inflation rate (International Monetary Fund, 2016). Islamic banks have been established since 1983 to provide an alternative commercial banking transaction for customers by applying Syari'ah principles. For this reason, the Islamic Banking Act (1983) comes out effective from April 7, 1983, to oversee Islamic banking activities (Ramlan & Adnan, 2016). For example, the first Islamic bank introduced in Malaysia during that time is Bank Islam Malaysian Berhad (Abduh & Idrees, 2013).

Although Malaysia's banking industry currently practices a dual banking system, it shows that 70 percent market share of conventional banks such as RHB Bank, Public Bank, CIMB, Malayan Bank is hit (Aris, Othman, Azli, Sahri, Razak & Rahman, 2013; Ramlan & Adnan, 2016). It means that conventional banks still dominate the banking system (Hassan, 1999) not only in Malaysia but also in worldwide. It seems possible to think of the Islamic banks' market share contribution in the global financial industry is relatively small, albeit it has been penetrated in the Middle East and Asian regions (Hassan, 1999; Doumpos et al., 2017) which can be seen in figure 1.

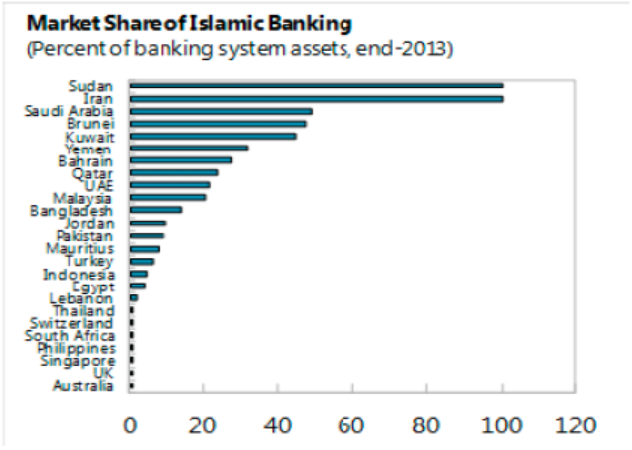


Figure 1: The Growth of Islamic Banking's Market Share in the Globe
Source: International Monetary Fund (2015)

Analysing the efficiency of Islamic banks, the empirical evidence provides a comprehensive picture of Islamic banks are moving to less cost and significantly higher on net profit efficiency than conventional banks. While, some others have favoured Islamic banks fail to consider risk and liquidity when transforming their inputs into outputs (Doumpos et al., 2017). Risk taking is a major concern of banks' risk tolerance. The failure of banks may affect the whole performance of the economy as it ties-up to various supply chains (Mokni, Rajhi & Rachdi, 2016). In addition, macroeconomics such as the inflation rate and Gross Domestic Product (GDP) growth may give a significant impact to banks' financial performance by increasing the pressure level (Aris et al., 2013). Hence, systematic risks can lead the economic system to a financial crisis if the excessive risk-taking by banks occur to maximise its shareholders' wealth (Mokni et al., 2016).

Moreover, credit risk sometimes might be appeared in Islamic financial institutions if Shari'ah risks are not being able to manage properly. This may lead stakeholders' confidence such as shareholders, customers, employees, and depositors to be lost over these institutions as they perceive that Islamic banks are no longer staying in its commitments. Consequently, customers begin to breach their finance contracts with their bank (Ginena, 2014). The profitability level of banks can be shrunk when mismanagement in every aspect of financial performance occurs, such as overlooked risks and rarely executing an assessment of a bank's financial performance (Al-Gazzar, 2014). In this regard, a higher level of reservations is necessarily needed by banks whenever credit risk levels increased. It is to protect them from the risk with preserving adequate reservations in accordance with the Basel I and Basel III (Alam, 2013; Louati, Louhichi& Boujelbene, 2016). Likewise, Islamic banks are said to have improper supervision because of lacking compliance and regulatory measures (Alam, 2013). Therefore, they are exposed more risks than their conventional counterparts such as the displaced commercial risk which derived from mismatching of their balance sheet and the risk of return of asset-based or risk-based instruments. The reason is Islamic banks adopt various shari'ah compliant instruments (Louati et al., 2016; Louhichi & Boujelbene, 2016). This sounds that a capital adequacy ratio is crucial for Islamic banks against its insolvency (Alam, 2013). With exerting the profit and risk-sharing principle in investments which to promote investors' participation in the capital market, the overall risk of Islamic financial institutions, particularly the credit risk can be minimised. The moral hazard and the adverse selection issues can be lower as well when effective supervision and rigorousness in the management of investment have been taken place (Louati et al., 2016).

In the new economy (ie: knowledge economy), firm financial success basically relies on the intellectual capital item success (Rezaei & Mousavi, 2015). It is aligned with a mission of Malaysia that moves toward to the Knowledge-based economy. It embarks to develop a knowledge-based society by applying various strategies (Ting & Lean, 2009). Intellectual capital items, especially professional and efficient human capital significantly influence the company's financial value. The banking industry, for instance, is recognised as the knowledge-intensive sector (Rezaei & Mousavi, 2015). This sector provides services offering orientated products to their customers. By injecting a large amount of financial capital and physical capital, intellectual capital is the dominant component in this industry for absorbing and utilising these resources to enhance banks' profitability, cost efficiency, serve competitive advantage among Islamic banks and conventional ones, accelerate economic growth and wealth development of the nation(Maditinos, Chatzoudes, Tsairidis & Theriou, 2011; Rezaei & Mousavi, 2015; Ousama & Fatima, 2015). The value missing from financial statements which induce a large gap between book value and market value of firms is another concern for the firm. This difference is derived from the creation of intellectual capital as the economic value source (Maditinos et al., 2011).

Empirical literature provided evidence that corporate social responsibility (CSR) affects the corporate profitability of the firm. The owners set up a corporation is to earn profits and at the same time, they must deliver better value to customers (Rashid, Abdeljawad, Ngalim Hassan, 2013). Businesses which have low morality and lacked ethics, of courses, destroy not only in financial but, also in social and environmental (Mosaid & Boutti, 2012). Thus, CSR involvement is essential for Islamic banks in the context of quality and innovation, Islamic accounting and disclosure requirements, social contribution for change, compliance to laws and norms and operational ethics (Farook, Hassan & Lanis, 2011; Rashid et al., 2013). In general, a profit and loss sharing process is the practice of Islamic banks as compared to conventional banks are focused more on risk transfer. Increasing customer satisfaction is the best motive for doing Islamic business in order to lift up the social relations of the businesses within Islamic law (Rashid et al., 2013). In other words, customer-centric CSR is important for Islamic banks to sustain trust among customers. Additionally, Islamic banking is supposed to have an ethical identity (Mosaid & Boutti, 2012). According to Farook et al. (2011), some Islamic banks disclose 35 percent of voluntary social disclosure, whereas other banks have not revealed social information at all although their annual reports present an Islamic reality of components. Contrary, another interesting and important evidence highlighted that knowledge-based sectors like accounting, finance, and banking do not necessarily engage in CSR practices (Adapa, 2013).

In this sense, this paper attempts to provide some insight to the extent of bank-specific characteristics determinants and macroeconomic factors in the context of Malaysian Islamic banks' financial performance. In particular, it looks into the relationship of CSR involvement, credit risk and intellectual capital, nominal GDP growth rate and inflation rate on the corporate profitability of Islamic banks. With the government supports (Sobol, 2014; Yanikkaya & Pabuccu, 2017), the merging of Islamic banking products and services have been accepted widely in the Malaysian community. It serves alike to Muslim and non-Muslim customers (Adapa, 2013). The path is leading Malaysia to become the world's leading Islamic financial centre (Sobol, 2014). Also, it is to ensure the efficiency and effectiveness banking system is vital in the economic development and for a long-term growth (Bintawim, 2011). Empirical studies on the Islamic banking sector, particularly in Malaysia is still in its infancy (Sufian, 2014). The existing literature on intellectual capital, credit risk and CSR linkage with the nominal GDP growth rate, inflation rate and profitability of Islamic banks is also scant. Most of the studies purely focus on a single relationship of the variables investigated to evaluate the efficiency of Islamic banks (Alam, 2013; Ginena, 2014; Ousama & Fatima, 2015; Louati et al., 2016; Ramlan & Adnan, 2016; Doumpos et al., 2017) and in other industries such as the software sector (Maditinos et al., 2011; Kweh, Chan & Ting, 2013). The contributions of this study are divided into twofold. This paper will contribute to the existing literature by looking at the impact of intellectual capital, CSR, and credit risk on the financial value in the Islamic banking industry. The association between bank-specific characteristics and macroeconomic effects (ie: inflation rate and nominal GDP growth rate) is measured and examined as well. The remainder of this paper is organised as follows: Section 2 presents a brief review of related literature, while section 3 highlights the methodology, variables and data employed. In section 4, the empirical results obtained are discussed further and Section 5 concludes the overall findings of the study.

2. Literature Review

2.1. Comparison between Islamic Banks and Conventional Banks

In the financial sector, regulations are the framework to control the establishment, operations, and liquidation of banks, which set and carried out by Central banks and Finance ministries. It is to protect bank depositors such as businesses and individuals of their savings against risks. With strictness banking supervision and regulation, banks still have freedom of risk-taking depending on its activities to maximise bank asset portfolio risk. For Islamic banking perspective, a legal framework for monitoring and supervising effectively is largely needed since it is in the developing stage (Alam, 2013). Analysing at banks' activities in conventional and Islamic, it differs in the sense of their interest, assets, relationships, aims, investor assurance, products (ie: deposits, credits, financings) and liabilities as depicted in tables 1, 2 and 3 (Aris et al., 2013; International Monetary Fund, 2015; Aziz, Husin & Hashmi, 2016).

2.2. Intellectual Capital

In the rising of a knowledge-based economy nowadays, intellectual capital management has been the main heart of the company's operation (Kamal, Mat, Rahim, Husin & Ismail, 2012) regardless of non-profit or profit-oriented in order to determine the sustainability and the wealth of the firm (Adnan, Kamaluddi & Kasim, 2013). It is viewed as an asset, representing stocks to the creation of organisational value and including of intangible assets of markets, employees, infrastructures, the relationships with the firm's stakeholders and intellectual property. With these intellectual capitals, the firm can be functioning well to cater for sustaining in a competitive edge of the marketplace (Kamal et al., 2012; Ulum, Ghozali & Purwanto, 2014). Knowledgeable and managerial capabilities of employees,

Table 1: The Difference of Banks' activities between Conventional and Islamic

	CONVENTIONAL BANKS	ISLAMIC BANKS
Functions and operating modes	Fully based on man-made principles.	Must be based on *Shari'ah* principles.
Investor assurance	Predetermined rate of interest.	Investor as capital provider and management as entrepreneur share the risk, hence profit rates are only indicators.
Aims	Maximizing profit without any restrictions.	Maximizing profit subject to *shari'ah* restrictions.
Rules of accounts	Governed by product terms and conditions.	Governed by undertaking contracts, determining the terms and conditions.
Fundamental function	Lending and borrowing with compounding interest.	Participation in partnership business. Important to understand the customers' business.
Relationship	Creditors and debtors.	Could be: • Partners, • Investors and traders, • Buyers and sellers.
Deposits rate and guarantee	Fixed interest rates and deposits are fully guaranteed.	Non-guaranteed return may be given as *hibah* (gift) and rate of return must be indicative rate. Only *wadiah* deposit accounts are guaranteed.
Loan / financing rate	Usually based on floating rates, BLR +/- rates.	• Fixed profit mark-up (*Bai Bithamin Ajil, Murabahah*) • Floating profit rates (*Musharakah, Ijarah*)

Source: Aris et al. (2013)

Table 2: Products Differentiation of Conventional and Islamic Banks

CONSUMER SEGMENT	PRODUCT NAME	CONTRACT USED
Deposit	Current account Saving account	• *Wadiah* (safe keeping) • *Mudharabah* (profit sharing)
	Staff deposit account	*Qard Hassan* (benevolent)
Credit	Credit card	*Tawarruq* (cost plus sale)
Financing	House financing	• *Bai Bithaman Ajil - BBA* (deferred payment sale) • *Musharakah Mutanaqisah* (diminishing partnership)
	Personal financing	• *Murabahah* (cost plus) • BBA (deferred payment sale) • *Bai Inah* (immediate cash)
	Vehicle financing	• BBA (deferred payment sale)
	Staff financing	*Qard Hassan* (benevolent)
CORPORATE SEGMENT	PRODUCT TYPE	CONTRACT USED
	Trade financing	• *Wakalah* (agency) • *Mudharabah* (profit sharing) • *Murabahah* (cost plus)
	Asset based financing	• *Ijarah* (leasing), • *Istisna* (purchase order)
	Corporate investment	• *BBA* (deferred payment) • *Ijarah* (leasing) • *Istisna* (purchase order) • *Murabahah* (cost plus) • *Mudharabah* (profit sharing) • *Musharakah* (profit and loss sharing)

Source: Aris et al. (2013)

Table 3: A Balance Sheet Comparison between Islamic Banks and Conventional Banks

Balance Sheet of an Islamic Financial Institution 1/	Balance Sheet of a Conventional Financial Institution
Assets	**Assets**
Cash and cash equivalents	Cash and cash equivalents
Investment in securities	Investment in securities
Sales Receivables	Loans and advances
Investments in leased assets	Statutory deposits
Investments in real estate	
Equity/Profit-sharing financing	
Investment in Subsidiaries	Investment in Subsidiaries
Fixed assets	Fixed assets
Other assets	Other assets
Liabilities	**Liabilities**
Current Accounts	Current Accounts
	Saving and Time Deposits
Other Liabilities	Other Liabilities
Equity of PSIA	
PSIA (Unrestricted)	
Profit Equalization Reserve	
Investment Risk Reserve	
Owner's Equity	**Owner's Equity**
PSIA (Restricted) [Off-balance Sheet] [letters of credit/guarantees]	Off-balance Sheet [letters of credit/guarantees/derivatives]

Note: PSIA= profit-sharing investment account.

1/ Differences are in red.

Source: International Monetary Fund (2015)

an example, generate performance and wealth for the firm equipping with the corporation's strategic goals (Kamal et al., 2012). Basically, intellectual capital (IC) is measured by the net value added intellectual coefficient, which consists of three key components: 1) human capital; 2) the relational capital used; 3) structural capital (Kamal et al., 2012; Adnan, Kamaluddi & Kasim, 2013; Ulum et al., 2014). For human capital, it usually refers to knowledge, motivation, flexibility, and agility with skill sets and health, competencies, experiences, and personality attributes of individuals owned (Kamal, et al., 2012; Adnan et al., 2013). This capital is a necessity for the financial industry, particularly banks, which look for future generation of professional executives who are highly qualified, technology-savvy, customer-centric, endowed with comprehensive skills, then now (Kamal et al., 2012; Ulum et al., 2014; Ousama & Fatima, 2015; Rezaei & Mousavi, 2015). By continuously investing in human capital, firm performance is higher as it drives and supports value creation over time (Adnan et al., 2013). On the other hand, the structural capital of the firm comprises of culture, trust, transparency, patents, policies, processes, formulas, the competitive intelligence, information systems, strategies, process manuals, organisational charts, the databases and routines (Maditinos et al., 2011; Kamal et al., 2012). The capability of structural capital does significantly impact on the financial performance of the firm (Adnan et al., 2013). Aside from this, the ability of the company to generate revenue by using the operating assets' value is represented as the capital employed. This capital is fully fed by shareholders' equity and debts, especially from stockholders, government, the society, customers, and suppliers. Sometimes, relational capital relates to dependent systems that link with the firm environment (Adnan et al., 2013). Therefore, the IC is said more compatible for the banking sector and has a positive relationship to the profitability of the corporation (Maditinos et al., 2011; Kamal et al., 2012; Adnan et al., 2013; Ousama & Fatima, 2015; Rezaei & Mousavi, 2015).

2.3. Credit Risk

With regard to the risk profile, credit risk is an inability of counterpart to meet his/her contractual obligations and repay the promised amount back in the specified agreed terms (Yap, Chan & Kyzy, 2012; Louhichi & Boujelbene, 2016). The level of credit risk exposure commonly relies on the quality of the bank's resources (Ishaq, Karim, Ahmed & Zaheer, 2016).In Islamic banking, credit risks appear to occur frequently when banks do a transaction which involves money, namely in Istisna, Salam, Murabahah, Mudarabah and even Musharakah contracts. It is due to the nature of the contract and inability of banks to charge a penalty to another party. The counterpart may misuse this privilege of the contract (Yap et al., 2012). For instance, the entrepreneur fails to pay the share payment of the bank or the Islamic bank could not obtain cash when delivering an asset. As a result, asymmetric information easily happens between the lender and the borrower (Louhichi & Boujelbene, 2016). Additionally, a negative effect of non-performing loans as an important source of contributing profit is affected (Hamedian, 2013). Extant research is of the view that a deteriorated economic environment causes credit risks to be raised quickly such as lower real GDP growth rate, higher interest rates, and unemployment rates as well as declining in share prices (Louhichi & Boujelbene, 2016; Haryono et al., 2016). These macroeconomic indicators, on the other hand, affect changes in the non-performing loans to total loans (NPLs) ratio (Haryono, Ariffin & Hamat, 2016). Consequently, bank failures and financial crises will be happening (Louhichi & Boujelbene, 2016).

2.4. Corporate Social Responsibility

Empirical work on corporate social responsibility disclosure in the Islamic banking industry is still going into the investigation. Corporate social responsibility disclosure is the association between the community and a business (Mosaid & Boutti, 2012). Managers of the company should consider multi-stakeholders' welfare rather than focusing on maximising the shareholders' wealth at all the time. There are a few motivations of firms involving in CSR not only for a better society and world but, also from institutional pressures to attain a good reputation and financial gains (Galant & Cadez, 2017). First, it is easy to attract quality employees and market products and services. Second, it creates unforeseen opportunities and competitive advantage environment for doing a business. Third, it generates cost savings, increases revenue and market share of the company as well as diminishes the risk (Galant & Cadez, 2017). Instrumental, political, integrative and ethical theories are major linked to explain a responsible way of doing the business with considerable the social phenomenon. The engagement of CSR by Islamic banks is basically looking at the management team structure, Shari'ah committee composition, and the board representative to measure equality and shari'ah committees' inclusiveness and diversity (Adapa, 2013). To sustain competitiveness, financial performance and responsible to customers in the banking industry, banks have to instill CSR with the elements of effectiveness and efficiency of the internal audit process that added value to stakeholders, risk assessment, the economic scenario, revise marketing strategy, customers' concerns and fair operation procedures for the community and customers (Yeung, 2011). Therefore, CSR has influenced on corporate financial performance (Galant & Cadez, 2017).

2.5. Nominal GDP Growth Rate

The key summary value of a country's economic activity such as finished goods and services produced in a specific time period is generally shown by gross domestic product (Konchitchki & Patatoukas, 2014; Abduh & Alias, 2014). The aim of GDP is to measure the economic growth. The calculation of GDP depends on the income component such as employee compensation, taxes on production and imports as well as sums corporate profits (Konchitchki & Patatoukas, 2014). When there is a high economic growth rate, it indicates the better of the business environment. Consequently, the bank entry barriers are lower (Tan, 2016). Analysing at the banking sector, GDP growth rate affects the demand for bank loans and the state of the economic cycle (Kosmidou, Tanna & Pasiouras, 2008). Not surprisingly, a good economic growth leads to a high demand for non-interest and interest activi-

ties of banks and hence the profitability of banks is improved (Abduh & Yameen, 2013).

2.6. Inflation Rate

The real value of revenues and costs is influenced by inflation rate (Kosmidou et al., 2008). The higher the income of the bank usually generates a positive effect on profitability and vice versa (Abduh & Yameen, 2013). Inflation rate measures the price level of goods and services. If the price increases, purchasing power will be decreased (Abduh & Alias, 2014). Thereby, it has an impact on the firm's financial value either negative or positive relying on its anticipation (Kosmidou et al., 2008).

2.7. Bank Profitability

In accordance with the agency theory, banks' profitability is highly related to resources. The higher of the financial value of banks, the higher of resources available in their operations. It is to ensure the agency problem and moral hazard can be minimised if they practice good loan quality underwriting, controlling and monitoring in banks (Haryono et al., 2016).Financial performance is to measure the final economic success of the firm after considered the capital invested and the balance amount of costs (Nirmali, 2017). It means that profitability represents the net after-tax income of banks (Kanwal & Nadeem, 2013). Although there are many ways to measure profitability, it has specific complications. It can be measured with two different methods of measures which are looking at accounting measures to capture an absolute figure and a ratio to describe the profit rate from historical data of firm performance (Kosmidou et al., 2008; Ekatah, Samy, Bampton & Halabi, 2011; Nirmali, 2017). For example, return on assets (ROA), return on equity (ROE), return on investment (ROI), return on capital employed (ROCE), gross operating income margin and net operating income margin (Kanwal & Nadeem, 2013; Nirmali, 2017). Market measures are another method based on market performance to foresee the ability of the corporation in producing future economic earnings. This measure is favourable for investors as it has a proper performance measure of the company performance (Ekatah et al., 2011).

3. The Research Framework and Hypotheses Development

The research framework of this study comprises of the relationship between bank-specific characteristics (intellectual capital, credit risk, corporate social responsibility) and macroeconomic indicators (nominal GDP growth rate and inflation rate) on Malaysian Islamic banks' financial performance. Figure 2 illustrates the research framework of this paper.

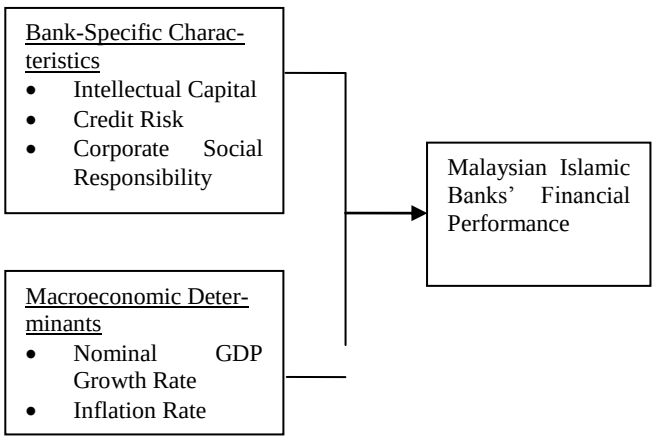


Figure 2: Research Framework

Source: Developed by the Author

3.1. Intellectual Capital and Profitability

Among other things are constantly changing, IC is the ability of a corporation to contribute value by employing human capital, relational capital and structural capital (Adnan et al., 2013). Ulum et al. (2014) found that the state banks of Indonesia have a very good performance of IC and are able to compete with other banks. Kamal et al. (2012) documented that human capital and capital employed of IC have a significant impact on increasing commercial banks' performance in Malaysia. Ousama and Fatima (2015) identified that the financial performance of Islamic banks is influenced significantly by IC efficiency. Maditinos et al. (2011) analysed the association between IC, market value, and profitability of Greek listed companies. They found the favourable support that human capital efficiency is a statistically significant relationship to corporate profitability. Rezaei and Mousavi (2015) provided a direct link between IC and financial performance with evidence that the Islamic banks' financial value was significantly and positively affected by IC. Ameneh, Bagher and Zhale (2014) revealed that human capital efficiency and the structural capital are positive and significantly associated with banks' financial performance in Iran. Therefore, the IC hypothesis of this study is:

H1: There is a positive relationship between intellectual capital and profitability of Malaysian Islamic banks.

3.2. Credit Risk and Profitability

Despite Islamic banks apply Bank-o-Meter model in managing credit risk, findings from the past researchers are inconsistent (Massah & Al-Sayed, 2015). Ali, Akhtar and Ahmed (2011) discovered that lower return on assets results from the higher credit risk and capitalisation in public and private commercial banks of Pakistan. In relation to this, it is clearly depicted that there is a negative effect of profitability on credit risk. In a similar vein, Sufian (2009) highlighted that a high credit risk of banks will lead to the low level of financial performance of banks in Malaysia. Furthermore, Sufian (2014) stated that a high credit risk is negatively significant to Islamic banks' profitability which operating in the Middle East and North Africa region (MENA). The consistent result in Massah and Al-Sayed (2015) is that a higher credit risk, the financial value of Islamic banks is lesser in the United Arab of Emirates. By contrast, Yap et al. (2012) reported that there is a positive significant relationship between credit risk and financial value of Malaysian Islamic commercial banks. Thus, the hypothesis for the credit risk is:

H2: There is a positive relationship between credit risk and profitability of Malaysian Islamic banks.

3.3. Corporate Social Responsibility and Profitability

The alignment of business values and behaviour with stakeholders' needs and expectations is known CSR. As bank financing is part of supplying the fund in the market to support the production process, it eventually causes environmental degradation. Banks struggle to balance out economic and social goals to ensure their profitability (Ahmed, Islam & Hasan, 2012). Saaeidia (2014) did the empirical analysis on 205 Iranian manufacturing and consumer product organizations. They stipulated that firm performance is influenced positively and greatly by CSR. As a result, these firms have a good reputation, competitive advantage, and customer satisfaction. Ahmed et al. (2012) found that banks with high CSR performance, corporate financial performance is higher. This result was obtained from the analysis of the banking sector in Bangladesh. Saeidi, Sofian, Saeidi, Saeidi and Basah and Yusuf (2013) suggested that Islamic banks' financial performance will be better than conventional banks if they proactive in CSR activity and policies within the religious provision. Varenova, Samy and Combs (2013) identified that CSR has a positive relationship to

profitability because CSR is a strong commercial element of sales. Ekatah et al. (2011) showed that the financial value of the Royal Dutch Shell Plc is positively significant and statistically correlated to CSR. Hence, the hypothesis of CSR for this study is:

H3: There is a positive relationship between corporate social responsibility and profitability of Malaysian Islamic banks.

3.4. Nominal GDP Growth Rate

Higher profits can be obtained by corporations when there is the existence of a favourable macroeconomic environment (Bashir, 2003). Kanwal and Nadeem (2013) contended that an insignificant positive relationship between real GDP and ROA, but an insignificant negative effect on ROE is found. Hong and Razak (2015) found that nominal GDP is significantly positively related to return on average asset. Bashir (2003) highlighted that higher GDP growth rate stimulates a positive significant relationship to the performance of banks. Ali et al. (2011) asserted that the profitability of banks is positively affected by GDP. Therefore, the hypothesis of nominal GDP growth rate is:

H4: There is a positive relationship between nominal GDP growth rate and profitability of Malaysian Islamic banks.

3.5. Inflation Rate

High inflation rates indicate the country has diseconomies of scale and immovability of the economy (Ali et al., 2011). Abduh and Yameen (2013) stipulated that there is a significant positive effect of inflation rate on the financial performance of Islamic banks. In the same vein, inflation rates have strong positive implications for the bank's performance, which found by Bashir (2003). Conversely, Kanwal and Nadeem (2013) revealed that inflation rate is negatively related to profitability in Pakistan's public limited commercial banks. Hong and Razak (2015) stipulated that the inflation rate is an insignificantly negative impact on the profitability ratio. Abduh and Alias (2014) discovered that the financial value of the banks has a negative significant relationship to the inflation rate. Thus, the inflation rate hypothesis of this study is:

H5: There is a positive relationship between inflation rate and profitability of Malaysian Islamic banks.

4. Data and Methodology

While collecting the data, this study faces the limitation in the context of the unavailability of some data for most of the banks such as CIMB Islamic Bank Berhad (in the year of 2008), Maybank Islamic Berhad (in the years of 2008, 2009 and 2010), Alliance Islamic Bank Berhad (in the years of 2008, 2009 and 2010) and Public Islamic Bank Berhad (in the years of 2008, 2009 and 2010). To carry out the study, a sample size of10 Islamic banks in Malaysia over the period 2008-2016 is selected. These Islamic banks are Affin Islamic Bank Berhad, Alliance Islamic Bank Berhad, AmIslamic Bank Berhad, Bank Islam Malaysia Berhad, Bank Muamalat Malaysia Berhad, CIMB Islamic Bank Berhad, Hong Leong Islamic Bank Berhad, Maybank Islamic Berhad, Public Islamic Bank Berhad and RHB Islamic Bank Berhad. The main data source of Islamic banks is obtained from their annual reports, websites of banks and Bloomberg including data on macroeconomic determinants.

To better understand the determinants that explain the profitability of Islamic banks in Malaysia, the study applies Pearson Correlations and Multiple Regression of data analysis on the collected data. The baseline model is formulated as follows:

$$ROA = \beta_0 + \beta_1 IC + \beta_2 CR + \beta_3 CSR + \beta_4 NOMGDP + \beta_5 IR + \varepsilon \quad (1)$$

$$ROE = \beta_0 + \beta_1 IC + \beta_2 CR + \beta_3 CSR + \beta_4 NOMGDP + \beta_5 IR + \varepsilon \quad (2)$$

Extending from the equations (1) and (2) to reflect the variables, it can be explained as follows:

IC – Intellectual Capital
CR – Credit Risk
CSR – Corporate Social Responsibility
NOMGDP – Nominal Gross Domestic Product
IR – Inflation Rate

In computing all related variables, ratios are employed in this research. The measurement of intellectual capital is adopted from Ousama and Fatima (2015), where the value added intellectual coefficient (VAIC) is the coefficient of value added (VA) efficiency of intellectual capital. VAIC comprises of three efficiency coefficients which are human capital efficiency (HCE), structural capital efficiency (SCE), and capital employed efficiency (CEE). The formula is shown below:

VAIC = HCE + SCE + CEE

To calculate HCE, VA is considered by taking outputs (ie: all income) minus inputs (ie: all expenses except personnel costs) and then divided by total salary and wage (HC). The formula of HCE is:

$$HCE = \frac{VA}{HC}$$

SCE is to measure VA by considering the amount to be invested in structure capital (SC). The difference between VA and HC is SC or SC = VA – HC. Then, the ratio of SCE is:

$$SCE = \frac{SC}{VA}$$

For CEE, it considers the ratio the firm's VA and capital used (looking at the book value of the firm's net assets). Following is the ratio of CEE:

$$CCE = \frac{VA}{CE}$$

A proxy for credit risk, loan loss provisions over total loans are used for this study, which obtained from Sufian (2009) and Massah and Al-Sayed (2015). The formula is:

$$\frac{Loan\ Loss\ Provisions}{Total\ Loan}$$

For measuring the level of corporate social responsibility of Islamic banks, it is measured by deploying a disclosure index, which derived from the checklist of Mosaid and Boutti (2012). The checklist consists of 9 dimensions with 82 items. When an item is disclosed in the annual report of the bank, a score of 1 is given and 0 is the item that does not disclose.Therefore, CSR is computed:

$$CSRDIbt = \frac{\sum_{i=1}^{n} xibt}{n}$$

Where:

CSRDIbt = Corporate social responsibility disclosure index for bank b and time period, t (year)
x_ib_t = Equivalent to 1 if an item, i, is revealed for bank b and time period, t (year)
n = The overall of 82 items

Nominal GDP growth rates and inflation rates are a proxy for economic conditions. The demand and supply of banking services are reflected in the state of economic and directly influences to bank profitability neither positive nor negative (Sufian, 2009).

5. Results and Findings

5.1. Results for Descriptive Statistics

Table 4 indicates descriptive statistics for the period 2008 to 2016. The result shows that the average ROA for Malaysian Islamic banks is 0.69% with a maximum value of 1.65% and ROE is 10.36% with a maximum value of 29.53%. For intellectual capital, the average of HCE, SCE and CEE are 11.62, 0.67, 0.19 respec-

tively. Credit risk has the average of 58.22 and 40.61 is for corporate social responsibility. Furthermore, the average of macroeconomic variables such as nominal GDP growth rate and the inflation rate is 4.60% and 2.47% respectively.

Table 4: Descriptive Statistics of Variables in 2008 - 2016

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
ROA	90	.0000	1.6539	62.3825	.693139	.3575788	.128
ROE	90	.0000	29.5315	932.2754	10.358616	5.4215151	29.393
HCE	90	.0000	55.6780	1046.0823	11.623137	14.6018361	213.214
SCE	90	.0000	.9820	60.0751	.667501	.3001983	.090
CEE	90	.0000	.4341	17.3835	.193150	.0959288	.009
CR	90	.0000	88.4595	5240.1107	58.223452	24.0785345	579.776
CSR	90	.0000	73.1707	3654.8780	40.609756	20.2546551	410.251
GDP	90	-1.5000	7.4000	414.0000	4.600000	2.3387310	5.470
IR	90	.8500	5.4500	222.5000	2.472222	1.2658237	1.602
Valid N (listwise)	90						

5.2. Results for Correlation

Table 5: Correlation of ROA

		ROA	HCE	SCE	CEE	CR	CSR	GDP	IR
Pearson Correlation	ROA	1.000	.407	.677	.732	.654	.421	.204	-.050
	HCE	.407	1.000	.689	.025	.485	-.003	.103	-.063
	SCE	.677	.689	1.000	.408	.838	.469	.139	-.091
	CEE	.732	.025	.408	1.000	.531	.472	.184	-.097
	CR	.654	.485	.838	.531	1.000	.595	.191	-.125
	CSR	.421	-.003	.469	.472	.595	1.000	.228	-.098
	GDP	.204	.103	.139	.184	.191	.228	1.000	.333
	IR	-.050	-.063	-.091	-.097	-.125	-.098	.333	1.000
Sig. (1-tailed)	ROA	.	.000	.000	.000	.000	.000	.027	.319
	HCE	.000	.	.000	.409	.000	.488	.167	.277
	SCE	.000	.000	.	.000	.000	.000	.096	.197
	CEE	.000	.409	.000	.	.000	.000	.042	.180
	CR	.000	.000	.000	.000	.	.000	.035	.121
	CSR	.000	.488	.000	.000	.000	.	.015	.180
	GDP	.027	.167	.096	.042	.035	.015	.	.001
	IR	.319	.277	.197	.180	.121	.180	.001	.
N	ROA	90	90	90	90	90	90	90	90
	HCE	90	90	90	90	90	90	90	90
	SCE	90	90	90	90	90	90	90	90
	CEE	90	90	90	90	90	90	90	90
	CR	90	90	90	90	90	90	90	90
	CSR	90	90	90	90	90	90	90	90
	GDP	90	90	90	90	90	90	90	90
	IR	90	90	90	90	90	90	90	90

Table 5 illustrates the correlation result of ROA. The study found that intellectual capital, credit risk and nominal GDP growth rate are significantly correlated with Malaysian Islamic banks' profitability measured by ROA, but not inflation rates, at 1% level of alpha.

Table 6: Correlation of ROE

		ROE	HCE	SCE	CEE	CR	CSR	GDP	IR
Pearson Correlation	ROE	1.000	.440	.711	.812	.629	.343	.198	-.058
	HCE	.440	1.000	.689	.025	.485	-.003	.103	-.063
	SCE	.711	.689	1.000	.408	.838	.469	.139	-.091
	CEE	.812	.025	.408	1.000	.531	.472	.184	-.097
	CR	.629	.485	.838	.531	1.000	.595	.191	-.125
	CSR	.343	-.003	.469	.472	.595	1.000	.228	-.098
	GDP	.198	.103	.139	.184	.191	.228	1.000	.333
	IR	-.058	-.063	-.091	-.097	-.125	-.098	.333	1.000
Sig. (1-tailed)	ROE	.	.000	.000	.000	.000	.000	.031	.295
	HCE	.000	.	.000	.409	.000	.488	.167	.277
	SCE	.000	.000	.	.000	.000	.000	.096	.197
	CEE	.000	.409	.000	.	.000	.000	.042	.180
	CR	.000	.000	.000	.000	.	.000	.035	.121
	CSR	.000	.488	.000	.000	.000	.	.015	.180
	GDP	.031	.167	.096	.042	.035	.015	.	.001
	IR	.295	.277	.197	.180	.121	.180	.001	.
N	ROE	90	90	90	90	90	90	90	90
	HCE	90	90	90	90	90	90	90	90
	SCE	90	90	90	90	90	90	90	90
	CEE	90	90	90	90	90	90	90	90
	CR	90	90	90	90	90	90	90	90
	CSR	90	90	90	90	90	90	90	90
	GDP	90	90	90	90	90	90	90	90
	IR	90	90	90	90	90	90	90	90

When analysing ROE perspective, it confirms that the relationship between intellectual capital, credit risk, nominal GDP growth rate and the financial performance of Malaysian Islamic banks is significantly correlated, except inflation rates, at 1% alpha which shown in table 6. Both results of tables 5 & 6 are in line with hypotheses 1, 2, 3 and 4 but not 5. It is observed that the effects of inflation on the profitability of the bank may rely on the anticipation and unexpected of inflation rate in the market which looking at the adjusted interest rates (Sufian, 2009; Abduh & Yameen, 2013).

5.3. Results for Regression

Table 7: Model Summary, Anova and Coefficients of ROA

Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.852a	.725	.702	.1952008	.725	30.951	7	82	.000

a. Predictors: (Constant), IR, HCE, CSR, GDP, CEE, CR, SCE

b. Dependent Variable: ROA

ANOVA a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.255	7	1.179	30.951	.000b
	Residual	3.124	82	.038		
	Total	11.380	89			

a. Dependent Variable: ROA

b. Predictors: (Constant), IR, HCE, CSR, GDP, CEE, CR, SCE

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.074	.077		-.966	.337		
	HCE	.004	.002	.173	1.761	.082	.349	2.868
	SCE	.409	.165	.344	2.487	.015	.175	5.699
	CEE	2.274	.274	.610	8.291	.000	.619	1.617
	CR	-.001	.002	-.036	-.296	.768	.225	4.443
	CSR	.000	.001	-.007	-.088	.930	.477	2.096
	GDP	.003	.010	.022	.338	.736	.777	1.287
	IR	.011	.018	.039	.607	.545	.830	1.205

In the context of regression analysis, table 7 points out the model of ROA for Islamic banks in Malaysia. The result states that R-square is 72.5% and the adjusted R-square is at 70.2%. The R-square is the variance percentage derived from the dependent variable that explained by the independent variables. The adjusted R-square is to correct R-square value in the closely reflecting the goodness of suitability of the model in the population (Abduh &

Alias, 2014). Also, the F-test is 30.951 and independent variables such as HCE, CR, CSR, nominal GDP growth rate and IR are not positive significant at 5% alpha for ROA. However, SCE and CEE have a positive significant relationship to ROA. The meaning is that structural capital efficiency and capital employed efficiency are supporting the hypothesis 1. The result does not support the rest of hypotheses which have mentioned earlier.

Table 8 Model Summary, Anova and Coefficients of ROE

Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.946a	.895	.886	1.8265610	.895	100.298	7	82	.000

a. Predictors: (Constant), IR, HCE, CSR, GDP, CEE, CR, SCE

b. Dependent Variable: ROE

ANOVA a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2342.383	7	334.626	100.298	.000b
	Residual	273.579	82	3.336		
	Total	2615.961	89			

a. Dependent Variable: ROE

b. Predictors: (Constant), IR, HCE, CSR, GDP, CEE, CR, SCE

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.334	.720		-1.852	.068		
	HCE	.055	.022	.148	2.452	.016	.349	2.868
	SCE	10.074	1.540	.558	6.543	.000	.175	5.699
	CEE	43.622	2.566	.772	16.999	.000	.619	1.617
	CR	-.053	.017	-.236	-3.132	.002	.225	4.443
	CSR	-.040	.014	-.149	-2.873	.005	.477	2.096
	GDP	.081	.094	.035	.865	.389	.777	1.287
	IR	.094	.168	.022	.562	.575	.830	1.205

a. Dependent Variable: ROE

Furthermore, the ROE model as shown in table 8 demonstrates that R-square of ROE is 89.5% and 88.6% is the adjusted R-square. The value of the F-test is computed as 100.298. The model stipulates that HCE, SCE, CEE, CR, CSR have a significant positive to ROE, at $p < 5\%$ alpha. It means that intellectual capital, credit risk and corporate social responsibility are supporting the hypotheses 1 to 3. On the other hand, nominal GDP growth rate and IR do not have any positive influenced by ROE. Therefore, hypotheses 4 and 5 are not supported. From these findings, it implies that a higher of intellectual capital, credit risk and corporate social responsibility exhibit higher profitability level of Islamic banks in Malaysia. Yet, high nominal GDP growth rate and IR will have no effects on ROE.

6. Conclusions and Recommendation

This article examines determinants that affect Islamic bank profitability in a developing economy like Malaysia. Specifically, it explores the relationship between bank-specific characteristic factors: intellectual capital, credit risk as well as corporate social responsibility and macroeconomic indicators: nominal GDP growth rates and inflation rates on the financial value of Islamic banks during the period 2008 to 2016. During the period under study, empirical findings confirm that Malaysian Islamic banks with a higher intellectual capital, credit risk and corporate social responsibility lead to the higher profitability level measured by ROE. Nonetheless, there is no positive relationship between the level of nominal GDP growth rate, inflation rate and ROE of Islamic banks.

While a high intellectual capital in Malaysian Islamic banks has a positive impact on ROA. Nevertheless, Malaysian Islamic banks' profitability (ROA) does not have any influenced by credit risk, corporate social responsibility, nominal GDP growth rate and inflation rate. Analysing to both findings of ROA and ROE as explained earlier, the study identifies that intellectual capital is the most critical factor influences on Islamic banks' profitability in Malaysia. With strong intellectual capital in Malaysian Islamic banks, it can improve greatly their financial performance and manage to meet the aim of Malaysia to become an Islamic financial centre. Moreover, it provides a more competitive advantage to the banks over its peers. The inflation rate is another important indicator in predicting the Malaysian Islamic bank's profitability level. All results report that there is no positive association between the inflation rate and the financial performance of Islamic banks in Malaysia. For correlation analysis of ROA and ROE, all bank-specific and macroeconomic determinants are positively reflected in the Islamic banks' financial value excluding inflation rates. In a nutshell, the success of the Malaysian Islamic banking nowadays highly depends on its efficiency of utilising resources wisely and its sustainable profitability in a competitive market. Future studies may extend this study by looking at the comparison of profitability between local and foreign Islamic banks or in other sectors in lieu of the banking context. This study also suggests that future researchers can explore the market-based performance, such as market to book ratio and the economic value added than accounting performance with applying the sophisticated analysis method.

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