

**Corporate Sustainability and Financial  
Performance of Middle Eastern Islamic Banks**

by

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## **Author's Declaration**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## **Abstract**

**Purpose:** This research analyzes the connection between the sustainability performance and the financial indicators of Middle Eastern Islamic banks to determine whether the implementation of sustainability regulations had any impact on their financial performance.

**Design/Methodology/Approach:** The research examines the financial and sustainability-related performance indicators taken from published annual reports and websites of Middle Eastern Islamic banks. To analyze cause and effect variables, the indicators will be examined by conducting Linear, Panel Regression and Granger causality.

**Results:** The environmental and social performance of Middle Eastern Islamic banks increased significantly between 2014 and 2018. Furthermore, a bi-directional causality between financial performance and sustainability performance of Middle Eastern Islamic banks has been found. This interaction may be explained by the good management theory and slack resources theory and influenced by the stakeholder's pressure to adhere to Islamic values and the institutional pressure of the AAOIFI standards.

**Research limitations:** The environmental and social performance of Middle Eastern Islamic banks progressed significantly in the last couple of years but since this is still a new concept with regulations being recently introduced, the field is currently going through the early development phase and more data is needed to analyze the long-term effects of the regulations.

**Practical implications:** Studies showed that improving a firm's corporate social and environmental performance will have a positive impact on their financial performance. By following this approach, Middle Eastern Islamic banks can invest in corporate sustainability to increase their financial success on the one hand and preserve the environment on the other by investing more in sustainability activities.

**Social implications:** Middle Eastern Islamic banks will be able to lead and drive businesses to become greener, which will reflect on society and on the total economy. As a result, the countries will be able to lower their pollution rate and have better control of other natural calamities affecting the everyday life of the society without affecting financial returns.

**Originality/Value:** This study will be the first to investigate the sustainability performance of Middle Eastern Islamic banks, including their product and services. Also, the study adds to the knowledge regarding the influence of financial sector regulations and policies on the environmental and financial performance of banks.

**Keywords:** Islamic banks; Middle Eastern; corporate sustainability; environmental, financial performance.

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## **Dedication**

This study is dedicated to my beloved parents, family, and friends who have been my source of inspiration, motivation, and strength when I needed it, who continually provided their spiritual, emotional, moral support. To my mentor and classmates who shared their words of advice and encouragement to finish this study. Also, I dedicated most of all to the Almighty Allah for his guidance, strength, and protection. All of these, I offer to you.

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# **Chapter One**

## **Introduction**

Islamic banking has grown unabated since its initiation in the 1970s. The industry has progressively carved out a significant share of the global financial market. According to figures released by the International Financial Service London (IFSL) before the financial crisis sharia-compliant assets were estimated to have grown by over 10% a year from about \$150 billion in the mid-1990s to \$531 billion by the end of 2006. Their balance sheet assets of sharia-compliant banks totaled \$463 billion in 2006 and total assets in sharia-compliant financial institutions have doubled to \$900 billion in 2011 (Milhem & Istaiteyeh, 2015). The term Islamic banking refers to a system that is founded upon Islamic principles and guided by Islamic economics. The fundamental principles of Islamic banking are sharing of profit and losses, and prohibition of interest during collection and payment of investors and lenders. Due to their religious identity, the Islamic banking industry is expected to be more socially responsible than its conventional counterpart whose functions and operations are mainly based on profit maximization. All financial institutions, both conventional and Islamic, play a central role in shaping the rate of economic growth and income distribution in societies (Demirgüç-Kunt, 2009).

Financial sectors of which banks are key actors possess and exercise the ability to have a strong influence on economies, societies, and sustainable development (Helleiner, 2011; Scholtens, 2009; Weber, 2014). Banks play an essential role in sustainable development and their intermediary role can be qualified as both qualitative and quantitative – while they foster sustainability by enhancing in-house environmental and social performance (Jeucken & Bouma, 1999). Also, in developing sustainable products such as environmental investment funds as well as green or socially responsible funds (Weber, 2005). While banks can contribute to environmental sustainability through effective use of resources such as energy, water, paper, and adoption of newer technologies for resource conservation, they can also have a huge mark on social sustainability by supporting gender equality and human right. They may also impact economic sustainability through wages and salaries for employees as well as through the performance of civic duties utilizing tax payments that support public expenditure (Oni, 2016).

This is important as the world is currently facing serious economic, social, and environmental problems of great impact as a result of unsustainable business models of firms. The challenges include global warming, depletion in natural resources, increased human rights violations, excessive consumption of natural resources and food, and accumulation of toxic waste among others (Zahid, Ghazali, & Rahman, 2016). A report published by the world economic forum reported that the top three global risks are sustainability-related (McLennan & Zurich, 2019). To promote sustainability, the United Nations UN launched the UN Sustainable Development Goals (SDGs) program that is built upon a common understanding between the UN members on a vision of the future we want (Nations, 2012). According to the 17 sustainable development goals, firms are required to improve their business models with factors such as sustained and inclusive economic growth, social development, environmental protection and the eradication of poverty and hunger, global climate change, and to reduce inequality among others (Nations, 2015).

In line with those requirements, the international regulatory authorities of Islamic financial institutions such as the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) issued Standard No.7 on Governance Standards for Islamic banks concerning corporate social responsibility (CSR) conduct and disclosure in 2010 (AAOIFI, 2010). The primary objective for this standard is to ensure that CSR activities and compliance of Islamic banking and finance are communicated in a truthful, transparent, and comprehensible manner to relevant stakeholders (AAOIFI, 2010). Since then the sustainable practices have gained much attention with increasing awareness among the stakeholders of the financial system. Within sustainability practices, social and environmental concerns are even of more importance among the researchers and policymakers (Khattak, 2020). The Islamic development bank plans to increase its financial support for SDGs adaptation to more than USD 150 billion over the next 15 years (Jan, Marimuthu, & Isa, 2019). These efforts show how serious is the issue of sustainability on the world stage and to Islamic banking specifically.

However, in the case of the Islamic banking industry the level of sustainable practices and reporting around the world is still weak. A study by Harahap & Hassan (2010) explored sustainable practices and reporting of Islamic banks from 7 Muslim countries and found that sustainability

performance and reporting was not of main concern to those countries' Islamic banks. Also, a study conducted on 91 Islamic banks across 13 countries, found that Islamic banks of those countries paid less attention to the voluntary sustainable practices and disclosures (Mallin, Farag, & Ow-Yong, 2014). Yusoff & Darus (2014) stated that the environmentally sustainable practices and disclosures of the Islamic financial institution in Malaysia were minimal. Supported by another study in Malaysia by Haji & Ghazali (2013) that found the quality of voluntary sustainable practices and disclosures of the shariah “ the code of conduct that guides Muslims in social, economic, and political matters” compliant institutions to be also low. Farook, Hassan, & Lanis (2011) described that sustainable practices and disclosures of 14 Islamic banks from 14 different countries as inefficient. Other studies also found a low level of sustainable practices and reporting of Indonesian and Malaysian Islamic banks with only 26 percent (Meutia & Febrianti, 2017) United Arab Emirates Islamic banks compared to their conventional banks (Nobanee & Ellili, 2016), Bangladesh Islamic banks with failure to provide full sustainability reporting (Belal, Abdelsalam, & Nizamee, 2015). The low sustainability performance can deteriorate the financial performance of the Islamic banking industry around the world as the evidence supports a positive association between sustainability and financial performance (Platonova, Asutay, Dixon, & Mohammad, 2018).

Hence, there is an urgent need to first propose a sustainability measurement framework and to assess its impact on the financial performance of the Islamic banks (Jan, Marimuthu, & Isa, 2019). There is a gap in the understanding of the relationship between sustainability and financial performance more deeply in the Islamic banking industry from an emerging economy perspective. Against this background, this research analyzes the connection between sustainability performance and the financial indicators of Middle Eastern Islamic banks to determine whether the implementation of sustainability regulations had any impact on their financial performance. This investigation will help the Islamic banking industry in understanding the role of sustainable practices and subsequently improving their bank's financial performance through it. It will highlight the balanced role of Islamic corporate governance in promoting sustainable business practices and subsequently improving the financial performance of Islamic banks. It will also assist Islamic banks in understanding the role of sustainable business practices and the importance of Islamic corporate governance mechanisms to accomplish better financial performance. Better

financial performance will allow Islamic banks to grow internationally. Moreover, their inclusion on a global level will provide financial equilibrium and stability to the global financial market. The proceeding section presents the literature review and the significant findings of studies that evaluated the link between sustainability performance and financial performance.

# **Chapter Two**

## Literature Review

This research is the first attempt to evaluate the relationship between corporate sustainability and financial performance products and services offered by Middle Eastern Islamic banks. Some similar studies have been found in the banking sectors of different countries, such as the United States, China, Nigeria, Bangladesh (Wang & Choi, 2010; Weber, 2017; Soana, 2011; Maqbool & Zameer, 2017; Chowdhury, 2018; Oni, 2016). Table (1) shows the summary of some notable work that evaluated the link between sustainable business practices and a firm's financial performance. Those studies have tested the direction, strength, and causality of the relationship and formed both confirmatory and contradictory results. Some studies discussed that economic growth based on accessibility to capital over time has been at a cost to the environment and society at large through pollutions and emissions from financed investments. Also, the financial exclusion which brings about inaccessibility to capital has triggered social issues of poverty and insecurity (Koker & Jentzsch, 2013).

Several empirical and theoretical studies have long examined suitability impact measured by social, environmental, and financial performance. However, there is a controversy in the results due to the inconsistency in the theoretical and methodological frameworks and a limited number of studies focussed on the Islamic banking industry. Therefore, a better understanding of this link would be vital, directly or indirectly, to all stakeholders from management, shareholders to the Islamic community. Various hypotheses sought to explain the link between CSR and financial performance. The findings of these studies provided mixed results as they offer conceptual interpretations for a positive, neutral, and negative relationship between social and financial performance.

Table 1 about here

The variation in results showed in Table 1 may be attributed to the use of different models, the inclusion of confounding factors, and the lack of clarity on sustainability and financial variables (Quazi & Richardson, 2012). Also, most studies have used regression models, correlation analysis, or t-tests showing that this connection has a time effect, and more recent studies have higher

interpretation value. In line with Ullmann (1985) findings, the inconsistent results presented can be attributed to variation in factors like research methodologies, industrial context, measurement systems, sample size, and methods of data collection and analysis. Sample characteristics also play an important role in this relationship with different directions found in different countries (Lu & Taylor, 2016). The literature by Goyal, Rahman, & Kazmi (2013), showed that results differ across cultures and economic contexts with no fixed universal direction for this relationship.

Saeidi, Sofian, Parvaneh-Saeidi, Parisa-Saeidi, & Saaeidi (2015) study showed that CSR in Iranian Banks has a positive effect on the financial performance mediated through three associate variables (customer satisfaction, reputation, competitive advantage) using stakeholder theory and good management theory to explain the effect . Neoclassical economists like Simpson & Kohers (2002) are the supporters of the negative association between social and financial performance. They argue that firms that meet the social needs of their stakeholders will suffer a competitive disadvantage resulting in reduced returns because such social costs could be avoided or borne by governments or others. Mallin, Farag, & Ow-Yong (2014) argued that from an Islamic bank perspective investing in a large scale environmental and community projects may have an opposite impact on its profitability due to their shortage of slack resources for funding new investments. Also, various studies conducted in India have used different samples and methods to report varying results with the relationship to be positive (Dalal & Thaker, 2019), negative (Duque & Caracuel, 2019), insignificant (Monica, 2013), or having a weak association (Ionescu-Affiliation, Firoiu-Affiliation, Pirvu-Affiliation, & Vilag-Affiliation, 2019).

The study by Gibassier, Schaltegger, & Zvezdov (2013), described a link between financial performance and sustainability. The study aimed to provide a comprehensive basis for decision-making, performance monitoring, challenges faced, and how to deal with corporate sustainability development. The study sampled 16 companies operating in the UK and Germany with data gathered from personal interviews with 58 directors of these companies as providers and users of sustainability information. The obtained data was analyzed to see if sustainability concerns received recognition and if solutions have been developed and successfully applied. It found that corporate sustainability is critical in addressing key issues the companies face. The study recognized future challenges for late adopters and laid the basis for the directors to consider the adoption of good business practices in sustainability.



Another study by Thomas & Vos (2012) attempted to examine the sustainability report for five of the major international corporations in the logistics industry in 2011 to determine what these businesses contributed to environmental sustainability management. The study discovered that the sustainability report of the analyzed companies tends to be transparent to some degree and that most of the data published were related to the sustainability strategy. The report also discussed ways to reduce carbon dioxide emissions by reporting emission factors. Mishra & Suar (2010) evaluated the impact of sustainability on financial performance measured by both financial and non-financial indicators and concluded that businesses having their stock listed show higher sustainability performance than firms without listing. Inoue & Lee (2011) classified corporate social responsibility performance by its voluntary nature. It also investigated the effect of these activities on the financial performance of firms in Macedonia. The study included four sectors of tourism (hotels, airlines, restaurants, and tourist clubs) with data about employee relations, product quality, community relations, environmental issues, issues of diversity. The investigation results showed that each activity proposed by the researchers has a different effect on the firm's profitability and sustainability.

Another investigation addressed the social and environmental responsibility concerns related to companies that deal with the management and reporting of sustainability and examined the most important contributions to this field (Adams & Larrinaga-González, 2007). The study showed that the extensive literature in the field of sustainable reporting has been neglected and there should be larger studies in the financial and sustainability area. It also suggested a range of solutions to sustainability reporting and further research related to sustainability, financial performance, and management. A study focused on measuring the level of corporate social responsibility performance, and disclosure of Saudi companies was conducted by Macarulla & Talalweh (2012). It analyzed the annual reports of a sample of 132 companies listed on the Riyadh Stock Exchange for the year 2008 depending on content analysis. The study measured the qualitative and quantitative disclosure of the social responsibility activities, human, social, and environmental resources. The study found that the performance and disclosure of social responsibility in Saudi firms are substantially low. The outcomes suggested a relationship between the size of the company, the economic sector, and profitability at the level of performance and disclosure of social responsibility activities.

## *Sustainability: Development and Finance*

The 1960s saw the emergence of the concept sustainable development which initially focussed more on environmental issues as a result of industrial activities (Iqbal, 2005). Sustainability study has become an attractive area of attention within the practitioners, academic circle, and policy makers after the Brundtland report (WCED, 1987). The 'Brundtland report' also known as 'our common future' is a report by the World Commission on Environment and Development's that provided the most used definition for the concept of sustainable development. The definition is to meet the needs of the present without compromising the ability of future generation to meet their own needs (WCED, 1987). The Brundtland report foresees sustainable development as uncompromising needs of present and future generations' social, environmental, and economic aspects of life. Thereafter, different studies had been related to sustainability such as global sustainability (Brown, Hanson, Liverman, & Merideth, 1987), sustainable transitions (Markard, Raven, & Truffer, 2012), economic analysis (Pezzey, 1992), sustainability and ethical behavior (Dossa & Kaeufer, 2013), third world standard of living (Barbier, 1987). The primary aims of these studies fall into social, environmental, and economic factors that were derived from Brundtland report (Aliyu, Hassan, Yusof, & Naiimi, 2017).

Sustainable development intends to balance environmental, social, and economic dimensions equally. Elkington (1994) summarized them as the triple bottom line that are connected and can reinforce each other (Bansal, 2004). Corporations often engage in Sustainable development to attempt a resource-based strategy and to respond to institutional demands. Pelozo (2009) assessed 128 academic articles and found that more than half of them suggest a correlation between sustainability performance and financial performance. The report of Aguinis & Glavas (2012) reveals that sustainable development forms positive nonfinancial outcomes at the institutional, organizational, and individual levels. Yet, such aggregated findings remain uncertain due to a missing consensus on measures for the respective performance, variations in defining responsibility, and measurement errors (Linnenluecke & Griffiths, 2010; Orlitzky, Schmidt, & Rynes, 2003). Moreover, to keep access to resources and to sustain legitimacy, businesses attempt to go along with stakeholders' norms and beliefs. For this, firms adopt sustainable development

that becomes regulated through policies and agreements (Bansal, 2005; Deegan, 2002; Shang & Pelozo, 2011).

In the context of financial sector, the banking sector began to integrate environmental and social aspects into their business during the 1980s. They started to concentrate on internal environmental management (Jeucken & Bouma, 1999) and integrate environmental issues into lending, investing, asset management, and project finance (Scholtens, 2008). This resulted in environmental resource savings (Babiak & Trendafilova, 2011) and environmental risks management (Weber, Hoque, & Islam, 2015). Therefore, many banks have implemented environmental credit risk assessment procedures (Weber, 2012). Finally, the financial sector adopted socially responsible investment processes to manage investment risks (Cerin & Scholtens, 2011). Sustainable banking is about the ability for banks to have long-term solvency and prosperity that would influence societal well-being and environmental protection. Recent studies had mainly divided sustainability in banking and finance into institutional and welfarist approach (Mia & Chandran, 2016). The institutional perspective focuses on the solvency of the institutions through operational and financial sufficiency (Marwa & Aziakpono, 2015 ). On the other hand, promoting social well-being and environmental protections through banks' financial decision, and capital allocation is the main interest of the welfarist (Nor & Hashim, 2014; Weber, 2005).

### *Corporate Sustainability and Financial Performance*

Since Moskowitz (1972) proposed the existence of a potential link between financial profitability and sustainability indicators, several studies have tried to investigate the correlation and the direction of causality between sustainability performance and the financial performance of a firm (Santis, Albuquerque, & Lizarelli, 2016; Preston & O'Bannon, 1997). Although the evidence does not support the establishment of a clear, causal relationship between both types of performance, according to the majority of published works sustainability performance influences financial performance (Margolis & Walsh, 2003). As for the sign of the impact, many articles identified it as a positive relationship between socially responsible practices and financial performance (Santis, Albuquerque, & Lizarelli, 2016; Margolis & Walsh, 2003). This link shows that corporations with sustainable management practices can improve their financial results. Still, some articles consider the firm's sustainability policies as an extra cost that deteriorates its financial performance. Finally,

some studies suggested that the financial performance of the company is independent of its social and environmental activities.

The main purpose of this research is to examine corporate social performance as a determining condition of financial performance. Other control conditions may interfere in the relationship between both types of performance and may influence the financial performance in the company, for example, firm size, indebtedness, risk level, or sector of activity. The level of significance of the link will depend on the variables incorporated into the analysis. The causal relationship that follows most of the existing research holds the idea that the company's investment in socially responsible behavior, like pollution reduction efforts or energy-saving technologies, has a measurable impact on its financial performance (Callan & Thomas, 2009; Santis, Albuquerque, & Lizarelli, 2016; Margolis & Walsh, 2003).

Instrumental theories, including stakeholder theory, claim that higher levels of corporate sustainability lead to higher levels of financial performance (Hart & Christensen, 2002). Proponents of stakeholder theory support firms engagement in socially responsible behavior to achieve legitimacy and must respond to a wide collection of stakeholders, which covers groups other than shareholders. These responsible practices, seen as a strategic tool to achieve competitive advantages in the market and enhance the economic benefits of companies (Porter & Kramer, 2006). They reinforce the legitimacy of firms and can be compensated by improved productivity, enhanced corporate reputation, and a larger user base (Hart & Christensen, 2002). According to Cornell & Shapiro (1987), the expenses associated with responsible practices are insignificant compared to their potential benefits.

On the other hand, the so-called traditionalist view proposes a negative relationship between sustainability and financial performance. According to this them, the allocation of resources to accomplish sustainable goals is an extra cost and goes against the firm's conventional goal to maximize profit. Finally, some studies did not find a clear link between sustainable and financial outcomes (Van Beurden & Gössling, 2008; Margolis & Walsh, 2003). The proper level of corporate social responsibility in each company is defined by a cost-benefit analysis and depends

on several factors such as size, business diversification, or market conditions (McWilliams & Siegel, 2000).

John Elkington (1997) described the sustainability report as an approach to the environmental, social, and economic development of firms which is often referred to as the triple bottom line (profit, people, planet). First, firms must be able to generate earnings to remain a going concern. Then, they must consider people (investors, employees, suppliers, consumers, society, and community institutions). Third, firms must pay regard to the planet (environment). Shiller (2013) claimed that banking failures and business scandals that occurred across the world led to the need to rethink the role of banks in society. Another study argued that the shift towards social finance is essentially held as part of the basic mindset under the influence of the crisis and as a form of high responsibility for sustainable development (Benedikter, 2011). How will banks respond to social and environmental risks became more important, because in the current global economy the unrestricted flow of data can affect a bank's credit and long-term business success (IFC, 2007).

## *CSR and Financial Performance*

### *Positive relationship*

This school asserts that CSR is an important driver of enhancing financial performance. Supporters of a positive relationship on the other hand often derive their arguments from stakeholder theory. According to stakeholder's theory, corporate social responsibility has a positive influence on financial performance. Several investigations have supported the positive nexus, for instance, Waddock & Graves (1997) assessed 469 companies using 1990 KLD ratings as the corporate social responsibility measure. The study examined the impact of both slack resources and good management theory and found a positive association between CSR and financial performance. Furthermore, Kim & Kim (2014) examined whether CSR enhances value for shareholders in the tourism industry. The study applied the ESG rating from 1991 to 2008, to test the effect of CSR on two different equity-holder risks (systematic and unsystematic risks). It suggested that social responsibility was found to improve shareholder value by increasing Tobin's Q, while firms having minimal CSR decreased shareholder value by increasing the risk.

The main principle which supports the positive link is that CSR enhances the competitiveness of a firm. The idea that CSR reduces firm costs, create value for stakeholders, and craft internal capabilities, such as being the first mover in an industry, all these add to the competitive advantage of a firm (Preston & O'bannon, 1997). The main channels by which CSR exerts competitiveness in the firm are by cooperating with different stakeholders, generating new business opportunities through addressing critical societal challenges, enhancing working conditions that increases the confidence of workers, and giving more consideration to workers. Thus, a firm builds up a stock of reputational capital and hence boosts its financial performance by investing in superior social responsibility. Furthermore, CSR helps in creating a positive relationship with customers, attracting motivated employees, lowering companies' risk, and spreading positive promotion that might otherwise impose a cost (Bird, Hall, Momentè, & Reggiani, 2007). Similarly, Hammond & Jr. (1996) highlighted that CSR can enhance corporate reputation and lower financial risk, thus firms having a less chance of getting bankrupt, compared to non-CSR firms.

### *Negative relationship*

Milton Friedman is the most referred to proponent of a negative relationship between corporate sustainability performance and financial performance. In the late 60s, Milton Friedman proposed with an argument, that there is nothing like the social responsibility of business. CSR is a "fundamentally subversive doctrine" in the free society, otherwise, the firm will be in a detrimental position; the only purpose for the business is to increase profit while upholding legal and ethical decorum (Friedman, 1970). He claims that businesses involved in sustainability activities incur more costs, thus decreasing their net financial performance. Since these extra costs and administrative burdens may influence the corporation's bottom line negatively it may possibly lead to competitive disadvantages for the business (Friedman, 1970; McWilliams & Siegel, 2000; Barnett & Salomon, 2006). Therefore, a focus on corporate sustainability defies the traditional principal objective of corporations, which is to maximize shareholder value. More specifically it is assumed that any manager who makes investments that is not profitable for employees, shareholders, or its customers, is considered to abuse the firm's resources (Friedman, 1970). Instead, the cost of social concerns and inequality are seen as problems that may best be solved by

others, for instance, the government (Waddock & Graves, 1997), and that businesses should do no more than to abide by the law (Friedman, 1970).

This argument is supported by several empirical studies. For instance, Wright & Ferris (1997) studied the impact of divestment in South Africa (as a proxy for CSR) on stock market performance. Employing data from 116 firms for 10 years in cross-section industries, the research showed that share price is impacted negatively by announcing divestment in South Africa. These conclusions are supportive of the premise that non-economic demands may affect managerial strategies rather than value-enhancement goals. Likewise, Cordeiro & Sarkis (1997) in a sample of 523 US firms concluded a negative association between environmental activism and earnings per share for using Toxic Release Inventory data as the proxy for environment protection. This argument proposes that those engaged in CSR activities have a competitive weakness because they incur expenses that should have been borne by other organizations. Organizations like eco-friendly services, philanthropy, customer welfare, health care centers, and environmental protection. Furthermore, Hemingway & Maclagan (2004) considered CSR as a cover-up for fraudulent actions imitated by management, which reflect negativity on CSR. Skeptics have accused CSR as a projection of a good image, despite their unpublicized unethical activities. Moreover, Moon (2002) suggested that the motivation for CSR is constantly defined by some self-intrigue, not considering whether the movement is deliberately determined for business objectives alone, or whether it is also partly motivated by what appears as an altruistic concern. The hidden supposition is that commercial imperative isn't the only purpose behind CSR. The astute directors promote their altruism in a deceptive approach.

### *Neutral relationship*

The discussion regarding CSR and financial performance drove to another possibility that CSR acts independently lacking any financial outcomes. The proponent of this claim argues that there are many interposing variables between CSR and financial performance that a relationship can hardly exist (Ullmann, 1985). Similar results were concluded from analyzing the link between CSR and financial performance in the sample size of 524 for a period of 6 years by Abbott & Monsen (1979) and Griffin & Mahon, (1997). The result presents biased estimates of the financial

impact of CSR, but when the model was properly specified by incorporating R&D, the result presents a neutral influence of CSR on financial performance. Kraft & Hage (1990) described community service with different organizational components in the sample of 82 companies. The results revealed that community service has no influence on profit goals, low price niche, and multiplicity of outputs, and workflow progression. Likewise, Griffin and Mahon (1997) explored the relationship between CSR and corporate financial performance by measuring CSR with both perceptual based data (KLD Index and Fortune reputation Survey) and performance-based (TRI database and corporate philanthropy). The result showed that Fortune and KLD indices track one another closely while TRI and corporate philanthropy shows a neutral relationship.

### *Sustainability: Islamic Finance and Banking*

In the context of Islamic banking, banks following shariah principles are expected to carry profit and loss sharing schemes for investment account holders and according to their policies may pay Zakah “an obligatory contribution of a certain portion of one's wealth” on their behalf and supply discretionary Qard Hassan “benevolent loans” to the community. According to Islamic principles, business transactions are not separated from the ethical goals of society (Ethica Institute of Islamic Finance, 2019). Islamic banks must create their own culture, because Islamic principles are not restricted to banking transactions. It is important that the views of the institution and its staff reflect an Islamic identity that is rather different from conventional institutions. So, it takes a set of tools to evaluate the performance of Islamic banks that are in accordance with Islamic principles. The effect of such business activities could be diverse and complex resulting in a neutral relationship between sustainability and financial performance.

Chapra and Ismail are the two main transactions models of Islamic banks that are close to welfarist and institutional approaches to sustainability. The latter stressed on share and account holders value maximization, while the former extended to shariah application purposes through societal well-being enhancement (Yaqub & Bello, 2012). Thus, it is conceptually clear that institutional and welfarist perspectives are complements to sustainable Islamic banking since Ismail and Chapra are the foundational models of Islamic banks. A sustainability study by Cull, Demirgüç-Kunt, &



Morduch (2007) evidently claimed the possibilities of achieving both institutional and welfarist (Chapra and Ismail) objectives through financing productive entrepreneurship.

Islamic banks are expected to bring economic and social benefits to their stakeholders; and to fulfill their corporate social responsibility goals. Farook (2008) argues that sustainability reporting provides evidence of the Islamic banks' involvement in social activities and hence earns legitimacy for their existence. The Islamic banking industry may not be disclosing their social responsibility publicly, even though they are carrying out these activities. Therefore, to encourage action and disclosure, the AAOIFI developed reporting standards for Islamic banks. It issued Standard No.7 on governance standards for Islamic banks about CSR conduct and disclosure in 2010 (AAOIFI, 2010). In the Standard, CSR for Islamic banking and finance is defined as all activities carried out by Islamic banking and finance to fulfill its religious, economic, legal, ethical, and discretionary responsibilities as financial intermediaries for individuals and institutions (AAOIFI, 2010). AAOIFI monitor the fulfilment maqasid al-shariah "the attainment of good, welfare, advantage, benefits and warding off evil, injury, loss of the creatures", as a result, Islamic banks report aspects of their business activities differently from those of their conventional bank counterparts.

Several studies discussed how the implementation of maqasid al-shariah itself can promote economic, environmental, and social development in the Islamic sector. Economically, Shahrier, Ho & Gaur (2020) discussed the influence of shariah screening during the investment where it was used as an item to measure governance in Islamic banking. The study pondered that shariah screening during the investment falls under the category of essential and subcategory preservation of faith in maqasid al-shariah. It is because Islam prohibits haram "Islamically forbidden" business and the investment in haram businesses. Hence, it is essential for the shariah committee of the Islamic banks to report about shariah screening during the investment in their subject report. Performing and reporting in this way will boost the stakeholder's confidence in the Islamic banks. The increased stakeholder's confidence will ultimately lead the bank towards generating more funds and increase its economic sustainability.

Shahrier, Ho, & Gaur (2020) also explained how the allocation of profit based on shariah principles could improve economic sustainability. the allocation of profit based on shariah principles falls within the category of essentials and subcategory preservation of money in maqasid al-shariah. It is fundamental for the Islamic banks to distribute profit with absolute fairness to all depositors,

and in the process to protect their wealth as well. Such commitment will increase the confidence of Islamic bank's clients which may increase deposits and improve the economic sustainability of Islamic banks. Zakat payment can also improve the economic sustainability of Islamic Banks (Haniffa & Hudaib, 2007). Paying zakat is compulsory in Islam and the commitment to it preserves the Muslim's faith. Hence, the bank paying zakat will show goodwill and commitment and will allow the bank to generate more funds.

Furthermore, the Islamic bank's benevolent funds allow interests free loans to their trusted customers (Platonova, 2016). It will help lift some of the financial burdens of society, improve individuals' and families' livelihood, and enhances the economic sustainability of Islamic banks. Moreover, disclosure of earnings prohibited by shariah falls under three essential categories of preservation of faith, preservation of self, and preservation of wealth. Meaning that Islamic banks must design control systems to avoid the recurrence of such transactions or to forward any such gain to charity funds. This will increase confidence and attain more deposits.

Environmentally, Islamic laws for the environment, support the life and coming generations by controlling air pollution, water pollution, and energy restoration (Haniffa & Hudaib, 2007). Performing such actions will increase the environmental sustainability of Islamic banks. Socially, Islamic training and education to workers can positively affect the social sustainability of Islamic banks (Mallin, Farag, & Ow-Yong, 2014). By providing Islamic training and education to their staff would comply with the decent labor work practices in society. Also, sponsoring pilgrimage (Mallin, Farag, & Ow-Yong, 2014), providing scholarships (Dusuki and Abdullah (2007), and offering products and services labeling approved by the shariah committee (Dusuki & Abdullah, 2007) will all positively affect the social sustainability of Islamic banks.

Taşkın (2015) conducted the study in turkey and examines the connection between corporate social responsibility and banks performance. Results showed a bi-directional relation between CSR practices and Turkish banks performance. Another research on CSR and financial performance: evidence from India, explained a positive impact of CSR on all the firm's performance (Laskar & Maji, 2016 ). Also, Yusoff & Adamu (2016) examined the relationship between CSR activities and financial performance of publicly listed top-100 companies in Malaysia with data taken from annual reports for the time period 2009-2013. Findings of this study showed companies are found

supportive and involved in CSR activities and that CSR performance improved the financial performance of listed companies.

Niswatin, Triyuwono, Nurkholis, & Kamayanti (2014) stated that Islamic banks are a unique entity and have distinct characteristics from conventional banks, namely acting as a business, social, and da'wah "preaching of Islam" organization. Islamic banks have a role as a business organization, particularly in the process of managing their business to comply with sharia guidance and laws. As a social organization of Islamic banks in the framework of executing justice and serving to gain trust to distribute financing and funding. As a da'wah organization, in its management, Islamic banks practice Islamic values in their financial business. Measurement of the Islamic bank's performance has used financial ratios such as capital, asset, earning, liquidity, management, rate of assets, rate of equity, and balance scorecard (Adib & Khalid, 2010; Akhtar, Ali, & Sadaqat, 2011). Adib & Khalid (2010) studied the performance measurement of Islamic banks applying the financial ratios of capital, asset, management, earnings, liquidity, and economic value-added. Akhtar, Ali, & Sadaqat (2011) examined the factors that impact the profitability of Islamic banks in Pakistan using the ROA and ROE ratios.

Measuring the financial performance of Islamic banks as seen still has weaknesses, as it only concentrates on profit orientation, so it fails to review aspects of sharia or islamic values (Mohammed & Taib, 2015). Islamic banks were founded to encourage the fair distribution of wealth and adhere to Islamic values (Bedoui & Mansour, 2015). Hence, measuring the performance of Islamic banks must also cover the goals of sharia adoption. The fulfillment of maqasid al-shariah in Islamic Banks can be estimated by the attainment of goals in the form of individual education, creation of justice, and achievement of public interests (Rusydiaana & Parisi, 2016; Said, 2016; Hudaefi & Noordin, 2019).

Also, Islamic banks have failed to reach their social objectives that expose the gap between the aspirations and real practices of Islamic institutions (Platonova, 2016). Mohammad & Shahwan (2013) realized that Islamic banks in Malaysia are not socially concerned entities and rather are profit motivated. At the end of 2014, Islamic banks alone have recorded 80% of the world Islamic financial assets of about \$2 trillion which demonstrate that the economy is growing but not necessarily creating any impact (Hussain & Turk, 2016). Moreover, some necessary components used in assessing Islamic banks' objectives are not commonly available in some of the banks'

financial statements that are merely shareholder oriented (Antonio, Sanrego, & Taufiq, 2012). As such, Platonova, Asutay, Dixon, & Mohammad (2016) suggested the need of mandating Islamic banks to have a unified model of financial reporting that will be expressing the required socio-economic and environmental performance. This will ease the problems faced in assessing Islamic banks' objectives from the welfarist perspective. This study will help the Islamic banking industry in understanding the role of sustainable practices and subsequently improving their bank's financial performance through it.

## **Theoretical Background**

The relationship between corporate sustainability and financial indicators is discussed in many studies as shown in the literature review. The majority of the studies suggest a positive relationship between sustainability performance and financial performance but with an unclear direction of causality. From the Islamic literature review (Mallin, Farag, & Ow-Yong, 2014; Jan, Marimuthu, bin, & Albinsson, 2018; Platonova, Asutay, Dixon, & Mohammad, 2018; Khan & Tariq, 2017; Rehman, et al., 2020), the direction of causality that can be explained by four theories; the institutional theory (DiMaggio & Powell, 1983), the Stakeholders' Theory (Freeman (1984), the slack resources theory, and the good management theory (Waddock & Graves, 1997).

### *Institutional Theory*

Institutional Theory gives a theoretical lens through which researchers can identify and analyze connections that promote survival and legitimacy of organizational practices, including factors such as social, environmental, culture, regulation, tradition, and history, and economic incentives, whilst recognizing that resources are also essential (Baumol, Litan, & Schramm, 2009; Bruton, Ahlstrom, & Li, 2010; Lai, Wong, & Cheng, 2006). Legitimacy here indicates the implementation of sustainable practices seen by stakeholders as being proper and appropriate (DiMaggio and Powell, 1983). Institutional Theory focuses on how groups and organizations better secure their positions and legitimacy by adhering to regulatory structures, governmental agencies, laws, courts, or other societal and cultural practices that exert conformance pressures (DiMaggio and Powell, 1983; Meyer & Rowan, 1991; Scott, 2007).

According to the theory, external social, political, and economic pressures influence the firms' strategies and organizational decision making as firms seek to adopt legitimate practices or legitimize their activities in the view of other stakeholders (Jennings & Zandbergen, 1995). Institutional Theory can be utilized to describe how changes in laws and regulations affect decisions concerning 'green' sustainable practices (Ball & Craig, 2010) and environmental performance (Tate, Ellram, & Kirchoff, 2010). For instance, Delmas & Toffel (2004) used the Institutional Theory to study how different organizational strategies drive the adoption of environmental performance. A key driver in instigating green initiatives in rules is government regulation (Rivera, 2004).

Institutional Theory defines three forms of drivers that form similar organizational strategies, structures, and processes. These drivers are coercive, normative, and mimetic (DiMaggio and Powell, 1983). Coercive occurs from influences exercised by those in place of power. Coercive pressures are critical to drive environmental management and sustainability (Kilbourne, Beckmann, & Thelen, 2002). Normative drivers ensure organizations to be recognized as engaging in legitimate actions (Sarkis, Zhu, & Lai, 2011). Ball and Craig (2010) found that normative pressures encourage businesses to be more environmentally engaged and claim that institutional research is required to understand new social rules and organizational responses to environmental concerns. Normative drivers, hence, exercise control because of a social responsibility to comply, rooted in the social necessity or how an institution or individual should act (March & Olsen, 1989). Mimetic isomorphic drivers occur when businesses imitate the activities of successful competitors in the industry, in an attempt to replicate the route to success and legitimacy (W. Aerts & Magnan, 2006).

### *Stakeholder theory*

Often referred to as the father of stakeholder theory, Freeman (1984) stated that a firm's stakeholders are "any group or individual who can affect or is affected by the achievement of the organization's objectives". Due to this possible impact, it is believed that firms should take consideration not only for the interests of their shareholders but for all their constituents (Laplume,

2008). Freeman (1984) divided the stakeholders into direct and indirect stakeholders and different researchers have reported them with different names like the primary and secondary stakeholders (Clarkson, 1995) or as business and social stakeholders (Lépineux, 2005). The stakeholders' theory claims that the value of the business increases when the multiple stakeholders of the company are addressed and satisfied (Jan, Marimuthu, & Isa, 2019). The stakeholders may include those individuals or groups which are affected by the actions of the corporation like customers, employees, financiers, suppliers, trade associations, government bodies, political groups, communities, the environment, etc. Firms address these stakeholders through efficient sustainable business practices and their subsequent disclosure. For instance, the employees, local communities, and suppliers of the Firm are addressed through economically sustainability practices and reporting, to promote investment in communities and prioritized purchases from the local suppliers.

Stakeholders may be addressed through environmental sustainability practices, as the economic sustainable business practices management disclose compliance with the government environmental laws, waste reduction, energy consumption, recycling, etc. The practices and their subsequent reporting address environmental and social impact. Socially sustainable business practices expound about decent work practices, occupational health, human rights protection, etc. Furthermore, the stakeholders' theory assumes that when multiple stakeholders are addressed, it may enhance a firm's performance. Donaldson and Preston (1995) suggested that stakeholder theory can be sorted into three groups: descriptive, normative, and instrumental stakeholder theory. The descriptive stakeholder theory is concerned with how different stakeholders are attended to by the corporation whilst the normative stakeholder theory focuses on the moral and ethical arguments aimed at guiding stakeholder-oriented managers. Finally, the instrumental stakeholder theory is directed to investigating the consequences, i.e. the profit/wealth-enhancing possibilities, of considering a wide range of stakeholders in corporate strategy. Thus, making the latter most relevant to investigate and explain the linkage between corporate sustainability and financial performance.

According to Donaldson & Preston (1995) and Freeman (1984), if a corporation manages its relationships with stakeholders well the firm can improve its financial performance over time.

Sustainability practices can hence be driven by self-interest and as ways to increase profit and shareholder value (Harjoto, 2014). For example, with better sustainability performance a firm may attract more resources (Cochran & Wood, 1984), expand market opportunities and pricing premiums (Fombrun, Gardberg, & Barnett, 2000), and addressing employees (Turban & Greening, 1997). Therefore, maintaining stakeholder relations may result in competitive advantages (Barnett & Salomon, 2006; Porter & van der Linde, 1995). Jones (1995) suggested that stakeholder theory views the firm as a 'nexus of contracts' linking the corporation and all its stakeholders. A firm that fosters a moral culture is believed to be able to curb opportunistic behavior among its employees and achieve a positive reputation and connection with its external and internal stakeholders (Jones, 1995). Therefore, stakeholder theory suggests that profitability and sustainability are not mutually exclusive, but rather than a firm's ethical considerations may show competitive advantage (Jones, 1995). Cornell and Shapiro (1987) suggest that firm value relies on the ability to fulfill explicit and implicit contracts with various stakeholders. The inability to form such connections may lead to a damaged firm reputation as well as decreased financial performance

### *Good Management Theory*

On the other hand, in the good management theory, the direction of causality looks at sustainable practices as an independent variable, while the firm's financial performance is the dependent factor. Good management theory, adopted by Waddock and Grave (1997) in explaining CSR and financial performance link, is a further articulation of stakeholder theory (Donaldson & Preston, 1995). Proposition formed under the good management theory is that a firm should seek to satisfy its stakeholders without presupposing its financial situation. Hence, the business will have a good image and reputation. Based on the resource-based view, the attributes are one of the company's assets in the intangible element that is one component adding to the company's competitive advantage (Barney, 1991). Basically, the theory inspires managers of a company to continuously explore better ways to improve the company's competitive advantage, which ultimately can enhance the company's financial performance. According to Miles and Covin (2000), sustainability performance is an alternative way to satisfy stakeholders and can be a distinct layer of advantage that enhances competitive power.

Good management theory proponents also suggest that good management practice has high relation to sustainability performance because it can enhance a firm's relationship to its stakeholders, and this, in turn, will improve the company's financial performance (Donaldson & Preston, 1995; Freeman, 1994; Waddock & Grave, 1997) and its competitive advantage (Prahalad & Hamel, 1994; Waddock & Grave, 1997). Good management theory has gained some empirical support (McGuire, 1990; Waddock & Grave, 1997). Good management theory is closely connected to the resource-based view of a firm and argues that corporate sustainability may have an effect on financial performance because it assists a firm in reducing costs, improving its reputation (Wernerfelt, 1984; Deephouse, Newburry, & Soleimani, 2016), and addressing stakeholders that are engaged in the firm's social and environmental responsibility (Liu, Tang, Lo, & Zhan, 2016; Park & Ghauri, 2015; Waddock & Graves, 1997). Thus, corporate sustainability managers exercise good management and through achieve a competitive advantage that helps them to surpass their competitors financially (Lin, Chang, & Dang, 2015; Sharma & Vredenburg, 1998). Good management theory defines sustainability performance as a subcategory of general management performance. The theory's proponents believe that general management performance consists of different aspects and that sustainability management is a part of it. Hence, corporate sustainability and general sustainability correlate.

### *Slack Resource Theory*

Slack resource theory is formed based on the belief that a firm can carry out its activities because of the resources owned by the firm, which usually dedicated to predefined activities. The purpose of the resource is to allow the company to successfully adapt to internal pressure for improvement or external pressures for development (Buchholtz, 1999). The resource required by the company to successfully adapt is slack, which is described as any available or free financial and other organization resources used to achieve the company's certain goal (Jensen, 1986). According to Waddock and Grave (1997), when a company's financial performance grows, slack resources will be available to enable the company to act responsibly toward society and community relations, employee relations, and environmental performance. Some activities carried by the company in the field of corporate social performance are intended to develop and improve the company's



competitive advantage through reputation, segmentation, and cost-saving (Miles & Covin, 2000; Miles & Russel, 1997).

Slack has been used as a measure of financial performance, either accounting-based or market-based. Basically, organizational slack is a consequence of prosperity (Seifert, 2004). A good financial performance means profitability, which leads to available funds (Preston and O'Bannon, 1997; Waddock & Graves, 1997). Slack resources present firms with the opportunity of investing in initiatives that do not seem an immediate pay-off, or that are not exactly a priority (Bansal, 2005). A healthy financial situation may influence corporate sustainability because it provides the financial resources that are required to invest in corporate sustainability (Scholtens, 2008). The idea is that firms with high financial performance and low risk can bear to act more responsibly than competitors with lower returns and higher risk. Consequently, increased corporate sustainability performance develops after the accumulation of slack resources.

This study explains the direction of causality by two theories, the slack resources theory and the good management theory (Waddock & Graves, 1997). Also, institutional theory (DiMaggio & Powell, 1983) has been used to explain the bidirectional causality between corporate sustainability and financial performance.

## **Research Objective and Hypotheses**

With a better understanding of the role of sustainability in Islamic banking growth and financial performance, banks may choose to make sustainable investments even though the financial returns in the short run do not compensate for the cost of it. Additionally, the decision to invest is easier to make for the financially prosperous banks due to the availability of more slack resources for funding new investments. Looking at the relationship between sustainability and financial performance at any point in time, it is probable that we have an overestimation of institutions with better past performance and an underestimation of institutions with a lack of common sustainable practices in the industries they operate. Therefore, a better understanding of this link would be vitally important, directly or indirectly, to all stakeholders including management, shareholders, and the Islamic community. Various hypotheses sought to explain the link between CSR and

financial performance. The main results of these studies are controversial as they offer conceptual interpretations for a positive, neutral, and negative relationship between social and financial performance.

The trade-off hypothesis assumes a negative association between sustainability and financial performance. According to Mallin, Farag, & Ow-Yong (2014), the findings of most studies like that of Preston & O'bannon (1997), Griffin & Mahon (1997), and McWilliams & Siegel (2000) drew a natural or negative relationship between sustainability and financial performance are controversial because they only offered a conceptual interpretation of it. On the other hand, Waddock & Graves (1997) found that Corporate Social Performance is positively linked to an organization's both present and future financial performance, supporting the theory of good management. Hence, it can be proposed that management who leads in corporate sustainability performance tends to practice good management theory, which in turn leads them to financial growth over their competitors (Lin, Chang, & Dang, 2015; Sharma & Vredenburg, 1998). In the context of Islamic banking, Platonova, Asutay, Dixon, & Mohammad (2018) indicated that sustainable practices of the Islamic banks in the Gulf Cooperation Council GCC region have a significant positive impact on its financial performance. The study of Mallin, Farag, & Ow-Yong (2014) also argued a positive connotation between sustainable practices and financial performance in the Islamic banking context using good management theory and slack resource theory to explain the connotation.

In the view of the Good Management Theory, and the Slack Resource Theory as well as the positive association evidence of sustainable practices and the financial performance of Islamic banking, this study assumes a positive association between sustainability and financial performance. Investigating the impact of different sustainable practices on the financial performance indicators with different dimensions will allow us to observe the connection of sustainable practices with financial performance from the Islamic perspective. Accordingly, it will assist the management to expedite those sustainable practices and provide policy insights to the global Islamic banking industry practitioners about incorporating those key sustainable practices in their business models which can help them in getting higher financial returns. The sustainable Islamic banking industry will allow them to attract more investors globally and help the Islamic banks to grow globally. Since this study is measuring the financial performance from five different

dimensions, each financial dimension is assumed to be positively associated with sustainability practices. Hence, this study aims to find the sign of impact and the direction of causality between sustainability and financial performance of banks. The study proposes these two hypotheses:

Hypothesis 1: Better financial performance leads to better corporate sustainability performance of Middle Eastern Islamic banks.

Hypothesis 2: The sustainability performance of Middle Eastern Islamic banks has a positive effect on their financial performance.

# **Chapter Three**

## **Material and Methods**

To investigate the hypotheses in the Middle Eastern Islamic banks' context, this study used the environmental, social, and economic sustainability data from the top-28 Islamic banks operating in the Middle East according to Global Finance (Stubing, 2019 ). Data for the population size have been collected from all the publicly available reports, such as annual reports, sustainability, and CSR reports disclosed sustainability and financial information on the respective websites. The approach was to analyze data from annual financial and non-financial reports, and websites of the respective banks. Regarding the financial data, analysis has been done on the banks' total assets, net profit after tax, return on assets, return on equity, and non-performing loan ratio as main financial accounting indicators (See Table 2). Total assets present the sum of all current and non-current assets that a company possesses. Net profit after tax demonstrates what the company earned after all its expenses, charge-offs, depreciation, and taxes have been deducted. Return on Asset tells how much profit a company earns from its assets and return on equity. Return on Equity illustrates whether management is growing the company's value at an acceptable rate. Lastly, in banking, loans are considered nonperforming if the debtor has made zero payments, interest, or principal within 90 business days. These financial indicators help show a clear picture of the financial performance of a company that this study uses for calculation purposes.

Table 2 about here

All these data were collected from the banks' published annual reports. The data were for the years 2014-2018 to assess and conduct a five-year analysis. The principal strategy for analyzing the sustainability performance was to explore whether and how the banks are handling sustainability issues through their channels such as financial products and services externally, along with internally through their management, and policies. The categories presented in Table (3) have been used to evaluate these products, services, management, and policies. The criteria are focused on specific policies, strategies, and management issues assessing the present conditions of Middle Eastern Islamic banks. They emphasis more on various corporate sustainability reporting and rating systems such as the Thomson Reuters ESG Scores (Eikon, 2017) Global Reporting Initiative

(Global Reporting Initiative, 2013). This approach avoided common general green policies and norms to minimize the risk of greenwashing (Laufer, 2003). There have been other studies that have taken a similar approach to examine the effect of corporate sustainability performance on financial performance (Weber, 2017; Weber & Acheta, 2014; Scholtens, 2009; Waddock & Graves, 1997).

Indicators like social and environmental policies, social and environmental management systems, and internal environmental and social management processes, have been used to assess various focus points. Banking products and services that can be normally found, such as various loans, mortgages, funds, asset management, microfinance, bonds, savings, project finance, and investment banking, were examined. Table (3) presents examples for products and services along with policies and management systems. The assessment was done to determine whether these policies, products, processes, and services particularly addressed the environmental, social, or economic component of the triple-bottom-line approach of sustainability (Elkington, 1997), via two (yes; no) categories. A value of 1 was given if the banks had implemented the respective environmental, social, or green product, service, policy, or management system and they were given a value of “0” if no criteria applied. After assigning all the values collected from their annual reports, the total of social, environmental, and green indicators was calculated. For the next step, the banks’ results have been divided by the maximum attainable points for the social and the environmental indicators to standardize the values for the banks’ social, environmental, and green performance.

Table 3 about here

Finally, the total sustainability score was measured using the average of the social, environmental, and green scores. Thus, the resulted sustainability score is an equally weighted combination of social, environmental, and green scores. The reason for applying the binary (0 and 1) scoring method was to benefit from the independence from subjective performance scaling, assigning a numeric value to each criterion, hence increasing the reliability of the assessment. The study attempted to minimize the risk factor by merging 37 indicators and calculating the total sustainability score. After assigning the values to all 37 indicators, the next stage was to calculate the average of social, environmental, and green criteria for each year for each of the 28 selected

banks. The data were used to conduct a linear regression analysis to predict the behavior of financial data over sustainability data (Seber & Lee, 2012). The goal was to examine if the sustainability (social, environmental, and green) variables do well in predicting an outcome of financial (TA, NPAT, ROA, ROE, and NPL) variables and which variables are significant. Also, how they impact the outcome of those financial variables by looking at the magnitude and sign of the beta estimates.

The result showed the degree to which social, environmental, and green criteria impacted each of the financial indicators. The probability and R-Square values that were used indicated the level of impact on each of the financial category. After that, another regression was conducted using the panel data for all the financial and sustainability indicators. The aim of conducting the regression analysis was to describe the relationship between the financial and sustainability indicators. Then the study used another form of regression analysis with panel data, also known as longitudinal data or cross-sectional time-series data in some special cases (Baltagi, 2008). Panel data are data that are derived from several observations overtime on several cross-sectional units (Erica, 2019). The aim of choosing panel data with random effects in this study was to observe the variance between the banks and the variance within the banks over a certain period (Kahane, 2007). This study evaluated the sustainability performance data and financial data for the period between 2014 and 2018. Additionally, this increases the study's degree of freedom to explore the variables and their in-between relationships.

In addition to examining the regression between sustainability performance and financial data in the same year, this paper used a one-year time lag between financial variables and the banks' sustainability performance for five years to evaluate Granger causality (Granger, 1969). The effect of the independent variables on the dependent variables was measured by using data in year  $x$  for the independent variable, whereas the data for the dependent variable was taken from year  $x+1$ , with  $x$  being the period between the two years. This method was used with the prediction that the effect of the independent variable would appear with a certain delay. Then the coefficients of determination (R-Square) for the regressions with sustainability performance as dependent variable against those with financial indicators as dependent variables was examined.

# Chapter four



## **Results**

### *Descriptive analyses*

Initially, this study presents the descriptive statistics results for the selected banks sample. Then it will present the results of the regression analyses with both financial and sustainability indicators as dependent variables. Thirdly, the study presents the results of a panel regression analysis and conclude with the results of panel regression with a one-year time lag. A population size consisting of 28 Islamic banks that disclosed any financial and sustainability information and adhere to AAOIFI Standard No.7 was analyzed in this study. Data were collected for the years 2014-2018 (Table 4).

Table 4 about here

### Correlation between sustainability and financial variables

Table (5) presents the correlation between the log-transformed financial and sustainability indicators. It demonstrates that sustainability indicators are highly correlated. This must be taken into account if these indicators are integrated as variables into multivariate regression analyses. Because of this correlation, multiple sustainability indicators in the regression analyses as independent variables in one function was not used.

Table 5 about here

### *Regression analysis for sustainability and financial indicators*

Table (6) shows the regression analysis with social, environmental, and green indicators as the dependent variables, and financial indicators as the independent variables. Univariate regression was conducted to avoid multicollinearity because the independent variables are highly correlated. The aim is to see how each of the social, environmental, and green indicators is affected by the financial indicators from the same year. As seen in Table (6), except for ROE and NPL, none of the other financial variables have a significant impact on any of the sustainability variables.

However, the regression functions are significant for all three sustainability indicators in a multivariate regression.

Table 6 about here

The analysis in Table (7) explores whether the sustainability performance has an impact on the financial indicators, such as total assets, net profit, ROA, ROE, and NPL Ratio. It presents the regression with the financial indicators as dependent variables and the sustainability indicators as independent variables. The analysis results show that sustainability indicators have a significant positive effect on ROE, and a significant negative effect on NPL Ratio. The regression analysis suggests a connection between the banks' financial indicators and their corporate sustainability performance. The results show that the sustainability performance is higher for bigger banks (total assets), and for those with high ROE and NPL Ratio. Hence, sustainability performance has an impact on some financial indicators.

Table 7 about here

#### *Panel regression analysis for sustainability and financial indicators*

The following analysis Table (8) investigates the cross-sectional time series data derived from the years 2014 to 2018. The goal is to analyze panel data to find the connection between the sustainability and financial indicators over the five-year period. The results in Table (7) show that the ROE and NPL affects all three sustainability categories and that regression functions are significant for all three sustainability indicators from the same year.

Table 8 about here

In a similar manner, Table (9) presents how the sustainability indicators affect the financial indicators over the five-year timeframe. The outcome presents similar results for the linear regressions. Again, the sustainability performance is higher for bigger banks (total assets), and for those with high ROE and NPL Ratio.

Table 9 about here

### *One-year lagged panel regression analysis for sustainability and financial indicators*

Finally, this study used sustainability performance and financial performance as both dependent and independent variables in the lagged panel regression analysis to test cause and effect. The goal was to find out if the sustainability performance of the final year 2018 had an impact on the financial performance of the next year and vice-versa. This study used Granger causation to take cause and effect into account, considering a one-year lag for the years 2014 to 2018 (Granger, 1969). For the analysis, panel regression functions with sustainability indicators have been taken as dependent variables in year  $x$  and financial indicators in year  $x+1$  and vice-versa, respectively. After having calculated the regressions, the study compared the significance level as well as R-square of the regressions with the sustainability performance as dependent variable against those with the financial indicators as dependent variables. The study assumed a cause effect relation if the independent variable was able to predict the time-lagged dependent variable (Granger, 1969).

Table (10) and Table (11) present the results of the time-lagged panel regression analysis. Table (11) shows that sustainability performance has a significant impact on the financial indicators (Total asset, ROE and NPL Ratio) for the sustainability score as independent and dependent variable with a similar score in  $R^2$ , which means that a high sustainability score has a positive impact on the financial indicators next year. The results of the regression analyses with time lags indicate bi-directional causation between the sustainability score on the one hand and total asset, ROE and NPL Ratio on the other hand. For net profit and ROA, a uni-directional causation found between them as cause and the sustainability score as the effect. The correlation between the sustainability score and net profit, however, was rather weak. Consequently, the results suggest a bi-directional causation between corporate sustainability performance and financial performance of the banks in the sample. This supports the study hypotheses that better financial performance leads to better corporate sustainability performance and that sustainability performance of Middle Eastern Islamic banks has a positive effect on their financial performance.

Table 10&11 about here

# **Chapter Five**

## Discussion

This research examines the connection between sustainability performance and the financial indicators of Middle Eastern Islamic banks to determine whether the implementation of sustainability regulations had any impact on their financial performance. This study illustrates that the integration of sustainability into the banking sector has a notable impact on total assets, ROE, NPL which expounds that by being sustainable, banks are not only increasing in size but also generating sound returns from their shareholders' investments. This has also been supported in other studies where it showed that sustainability focused banking brings a positive impact on the industry (Deloitte, 2017). The study found a positive correlation between the sustainability performance and financial indicators for total assets and ROE assessed at the same year as well as for one-year time lags. The variation in the sign of the impact of the different regressions maybe because the Islamic banks tend to be much smaller than their conventional counterparts, making it difficult to achieve economies of scale and affect sustainability performance. They grew at an annual rate of 17.6% between 2009 and 2013, faster than conventional banking, and are estimated to be \$2 trillion in size, but at 1% of the total world, still much smaller than the conventional sector (Economist, 2014). Also, the combination of factors, such as economy, policy guidelines, loan demand, stakeholder pressure, environmental interest, and legal factors, have a great influence on the decision regarding the adoption of green banking (Ahmad, Zayed, & Harun, 2013). Multicollinearity may occur as the independent variables in regression models are highly correlated causing the coefficient estimates to swing wildly based on which other independent variables are in the model and become very sensitive to small changes in the model.

The bi-directional causality is in contrast to a study by Fischer and Sawczyn (2013) who suggested a unidirectional Granger causal relationship between corporate financial and sustainability performance but is in-line with Waddock and Graves (1997). It seems that both, corporate sustainability and financial performance interact, and that the same driver might affect both. This study corresponds with institutional theory (DiMaggio & Powell, 1983). It seems that on the one hand, institutional pressure for higher sustainability performance does not affect the financial performance of Middle Eastern Islamic banks negatively; a finding that is in-line with the good

management theory (Waddock & Graves, 1997). On the other hand, Middle Eastern Islamic banks invest slack resources into green and sustainable products, services, and strategies. Both, higher sustainability performance and higher financial performance, is intended by the AAOIFI standard that focuses on market-based mechanisms to address maqasid al-shariah and Islamic social activities, green growth, and environmental risk management in the financial sector (Ho & Gaur, 2020). Hence, the financial sector seems to become more sustainable, can create higher financial returns, and increases its assets, ROA, and ROE. Also, due to the bank's Islamic identity, stakeholders are pressuring banks to live up to the Islamic economic, environmental, and social values as expected from them and to not focus on profit only. The stakeholder's theory suggests a link between sustainable business practices and the firm's performance to be positive. Also, major key player in this was institutional pressure, whereby banks were being pushed to adopt and integrate sustainability into their banking process as well as long-term strategic planning. This in turn created a positive financial impact on the banks which started to show in their financial statements. This in turn encouraged an upward trend in the banking sector, resulting in a rise in sustainability performance, and created a brand image and awareness in the environment amongst the stakeholders as well as introducing environment-friendly business practices (Chowdhury, 2018).

Hence, these activities accrued over the years started to make a notable impact on the financial performance of the banks while the financial sector was seemingly able to create higher financial returns and increases in its assets and ROE. In this case, sustainability performance is having an impact on the financial performance of these banks, but having a better financial performance is not necessarily leading towards a better sustainability performance. The results suggest that the social and environmental performance of Islamic banks increased between 2014 and 2018. Other studies like Weber (2013), Weber (2017), Xun (2012) also found a general increase to incorporate sustainability during a relatively short period. They also found a correlation among the size of financial institutions, which was evaluated on two standards: the size of total assets and the quality of sustainability reporting. In-line with the results of Weber (2017), the study shows that the incorporation of environmental and social issues into business strategies, products, and services of Middle Eastern Islamic banks correlates with increased total assets and is not a trade-off. On the other hand, the results go in-line with the good management theory (Waddock & Graves, 1997) claiming that corporate social performance influences financial performance positively. The study

found a strong correlation between financial indicators and sustainability performance for the total asset, ROE, and NPL Ratio assessed in the same year as well as for one-year. Also, (Chowdhury, 2018) found a correlation between the size of financial institutions, assessed by their total assets, and the quality of their sustainability reporting. The impact of ROA on sustainability performance was stronger than in the other direction. The present study, however, broadened the literature by demonstrating that even in a highly regulated sector size and financial returns (ROE) positively influence the integration of sustainability aspects into financial business strategies, processes, products, and services.

This study explored the correlation between financial indicators and sustainability performance without time lags and analyzed the cause and effect between financial performance and sustainability performance using Granger causality. The results suggest a bi-directional causality between sustainability performance and financial indicators in-line with Waddock & Graves (1997). It's possible that corporate sustainability and financial performance interact, and the same driver might influence both. Hence, the financial sector seems to become more sustainable, can create higher financial returns, and increases ROE. Finally, an explanation for the non-significant relation between net profit and sustainability performance could be that the Islamic banking industry is supposed to be more socially responsible and not focused on profit maximization. The research results are consistent with other studies conducted in the Islamic banking sector, for instance, Arshad, Othman, & Othman (2012) investigated the impact of CSR on corporate reputation and performance of Islamic banks in Malaysia. The results of which showed a positive significant relationship between CSR activities published in the annual reports of the examined Islamic banks and their reputation and performance. Also, Mallin, Farag, & Ow-Yong (2014) focused on analyzing the relationship between CSR and the financial performance of Islamic banks across different countries in the period between 2010 and 2011. The study showed a positive significant linkage between financial performance and corporate social responsibility performance of analyzed Islamic banks.

A limited number of studies have assessed the relationship between CSR and financial performance in the Islamic banking sector. This is the first study that examines the sustainability performance of Middle Eastern Islamic banks, including their product and services. Furthermore, the study adds to the knowledge regarding the impact of financial sector regulations and policies

on the environmental and financial performance of banks. The corporate social responsibility literature on Islamic banks is mainly qualitative based studies that cover the volume of narrative CSR disclosures versus an ideal benchmark drawn from shariah based CSR goals and AAOIFI standards. They generally find an expectations gap between actual and communicated CSR performance and ideal performance. The main limitations of these studies are their reliance on data gathered from the annual reports to examine CSR performance. The annual report alone will not give a full description of the sustainability performance as Islamic banks may disclose some of their sustainable activities separately in other reports like shariah annual report, corporate governance report, and on their websites. this study tries to close this gap by collecting data from the annual reports and all the other available reports as well as the Islamic banks websites.

Further research is needed to examine the effects of environmental and social standards on the sector of Middle Eastern Islamic banks. Also, more research is required to determine whether sustainability performance is improving steadily and whether banks are being motivated to invest in more sustainable activities. Due to the lack of standardized public reporting of Islamic banks, this study relied on a relatively small sample size. Conducting research using big data methods will assist in evaluating the environmental, financial, and economic factors. Based on the results of this study, another future study direction might be to examine the requirement for core and direct social, environmental, and green products and services in the Islamic banking context. Finally, once more data are available, future research should focus on examining how the current regulations and standards are having an impact on corporate performance and at what level of efficiency the banks are following the sustainable standards. The scope of the study should not only be limited to banks and financial institutions but should also investigate how the environment and sustainable development are influenced by the practice of the existing shariah sustainable regulations. This will draw more focus on the nature of the current social and economic situation and shed some light on the lack of awareness by bringing tested information that would encourage relevant stakeholders to act more responsibly and sustainably.



# Chapter Six

## Conclusions

This paper examined the Middle Eastern Islamic banks link between sustainable business practices and the firm's financial performance. The results of the study show that the bi-directional causation between sustainable business practices and a firm's financial performance is significant. These results are in line with Platonova, Asutay, Dixon, & Mohammad (2016) that suggests the initiation of sustainable business practices by their banks will add financial returns to their business portfolios. This study found the integrating sustainability into the financial sector does not harm financial performance but rather increases it. Hence, good Islamic management of corporations and the investment of slack resources in sustainable activities may increase the Islamic banks' corporate sustainability and create a more stable and successful financial sector. Because the results suggest a bi-directional effect, Middle Eastern Islamic banks should invest in corporate sustainability to increase their financial success and invest more in sustainable activities.

The bi-directional causation between corporate sustainability performance and financial performance may be explained through institutional theory, and through stakeholder pressure (Yin, 2015), though empirical research on the impact of the AAOIFI Standard is still missing. Institutional pressure emphasizes the influence of impacts outside the organization, such public policies, on business strategies and activities (DiMaggio & Powell, 1983). Many institutional theorists emphasize the benefit of regulations and the impact of governments on corporate sustainability (Xun, 2012; Dobers & Halme, 2009) and suggest that organizations respond to institutional pressures toward corporate social responsibility by increasing their sustainability performance. Many studies discussed the stakeholder's pressure on Islamic banking and found a positive impact of sustainable business practices on financial performance (Jan, Marimuthu, Hassan, & Mehreen, 2019; Platonova, Asutay, Dixon, & Mohammad, 2018).

From the industrial and global point of view, the results of this study will assist the management of Islamic banking to expedite those sustainability practices which enhance their business financial performance and vice-versa. It will also provide policy vision to the global Islamic banking industry practitioners about incorporating those sustainability practices in their business models for getting higher financial returns, and subsequently higher sustainable business practices

globally. The sustainable Islamic banking industry will interest more investors globally, and in the process, it will help them to grow globally. From a social and environmental point of view, the results of this study will persuade global Islamic banking to incorporate and improve their environmental and societal practices as it will provide them with a higher financial return. While improving environmental sustainability for getting a higher return, it will also minimize the negative impacts of banking operations on the environment. Such as stopping funds to that business which are involved in higher CO2 emission, deforestation, and environmental degradation of any kind. It will prioritize funding and loans to those businesses which are involved in renewable energy projects. Therefore, the results of this study will also encourage community investment, human rights, and decent labor work practices through banking operations in a quest of getting a higher return. It is because the results of this study confirm that sustainability practices increase financial performance.

This study aimed to analyze and clarify the relationship between corporate sustainability performance and financial performance in a new contextual setting. That is, investigating the link in circumstances with different cultural traditions and regulatory environment than has been previously covered in prior research. Furthermore, the thesis contributes to the existing literature on corporate sustainability by creating a new sustainability index as well as examining the impact of board composition on the connection between sustainability performance and financial performance. Finally, alongside getting a higher financial return, improvement in sustainability practices by Islamic banking will also improve the social, environmental, and green development globally. Future research should examine the impact and efficiency of financial sector sustainability regulations. The research should not only focus on reports and data from banks and other financial sectors but should also investigate the effect of the financial sector's sustainability performance on the environment and sustainable development of the countries that have adhered to such regulations. Another future research direction might be to compare the sustainability practices of Islamic and conventional banks, to evaluate the sustainability performance impact on them and whether their corporate social responsibility strategies converge or diverge in response to formal and informal institutions.

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## Appendix

Table 1: Review of studies evaluating the link between sustainability performance and financial performance.

<i>Author</i>	<i>Sample</i>	<i>Dependent Variable</i>	<i>Independent Variable</i>	<i>Methodology</i>	<i>Finding</i>
<i>(Yadav, Han, &amp; Kim, 2016)</i>	Multiple countries	ROA	Environmental Responsibility	multivariate regression	Positive Impact
<i>(Cochran &amp; Wood, 1984)</i>	Moskovitz list	Earnings/sales	Corporate Social Responsibility	Regression	Weak Impact
<i>(Soytas, Denizel, &amp; Usar, 2019)</i>	North America	ROA	Sustainability, Environmental Responsibility, Social Responsibility	First-stage Estimation	Positive Impact
<i>(Maqbool &amp; Zameer, 2018)</i>	India	Profitability and SMR	Corporate Social Responsibility	Regression	Positive Impact
<i>(Platonova, Asutay, Dixon, &amp; Mohammad, 2016)</i>	GCC	ROAA, ROAE	Corporate Social Responsibility	Fixed-Effect Regression	Positive Impact
<i>(Soana, 2011)</i>	Italy	ROAA, ROAE and	Sustainability Indicators	Ethical Ratings and	Positive Impact



		Cost-to- Income Ratio		Global Rating	
<i>(Wang &amp; Choi, 2010 )</i>	USA	Tobin's q	Corporate Social Responsibility	Time Fixed Effect Regression	Positive Impact
<i>(Nobanee &amp; Ellili, 2016)</i>	UAE	Growth in Interest Income	Sustainability (Energy, Natural Environment)	GMM	Negative Impact
<i>(Busch &amp; Hoffmann, 2011)</i>	multiple countries	ROE, ROA, Q ratio	Environmental Responsibility	Regression	Inconclusive Impact
<i>(Abduh &amp; Omar, 2012)</i>	S&P500 stock market index	ROA, ROC	Corporate Social Responsibility	OLS	Mixed Impact
<i>(Chang &amp; Kuo, 2008)</i>	global	Profitability	Sustainability	Variation Between Two groups	Positive Impact
<i>(Oni, 2016)</i>	China, Japan, Nigeria, Egypt, Bangladesh and Pakistan	Financial Performance	Sustainability Regulations	Regression	Positive Impact
<i>(Eccles, Ioannou, &amp; Serafeim, 2014)</i>	United States	ROA, ROE	Environmental responsibility	Four-Factor Model	Mixed Impact

<i>(Weber, 2017)</i>	China	Sustainability and Financial Indicators	Sustainability and Financial Indicators	Panel Regression and Granger Causality	Positive Impact
<i>(Lee, Faff, &amp; Langfield-Smith, 2009)</i>	multiple countries	ROS, ROA, ROS	Corporate Social Responsibility	Regression	No Impact
<i>(Mallin, Farag, &amp; Ow-Yong, 2014)</i>	13 countries	ROA, ROE	Corporate Social Responsibility	OLS, 2SLS, and 3SLS	Positive Impact
<i>(Arsad, Said, Yusoff, Haji-Othman, &amp; Ahmad, 2014)</i>	Malaysia	EPS	Corporate Social Responsibility	SEM	Positive Impact
<i>(Lee, Min, &amp; Yook, 2015)</i>	Japan	ROA	Environmental Responsibility	Fixed Effects and GLS Estimation	Positive Impact
<i>(Chowdhury, 2018)</i>	Bangladesh	Sustainability and Financial Indicators	Sustainability and Financial Indicators	Linear, Panel Regression, and Granger Causality	Insignificant Impact
<i>(Lo'pez, Garcia, &amp; Rodriguez, 2007)</i>	Europe	SIZE, RISK, IND	Sustainability	Variation Between Two groups	Negative Impact

<i>(Szegeedi, Khan, &amp; Lentner, 2020)</i>	Pakistan	ROA, ROE	Corporate Social Responsibility	Content Analysis and Panel Data Techniques	Positive Impact
<i>(Lourenço, Branco, Curto, &amp; Eugénio, 2012)</i>	Canada and USA	ROE, LEV, SIZE, CF, RISK, LIST	Sustainability	Random Effects Regression	Positive Impact
<i>(Torugsa, O'Donohue, &amp; Hecker, 2011)</i>	Australia	Confirmatory factor analysis	Corporate Social Responsibility	SEM	Positive Impact
<i>(Lin, Yang, &amp; Liou, 2009)</i>	Taiwan	ROA	Corporate Social Responsibility	Regression	Positive Impact
<i>(Makni, Francoeur, &amp; Bellavance, 2008)</i>	Canada	ROA, ROE, Stock Market Returns	Corporate Social Responsibility	Regression	Inconclusive Impact
<i>(Nelling &amp; Webb, 2009)</i>	United States	ROA, Stock return	Sustainability and Financial Indicators	Fixed-Effect Regression	Inconclusive Impact
<i>(Waddock, Tribó, &amp; Jordi Surroca, 2009)</i>	global	CFP	Corporate Social Responsibility	Two-Stage Estimation, Fixed Effect Estimation	Positive Impact
<i>(Aras, Aybars, &amp; Kutlu, 2009)</i>	Turkey	ROE, ROA, ROS	Corporate Social Responsibility	Regression	Inconclusive Impact

<i>(Wagner &amp; Blom, 2011)</i>	Germany-UK	ROS	Sustainability	Variation Between Two groups	Positive Impact
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Table 2: Population of Banks

List of The Islamic Banks		
Al Baraka Banking Group	Citi Islamic Investment Bank	Elaf Islamic Bank
Al Salam Bank	Ibdar Bank	Islamic International Arab Bank
Bahrain Kuwait Finance House	Venture Capital Bank	Jordan Islamic Bank
First Energy Bank	Liquidity Management Centre	Safwa Islamic Bank
ABC Islamic Bank	Global Banking Corporation	Kuwait Finance House
Al Baraka Islamic Bank	Egypt Al Baraka Bank	Arab Islamic Bank
Bahrain Islamic Bank	Egypt Abu Dhabi Islamic Bank	Syria Al Baraka Bank Syria
Bank Alkhair	Faisal Islamic Bank of Egypt	Abu Dhabi Islamic Bank
Ithmaar Bank	Sina Bank	Parsian Bank
Khaleeji Commercial Bank		

Table 3: Categories Used

<i>Indicator</i>	<i>Examples</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>Total</i>
<i>Social</i>							
<i>Social Policy</i>	Policies addressing societal issues, employees, and social finance products and services	15	18	18	19	19	89

<i>Social Management System</i>	Balanced scorecard, six sigma	12	12	13	13	12	62
<i>Internal Social Management</i>	Compliance management, social procurement, employees, management of benefits and incentives, career management	18	19	19	19	19	94
<i>Social Credit Risk Assessment</i>	Integration of social indicators into credit risk assessment	15	15	15	15	14	74
<i>Social Loans</i>	SME loans, student loans, Sannong loans (villages, agriculture, farming), SME group lending, sanitary loans, reconstruction loans	21	21	21	21	21	105
<i>Social Mortgages</i>	Reconstruction mortgages, social housing,	5	5	5	5	5	25
<i>Social Funds</i>	Funds for developing countries, rural areas, cultural sector, domestic development funds	20	21	21	21	21	104
<i>Social Indices</i>	Indices including social sustainability criteria, such as China well-off family index	10	10	10	10	10	50
<i>Social Asset Management Services</i>	Socially responsible investment, impact investing	19	20	20	20	19	98
<i>Social Bonds</i>	Bonds for social projects	6	6	6	6	6	30
<i>Social Microfinance</i>	Start-up microfinance, microfinance for laid-off workers, farmers, and rural women	7	7	7	7	7	35

<i>Social Project Finance Assessment</i>	Assessment of social project risk, application of Equator Principles, project finance for municipal facilities	16	16	16	16	15	79
<i>Social Savings Products</i>	Savings products that are invested in social loans	5	5	5	5	5	25
<i>Social Investment Banking</i>	Industrial zone development project	19	19	19	19	19	95
<i>Other Social Products and Services</i>	Other products and services addressing social issues	20	21	21	21	21	104
<i>Environment</i>							
<i>Environmental Policy</i>	Policies addressing environmental issues, such as green products and services, supporting the development of environment protection	15	15	15	15	14	74
<i>Environmental Management System</i>	ISO140001	9	9	10	10	9	47
<i>Internal Environmental Management</i>	Green office and green building management, green procurement, green operations, waste management, paperless banking	15	15	15	15	15	75
<i>Environmental Credit Risk Assessment</i>	Integration of environmental credit risk indicators into credit risk assessment	13	13	13	13	12	64
<i>Green</i>							
<i>Green Loans</i>	Green industry loans	13	13	13	13	13	65

<i>Green Mortgages</i>	Green housing mortgages	1	1	1	1	1	5
<i>Green Funds</i>	Green industry investment funds	14	14	14	14	14	70
<i>Green Indices</i>	Indices using environmental criteria	9	9	9	9	9	45
<i>Green Asset Management Services</i>	Green mutual funds, environmental asset management products and services	14	14	14	14	14	70
<i>Green Bonds</i>	Green bonds issued	3	3	3	3	3	15
<i>Green Microfinance</i>	Microfinance for environmentally friendly businesses	5	5	5	5	4	24
<i>Green Project Finance Assessment</i>	Environmental risk assessment, financing of green projects (energy, water, infrastructure, waste management, restoration)	14	14	14	14	13	69
<i>Green Savings Products</i>	Saving products that are invested in green loans	0	0	0	0	0	0
<i>Green Investment Banking</i>	Emissions trading, investment in clean development mechanism projects	15	15	15	15	15	75
<i>Other Green Products and Services</i>	Management of low-carbon fund	14	14	14	14	14	70

Table 4: Descriptive statistics for the financial indicators

<i>Year</i>	<i>Total Assets (USD Million)</i>	<i>Net Profit (USD Million)</i>	<i>ROA</i>	<i>ROE</i>	<i>NPL</i>	<i>Social</i>	<i>Environmental</i>	<i>Green</i>	<i>Sustainability</i>
<b>2014</b>						0.50	0.46	0.33	0.43

<i>Mean</i>	9404.05	294.78	1.11%	7.19%	26.24%				
<i>SD</i>	37231.84	818.75	2.16%	11.40%	28.60%	0.33	0.44	0.33	0.35
<b>2015</b>									
<i>Mean</i>	8594	279.41	-0.20%	3.03%	24.02%	0.51	0.46	0.33	0.44
<i>SD</i>	33745.8	722.78	6.31%	9.64%	25.27%	0.32	0.44	0.33	0.35
<b>2016</b>									
<i>Mean</i>	7029.22	783.15	0.21%	9.66%	27.43%	0.51	0.47	0.33	0.44
<i>SD</i>	24382.97	3257.99	3.97%	25.49%	25.68%	0.32	0.44	0.33	0.35
<b>2017</b>									
<i>Mean</i>	8009.59	267.37	0.68%	7.64%	29.96%	0.52	0.47	0.33	0.44
<i>SD</i>	27427.96	523.07	6.03%	16.47%	28.71%	0.32	0.44	0.33	0.35
<b>2018</b>									
<i>Mean</i>	7484.41	183.61	-63.9%	5.92%	30.46%	0.51	0.45	0.32	0.43
<i>SD</i>	23674.32	395.42	336.07%	14.49%	29.20%	0.32	0.43	0.32	0.34

Table 5: Correlation between sustainability and financial variables

<i>Variables</i>	<i>Total Asset</i>	<i>Net Profit</i>	<i>ROA</i>	<i>ROE</i>	<i>NPL</i>	<i>Social</i>	<i>Environmental</i>	<i>Green</i>
<i>Net Profit</i>	0.58*							
<i>ROA</i>	0.03	0.02						
<i>ROE</i>	0.04	0.20*	0.07					
<i>NPL</i>	0.27*	0.22*	-0.11	0.44*				
<i>Social</i>	-0.08	-0.02	0.14	0.29*	-0.14			
<i>Environmental</i>	-0.20*	-0.07	0.10	0.26*	-0.22	0.88*		
<i>Green</i>	-0.20*	-0.05	0.09	0.23*	-0.27	0.84*	0.93*	
<i>Sustainable</i>	-0.17*	-0.05	0.11	0.27*	-0.22	0.94*	0.98*	0.96*

\*p < .05



Table 6: Results of the regression analysis with the social, environment, and green score as dependent variables and the financial indicators as independent variables.

<i>Dependent Variables</i>	<i>Independent Variables</i>	<i>Coefficient</i>	<i>R<sup>2</sup></i>	<i>Significance</i>
<i>Social Indicators</i>	Total Asset	-9.19E-07	0.007	0.976
	Net Profit	-3.31E-06	0.0003	0.745
	ROA	0.030	0.019	0.347
	ROE	0.575	0.086	<.0001*
	NPL	-0.161	0.019	0.0009*
<i>Environmental Indicators</i>	Total Asset	-2.98E-06	0.041	0.207
	Net Profit	-1.82E-05	0.004	0.971
	ROA	0.028	0.009	0.723
	ROE	0.692	0.068	<.0001*
	NPL	-0.357	0.050	<.0001*
<i>Green Indicators</i>	Total Asset	-2.17E-06	0.040	0.212
	Net Profit	-1.06E-05	0.003	0.756
	ROA	0.020	0.009	0.799
	ROE	0.456	0.054	<.0001*
	NPL	-0.320	0.074	<.0001*

\*p < .05

Table 7: Results of the regression analysis with financial indicators as dependent variables and social, environment, green score as independent variables.

<i>Dependent Variables</i>	<i>Independent Variables</i>	<i>Coefficient</i>	<i>R<sup>2</sup></i>	<i>Significance</i>
<i>Total Asset</i>	Social Indicators	-7726.252	0.007	0.322

<i>Net Profit</i>	Environmental Indicators	-13705.809	0.041	0.017*
	Green Indicators	-18296.669	0.040	0.018*
	Social Indicators	-78.203	2.59E-04	0.850
<i>ROA</i>	Environmental Indicators	-234.719	0.004	0.443
	Green Indicators	-251.055	0.003	0.545
	Social Indicators	0.652	0.019	0.102
<i>ROE</i>	Environmental Indicators	0.332	0.009	0.261
	Green Indicators	0.437	0.009	0.275
	Social Indicators	0.150	0.086	0.0004*
<i>NPL Ratio</i>	Environmental Indicators	0.099	0.068	0.002*
	Green Indicators	0.119	0.054	0.006*
	Social Indicators	-0.117	0.019	0.105
	Environmental Indicators	-0.141	0.050	0.008*
	Green Indicators	-0.233	0.074	0.001*

\*p < .05

Table 8: Results of the panel regression analysis with social, environment, and green score as dependent variables and financial indicators as independent variables.

<i>Dependent Variables</i>	<i>Independent Variables</i>	<i>Coefficient</i>	<i>R<sup>2</sup></i>	<i>Significance</i>
<i>Social Indicators</i>	Total Asset	-6.4E-08	0.007	0.953
	Net Profit	-5.3E-06	0.001	0.799
	ROA	0.017	0.020	0.331
	ROE	0.84	0.088	<.0001*
	NPL	-0.373	0.019	0.0009*
<i>Environmental Indicators</i>	Total Asset	-1.9E-06	0.041	0.202
	Net Profit	2.82E-06	0.005	0.918
	ROA	0.0084	0.009	0.714
	ROE	1.158	0.069	<.0001*
	NPL	-0.611	0.051	<.0001*
<i>Green Indicators</i>	Total Asset	-1.4E-06	0.040	0.201
	Net Profit	7.93E-06	0.003	0.691
	ROA	0.005	0.009	0.763
	ROE	0.837	0.055	<.0001*
	NPL	-0.512	0.075	<.0001*

\*p < .05

Table 9: Results of the panel regression analysis with financial indicators as dependent variables and social, environment and green scores as independent variables.

<i>Dependent Variables</i>	<i>Independent Variables</i>	<i>Coefficient</i>	<i>R<sup>2</sup></i>	<i>Significance</i>
<i>Total Asset</i>	Social Indicators	39270.002	0.008	0.331

<i>Net Profit</i>	Environmental Indicators	-30113.99	0.042	0.018*
	Green Indicators	- 13343.357	0.041	0.020*
	Social Indicators	877.981	0.019	0.841
<i>ROA</i>	Environmental Indicators	-932.697	0.023	0.433
	Green Indicators	185.335	0.021	0.544
	Social Indicators	1.168	0.047	0.105
<i>ROE</i>	Environmental Indicators	-0.418	0.037	0.278
	Green Indicators	-0.018	0.037	0.282
	Social Indicators	0.148	0.103	<.001*
	Environmental Indicators	0.039	0.085	0.002*
	Green Indicators	-0.055	0.072	0.006*

<i>NPL Ratio</i>	Social Indicators	0.261	0.026	0.109
	Environmental Indicators	-0.014	0.058	0.009*
	Green Indicators	-0.433	0.082	0.001*

\*p < .05

Table 10: Results of the one-year lag panel regression analysis with sustainability performance (lagged) as dependent variable and financial indicators as independent variables.

<i>Dependent Variables</i>	<i>Independent Variables</i>	<i>Coefficient</i>	<i>R<sup>2</sup></i>	<i>Significance</i>
<i>Sustainability Score (Lagged)</i>	Total Asset	-2.22E-06	0.047	0.027*
<i>Sustainability Score (Lagged)</i>	Net Profit	-1.72E-05	0.017	0.374
<i>Sustainability Score (Lagged)</i>	ROA	-0.008	0.012	0.694
<i>Sustainability Score (Lagged)</i>	ROE	0.511	0.069	0.005*
<i>Sustainability Score (Lagged)</i>	NPL Ratio	-0.229	0.043	0.035*

\*p < .05

Table 11: Results of the one-year lag panel regression analysis with financial indicators (lagged) as dependent variables and sustainability performance as independent variable.

<i>Dependent Variables</i>	<i>Independent Variables</i>	<i>Coefficient</i>	<i>R<sup>2</sup></i>	<i>Significance</i>
<i>Total Asset (Lagged)</i>	Sustainability Score	-14771.128	0.031	0.044*
<i>Net Profit (Lagged)</i>	Sustainability Score	-225.214	0.021	0.56
<i>ROA (Lagged)</i>	Sustainability Score	0.49	0.041	0.19
<i>ROE (Lagged)</i>	Sustainability Score	0.11	0.073	0.006*
<i>NPL Ratio (Lagged)</i>	Sustainability Score	-0.17	0.059	0.013*

\*p < .05