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COLLEGE OF BUSINESS AND ECONOMICS

ENVIRONMENTAL, SOCIAL AND GOVERNANCE DISCLOSURE AND PROFITABILITY: GCC BANKS' COMPARATIVE STUDY

BY

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ABSTRACT

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The main aim of this thesis is to investigate the relationship between Voluntary disclosure (VD) and profitability of publicly traded banks operating in the GCC region over the period 2007-2017. We incorporate stakeholder theory and agency theory to gain insights about VD and profitability. Based on stakeholder theory, agency theory and prior studies, we developed three hypotheses. The first hypothesis states that Islamic banks disclose more compared to conventional banks, the second hypothesis states that higher the VD, higher the bank's profitability and the third hypothesis states that profitable banks engage more in VD. The sample covers 57 banks, out of which, 22 are Islamic and 35 are conventional banks. For this purpose, Environmental, Social and Governance (ESG) factors are considered as components of VD. Return on Assets (ROA), Return on Equity (ROE) and Tobin's Q are used as measures of profitability. To find our results, we implemented two-step system generalized method of moments (GMM) estimator. The main findings of the thesis are: First, Islamic banks have low ESG disclosures as compared to conventional banks. Second, ESG disclosure affects all the measures of profitability inversely, which suggests that ESG activities are costly for GCC banks. Finally, we find that ESG disclosure is positively affected by accounting measures of profitability (i.e. ROA and ROE). This suggests that high profitable banks are more visible in the market, thus, they disclose more ESG

information to meet the social norms, since, more information is essential to reduce the level of asymmetric information between managers, bank owners, and depositors. This thesis contributes to the literature in different ways: First, it enriches the literature on Islamic banks and VD as there is a lack of studies that dealt with this issue in the literature. Second, this is one of the first studies that compared between ESG disclosure in both Islamic and conventional banks and its relation to bank profitability. Third, up to the researcher's knowledge, this is the first study that suggested a bi-directional relationship between ESG disclosure and bank profitability.

This study is useful for all stakeholders and especially investors. As markets expand, it is essential that sufficient information is made available to market participants in order to facilitate their investment and financing decisions. Given our results that ESG disclosure is costly for banks in the GCC, it is important that policy makers put some rules to encourage banks to be more socially responsible.

DEDICATION

This study is wholeheartedly dedicated to my beloved parents, who have been my source of inspiration and gave me strength, who continually provided their moral, spiritual, emotional, and financial support. To my siblings, supervisor, and friends who shared their words of advice and encouragement to finish this study. And lastly, I dedicate this book to the Almighty Allah, for the guidance, strength, power of mind, protection and skills for being able to successfully complete the thesis.

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1. Introduction

The main purpose of reporting information pertaining to a company is to reduce information asymmetry between the company and its stakeholders. As stated by the conceptual framework of International Financial Reporting Standards, the objective of financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders, and other creditors in making decisions about providing resources to the entity (IAS, 2018). The disclosure practice of companies can be divided into two categories based on disclosure requirements. The first one is the mandatory disclosure which obligates firms to disclose the information that is required by country regulators (Cooke, 1992; Adina & Ion, 2008). It might relate to the accounting standards regulatory institution, corporate governance codes issued by the financial authority, or/and the adherence to laws issued by government institutions. The second category of disclosure is the Voluntary Disclosures (VD) which is optional for companies (Cooke, 1992; Kageha, 2013). The information included in the VD, most prominently, pertains to social disclosures, corporate governance information and other financial and non-financial information that the company deems important for its stakeholders' decision making and satisfaction.

The banking sector plays a vital role in the country's economic growth. Previous research suggests that financial development leads to higher economic growth (see Ghali (1999), Kar & Pentecost (2000), Abu-Badr & Abu-Qarn (2008), Abdelhafidh (2013), Paul et al. (2015) and Murari (2017)). This implies that growth, in financial measures, such as banks' deposits and lending to entities cause significant growth in the Gross Domestic Product (GDP) of a country. Thus, banks are essential players in the economic development of a nation, which further emphasize their role in sustainable economic development. As financial intermediaries, banks play an important role in

the financial system of a country in the sense that they transform financial resources from suppliers to demanders of funds in an efficient way. By this asset transformation, banks enjoy sufficient control over social sustainability (Ghosh, 2014; Jeucken, 2004).

Banks are well aware of the activities undertaken by their clients, and have the necessary resources attained from banks' depositors, hence, they ought to ensure that funds are properly utilized. However, a client could face challenges with respect to her/his business due to different factors, such as, changes in government policy, industry norms or consumer preferences. These challenges might lead to the inability of the client to pay back her/his financial obligations to the bank. This consequently might lead to an increase in banks' financial risk and high nonperforming loans. Furthermore, at times, banks are held accountable for damages caused to the environment by their clients (Jeucken, 2004), as the impact on the environment caused by their clients might be significant (Brar, 2016). Banks, by themselves, are regarded as environment friendly, as they cause no direct harm to the environment through their activities. However, with the increase in banking operations, their immense use of resources (electricity, electronic equipment, papers, cooling systems etc.) is expected to increase as well, thus, a need to develop sustainable banking business is required (Meena, 2013). Accordingly, banks have started using E-banking facilities for their customers, which aims to maintain sustainability of environmental and social factors. This is done by reducing the amount of paper related documents and office space used (Brar, 2016). Thus, some banks also go "Green" in their operations which intends to safeguard the environment and preserve the natural resources (Rajesh & Dileep, 2014).

The banking sector in the GCC has seen moderate growth throughout the years and has been one of the significant contributors to the gross domestic product after oil and gas sectors (KPMG, 2017). Many banks in the GCC have started several initiatives to

protect the environment. For example, financial institutions in the UAE have adopted green finance initiative as part of sustainability development. Out of the 79 financial institutions, 48% provide green products/services (Salama, 2017). Qatar and Bahrain have taken steps toward initiating green finance through Qatar Central Bank and the Ministry of Finance (Perumal, 2017: Yousif & Ibrahim, 2018). One of the leading banks in Oman namely, bank of Muscat, has been lauded for its commitment towards green services in corroboration with International Finance Corporation. ("Bank Muscat Committed to Sustain Green Environment", 2017). The Central Bank of Saudi Arabia, also has intended to join the sustainable banking network to promote green finance and is a member of Green Finance Study Group which aims to mobilize green finance ("Green Finance Progress Report", 2017).

The majority of banks in the GCC are also active contributors to social activities, they offer donations and work for the benefit of the local communities (Chintaman, 2014). Moreover, there has been a tremendous reform in the governance practices of GCC banks. The main focus was on board membership, executive compensation, roles & responsibilities of shareholders, board committee, external audit and disclosure (Ghosh, 2018). However, it is unclear to what extent GCC banks are affected by this reform.

This thesis highlights some important components of VD namely, Environment, Social and Governance (ESG) aspects, as undertaken by banks operating in the GCC region. It intends to determine if these voluntary ESG information are disclosed in banks' annual reports and/or other published sources. This helps in understanding the current situation of VD among the banks of emerging markets of the GCC. Moreover, as the GCC financial sector incorporates Islamic, as well as, Conventional banking systems, this study seeks to examine differences (if any) among both types of banks in terms of ESG disclosure practices.

1.1 Background of Study

1.1.1 Purpose of the Research

One of the main purposes of Voluntary Disclosure (VD) requirements, especially among banks, is to facilitate market participants' ability to assess bank activities and practices, since the banking sector is usually deemed as opaque to outsiders (Hirtle, 2007). It is also emphasized that comprehensive, timely, informative and credible information disclosures reduce the vulnerability of banks toward crisis (Tadesse, 2006). However, these reporting practices might differ from one geographical setting to another, as they differ in terms of cultural, social, economic and legal systems (Hawashe & Ruddock, 2014). Researchers have found that high VD is related to bank size, board size, ownership structure, financial leverage and profits (Rogosic, 2014; Hossain & Reaz, 2007; Khan & Abera, 2016; Achoki et al., 2016; Kilic, 2015; Mardini, 2015). Therefore, the first aim of this thesis is to investigate the extent to which GCC banks disclose voluntarily; Environmental, Social, and Governance (ESG) related information, and to investigate the main determinants of ESG in GCC banking sector.

Similarly, researchers have shown inconclusive results with respect to Islamic banks' level of VD. Various studies used different determinants and investigated their effect on VD made by IBs. Some researchers found VD to be affected by corporate governance (CG) mechanisms (Neifar & Jarboui, 2018). Others found that the main determinants of VD were; the influence of the relevant public (size of Muslim population), the presence of the Shariah Supervisory Board, to be positive determinants, while the level of political and civil repression as negative determinants (Farook et al., 2011). Furthermore, studies found current and future financial performance, company size, accounting standards, and auditor type had positive effect on VD (Mallin et al., 2014; Platonova et al., 2018; EL-Halaby & Hussainey, 2015). However, other studies

found no significant relationship between the VD and determinants including; profitability, auditor type, ownership structure and company size (Farook et al., 2011; Nugraheni & Anuar, 2014; Hossain & Hammami, 2009; Anuar et al., 2009). In addition, numerous studies concluded that the IBs perform very poorly in terms of VD. For instance, Hassan & Harahap (2010) inferred from their results that the majority of IBs do not consider VD as an important issue. Similar findings are observed by Mallin et al., (2014), Halaby & Hussainey (2015) and Al-Shammari (2013). Past studies also did not pose a concrete evidence as to whether IBs' purpose of establishment is compatible with their actual operations.

Consequently, the lack of conclusive results discussed above, motivate our research to investigate whether the level of VD by Islamic banks is more than that of conventional banks. In this thesis, we will investigate whether IBs adhere to their main purpose of establishment, as a more socially responsible bank compared to its conventional counterpart (Aribi & Gao 2010). This leads to our research's second aim which is, to determine if there are any differences between conventional and Islamic banks in terms of ESG. Furthermore, as many researchers found that VD might be costly for banks, and their costs do not warrant or match the benefits from them, this research investigates whether banks that disclose more information perform better than banks that provide less information.

More specifically, our research aims to answer the following questions:

1. Is there a difference between Islamic and Conventional banks' ESG levels?
2. Does ESG improve banks' profitability?
3. Does profitability determine ESG in GCC banks?

1.2 Contribution and Significance of the Study

There are four main goals to this thesis: First, the thesis will examine the extent to which GCC banks disclose voluntarily; Environmental, Social, and Governance related information. Second, to examine if ESG disclosure affects the profitability of GCC banks. Third, to determine whether profitability influences banks' decision to disclose such information. Finally, to examine if there is any difference in ESG information disclosure between Islamic and conventional banks. By making such comparison, we can answer the concern; do Islamic Banks (IBs) fulfill their purpose of existence by disclosing more information about ESG to the public as compared to their conventional counterparts?

This study is useful for investors, banks, and policy makers. It is important to investors as it guides them in their investment and financing decision making process. As markets expand, it becomes essential for investors to have sufficient information in order to facilitate their savings and investment decisions. More information is essential to reduce the level of asymmetric information between managers, bank owners and depositors. The financial crisis of late 2007-2008, affected adversely the financial systems, involving banks, supervisory units, governments, businesses, and savers. As a consequence of this crisis, the trust in the financial systems and mainly banks were affected (Alandejani et al., 2017). Therefore, to preserve trust, more and highly transparent information is essential (Rawlins, 2008; Schnackenberg & Tomlinson, 2016).

In addition, the financial crisis reinforced and renewed the attention of practitioners, policymakers and academics of the functioning of banking business models. At the core of this attention is directed toward the effect of corporate social responsibility on

financial performance of banks. Therefore, this study will have policy implications to regulators of the banking sector in the GCC countries. It is expected to assist them to formulate policies based on the level of disclosures made by banks, such as setting up new policies that would lead to greater board monitoring, which in turn leads to increased VD (Cheng & Courteney, 2006).

This research is also beneficial for Islamic Banks (IBs) as it helps them review their position in terms of VD and take necessary actions to reduce information asymmetry, to increase the trust and confidence among their investors, managers, and other stakeholders.

Although there is an increasing attention given to the subject, studies on the relationship between VD and profitability of banks is still limited (Wu and Shen, 2013). There are only few studies that look at the difference between Islamic and conventional banks in their level of VD and its effect on profitability (Aribi & Gao, 2010). Another important implication of this study is to enrich the literature on banks' VD and the effect of disclosure on banks' profitability.

1.3 Scope of the Study

This study is based on all listed banks in the GCC countries that are active for the period 2007 to 2017. The sample includes both Islamic and Conventional banks listed in 6 of the GCC stock exchanges (Qatar Stock Exchange, Dubai Financial Market, Abu Dhabi Stock Exchange, Muscat Securities Market, Saudi Stock Exchange (Tadawul), Bahrain Bourse and Kuwait Stock Exchange). One of the main reasons for choosing the GCC countries is that they share similar economic, social, and cultural characteristics, hence it is easy to generalize the results within these nations. Moreover, these countries are

the hub of IBs as they own at least 42.3% of the total world IB assets (Islamic Financial Services Board, 2017).

This thesis, will provide a short glimpse of IBs in order to comprehend the idea behind their operations. Although it is important to understand how IBs differ from CBs, however, it is beyond the scope of this thesis to explain in-depth, the operations of IBs and their differences to those of CBs. According to Arif (1988), IBs have few unique features that make them different from CBs, such as; IBs are interest free banking system, serve many purposes, is not limited to commercial gains and is strictly equity-oriented. The concepts of IBs are vast and are critically discussed in more details by various authors (e.g. Iqbal & Molyneux, 2016; Chong & Liu, 2009; Visser, 2013; Asutay, 2012).

Various studies have been conducted covering different aspects of comparisons between Islamic and conventional banks. Some researchers did not find any substantial differences among the two types of banks in terms of profitability and liquidity (Bourkhis & Nabi, 2013; Samad, 2004); and stability during the financial crisis (Bourkhis & Nabi, 2013; Altaee et al., 2013; Kassim and Majid, 2010). Other researchers, however, found IBs to be more stable during the period of crisis, and are less risky as compared to CBs (Hamdi et al., 2017, Rosman et al., 2014; Rajhi & Hassairi, 2013; Pappas et al., 2012). Elbadri & Bektas (2017), on the other hand, found that CBs are more stable compared to IBs. The present thesis focuses on another aspect of comparison which includes the VD made by both types of banks, study their determinants and the effect of VD on their profitability.

1.4 Outline of the Research

The thesis is structured as follows: In the first section, we provide background information which includes purpose of the study and research questions, followed by contribution and significance of the study and scope of the study. The second section will review the relevant research related to VD, provides a brief discussion about demographics of GCC banks, CSR and profitability in banks, and will review the CSR practices in Islamic banks. Subsequently, theoretical framework is established with emphasis on the motives behind CSR disclosures and its possible relation with profitability. Based on the past research and established theories, we develop our hypotheses. In the third section, we outline research methodology and explain the research methods used to collect data, the models used to test the hypothesis, diagnostic tests to validate the models and ensure reliability and finally, definitions of the variable are presented. In the fourth section, we present the main results of the tests, analysis and discussion of the results are also provided in this section. The final section will present the summary and the main conclusions of the thesis. In addition, this section will discuss the important theoretical and managerial implications, will outline the main limitations and provides proposals for future research.

2. Literature Review

This section discusses the past research with regards to VD, a review of demographics of banks in the GCC followed by CSR and profitability in banks. Firstly, CSR and profitability of banks in general is discussed. Secondly CSR in Islamic banks is discussed. Since, this study incorporates ESG as measure of VD, the closest studies related to this concept are discussed in this thesis. CSR and ESG are interchangeably used in this study as suggested by Fulton et al. (2012). Some of the studies highlighted in this section reflects different approaches used to study this relationship.

2.1 Voluntary Disclosures (VD)

As mentioned earlier, VD refers to all the relevant information that are voluntarily reported by companies, above that which is mandatory required by regulatory bodies (Cooke, 1992; Kageha, 2013). It is at the discretion of the management to disclose supplementary information, which could be either financial or non-financial, with the aim to provide better understanding of the company's activities (Barako et al., 2006). Since the mandatory information is not always sufficient to highlight all the undertakings by the firm, it is important to consider reporting voluntary information which is expected to enhance the image of the company. This information includes social, environmental, financial policy, investment policy, research and development, and other similar disclosures that are not necessarily aimed at profit making (Hamrouni et al., 2015). Some of the most common adopted measures of VD include; environmental, social, corporate governance, risk, financial and non-financial information, future prospects, corporate, strategic, management forecast, financial and capital market and other relevant disclosures (Hossain & Hammami, 2009; Al-Shammari, 2013; Janadi et al., 2013; Neifar & Jarboui, 2018; Mardini, 2015; Appuhami

& Tashakor, 2017; Ho & Taylor, 2013; Wang et al., 2013; Akra & Ali, 2012; Al-Hadi et al., 2017; Hung et al., 2018).

Voluntary Disclosures (VD), affect the company's value as perceived by market participants. According to previous research, high levels of VD create value for the company from its investors point of view, since it helps them in their financing and investment decisions (Akra & Ali, 2012; Barth et al., 2016; Lee & Yeo, 2016; Verbeeten et al., 2016; Reitmaier & Schultze, 2017; Al-Shaer, 2018). This study will add to the literature on VD by applying the VD on the banking sector of the GCC taking into consideration the different types of banks operating in the region (Islamic and conventional).

This study covers three types of VD, namely, Environmental, Social, and Governance (ESG). The ESG disclosures are the most utilized VD in past studies, thus, they are among the most important VD that pave the path for investors to examine the quality of firm management (Lee & Moscardi, 2018). Using ESG therefore, will allow us to compare our results to the previous research papers on ESG/CSR VD.

2.2 Demographics of the Gulf Cooperation Council (GCC) Banks

The GCC member countries include Saudi Arabia, Qatar, Kuwait, Bahrain, Oman and United Arab Emirates (UAE). The Gross Domestic Products (GDP) of these countries depend largely on oil and gas, with more than half of the contributions to their GDPs come from the oil and gas sectors. Other main sectors contributing to their GDP, although comparatively small, include; the construction, the tourism and the financial sectors (Pietro et al., 2015). The financial sector in the region is dominated by banks, which are mostly domestically owned, as entry barriers to this sector are quite high. There are limits on foreign ownership in all the GCC countries except Bahrain (Pietro

et al., 2015). Furthermore, the banking sector in the GCC focuses mainly, in their investments and lending, on construction, real estate and consumer loans. With regards to ownership, the banking sector in Oman and Saudi Arabia is mostly quasi government owned, while in the UAE, the majority of banks are government owned. In the GCC region the banking sector is highly concentrated. The three largest domestic banks own at least 50-90 % of the total banking sector assets (Al-Khouri, 2012). Amongst them, Qatar, Kuwait and Bahrain have the most highly concentrated banking sectors (Pietro et al., 2015; Olson & Zoubi, 2008).

In this study, the importance of the non-oil sector, specifically, the banking sector is highlighted due to the various challenges and trends facing these countries. On a common ground, all the GCC countries, lately suffered from poor liquidity due to the drop-in oil prices, and the increase in government spending to cover their deficits (i.e. overall country expenditures exceed the revenues earned), which consequently led to reduction in banks' deposits (Guastella & Menghi, 2016). Other challenges relate to the decline in the quality of assets possessed by the countries due to reduced economic activity and the growing competitive pricing among banks (Guastella & Menghi, 2016).

Each of the GCC countries undergoes different political settings and circumstances, and face problems specific to their geographical regions as well. For instance, Saudi Arabia is being over dependent on oil and aims to diversify its sources of revenue; UAE faces below par profitability from government owned companies, which could lead to fiscal and financial risks; Qatar has made huge spending with the aim of diversification but that might lead to excessive cost spending and inflation; Oman aims to solve the challenges relating to banking liquidity, economic growth and diversification; Bahrain faces political issues and rising debt and Kuwait is investing heavily in diversification and private investments (Guastella & Menghi, 2016). Consequently, the predicted

solution to most of the problems facing the GCC nations could be tackled by increasing investments in the private sector, by focusing on growth of Small and Medium Sized Enterprises, and by improving the liquidity and solvency of the banking sector in the region (Guastella & Menghi, 2016).

The banking sector in the GCC, is dominated by IBs followed by CBs. According to the Islamic Financial Services Board (2017), the Islamic financial sector is considered significantly important in a country if the total IBs' assets are more than 15% of the total regional banking assets. As of the year 2016, IBs' assets in Saudi Arabia constitute around 51% of total bank assets, followed by Kuwait (39%), Qatar (27%) and UAE (20%). However, IB assets in Bahrain and Oman were below the 15% threshold (Islamic Financial Services Board, 2017). Furthermore, in Global perspective, the total amount of assets owned by IBs in the GCC for the year 2016 amounted to approximately, USD 650.8 billion, which represent around 42.3% of the total IBs' assets worldwide (Islamic Financial Services Board, 2017). Appendix A, table A6, list the total number of banks listed in the six GCC stock exchanges.

2.3 CSR and Bank Profitability

Cornett et al. (2016) examined the relationship between profitability of banks and their CSR scores. Their sample included the US commercial banks, covering a period of pre and post financial crisis of 2007. The authors adopted various profitability measures, such as, Return on Equity (ROE), Return on Assets (ROA), operating profit, and Tobin's Q, to ensure that their results are not biased by a single measure of profitability. Whereas, to measure the CSR score of banks, the authors adopted the ESG scores/ratings made by MSCI ESG STATS database. The researchers found financial profitability to be positive and significantly related to CSR in both, the pre, as well as,

the post financial crisis period. They found that larger banks are more socially responsible than smaller banks, especially after the financial crisis. This served as a reminder for banks and their stakeholders to enhance their social activities. Shen et al. (2016) conducted a study on banks from 18 countries covering a period of 9 years started from year 2000, to examine the difference between CSR active banks and CSR inactive banks. Their profitability measures included ROA and ROE, while their CSR ratings from FTSE4GOOD were used as a benchmark. Their findings varied across different countries, in Australia, Canada, Ireland and the UK, banks with CSR activities performed better as compared to those without CSR. While, other countries in the sample showed CSR banks to lag behind in terms of profitability as compared to non-CSR banks. In another study, Matuszak & Rozanska (2017) examined the impact of CSR disclosure on financial performance on a sample of Polish banks over the period 2008-2015. Their main measures of profitability were ROA and ROE, while the level of CSR disclosure was measured using content analysis approach, different from previously mentioned studies who used database ratings. They found a positive but insignificant relationship between Banks' CSR disclosures and their profitability. However, they found that bank size and leverage have greater predictability of bank profitability. A positive CSR impact on profitability was also found by Gillan et al. (2010), Wu & Shen (2013), Awan & Nazish (2016), Ashraf et al. (2017), Niresh & Silva (2018), Maqbool & Zameer (2018).

On the other hand, Deutsch & Pinter (2016) examined the link between social profitability and financial profitability of Hungarian banks. They found a negative relation between CSR and profitability. Other studies like Chakroun et al., (2017) examined the determinants of CSR disclosure in Tunisian banks. They found financial profitability to be negatively related to CSR disclosure. They suggested that older banks

gave more importance to CSR disclosures in order to improve their corporate image. Similar results were found by Ng et al. (2016) that banks with lower profitability tend to make greater ESG disclosures, possibly to improve their reputation and attract customers.

Furthermore, the study by Fijalkowska et al. (2018) examined the relation between CSR profitability and financial performance, using a sample of banks from Central and Eastern European countries. They found no relationship between social disclosure and profitability, consistent with the results found by Soana (2011) and Stroughal et al. (2015). The authors argued that the most plausible reason for the non-existence of any relation between the CSR and profitability could be due to factors related to cultural, financial, economic and to other regulatory environment of the sample countries. The markets in these countries did not perceive social disclosures to be a competitive advantage for banks, but only as an extra cost directed towards social activities, a view, which contradicts that of stakeholder theory as will be discussed in later section.

A summary of the literature review for the relationship between CSR and profitability of banks can be found in Appendix A, table A1.

2.4 CSR in Islamic Banks

A special emphasis is given to CSR in Islamic banks, since, the activities of these banks are influenced by religion (Islam) and the socio-economic elements are essential part of this religion (Aribi & Gao, 2010). In order to understand the Islamic perspective of CSR, it is important to understand the concept of accountability, social justice and ownership (Zubairu et al., 2012). First, the concept of accountability in Islam states that Mankind has been provided by various blessings from The God, and they will be held accountable for how these blessings are utilized. Based on accountability, a person

is rewarded or punished. Thus, these perceptions are supposed to guide the actions of every Muslim, be it individual or an organization (Maali et al., 2006). Second, social justice refers to providing individuals equally with what they deserve, while distributing financial benefits to the society (Zubairu et al., 2012). For instance, the concept of yearly Zakat (mandatory charity) to assist the needy, and to alleviate poverty in the society, prohibition of Riba (interest) to avoid exploitation of people, and fair dealings with employees are all examples of social justice incorporated in Islamic teachings (Maali et al., 2006). Finally, the concept of ownership and trust states that God is the ultimate owner of everything and people are trusted to utilize these resources but in accordance with the guidelines issued by God (Zubairu et al., 2012). From among many guidelines, most are related to the use of resources for the benefit of society and to preserve the environment. Furthermore, in the context of disclosures, the society has the right to be informed about the actions of the company and their effect on society and its surroundings (Yusoff et al., 2013). Hence, it is important to explore what past researchers have found with regards to CSR disclosure in Islamic banks and how they compete with conventional banks in this aspect.

Zubairu et al. (2012) conducted a study to explore the CSR practices in the Islamic banks of Saudi Arabia. Their findings suggest that IBs have a very poor disclosure especially those related to Sharia (Islamic law) requirements. They stated that IBs in Saudi Arabia are more similar to conventional banks, as both of them disclose similar items, related to debtors and corporate governance. Their study however, was based on data collected for the years 2008-2009. Aribi & Gao (2010) compared the CSR disclosure among Islamic and Conventional financial firms in the Gulf region for year 2004. They found Islamic institutions to disclose more information as compared to their counter parts. The type of information they looked at, are those required by the

Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) standards. Apart from those items required by AAOIFI, both types of institutions had very similar CSR disclosures.

Similarly, a study by Mallin et al. (2014) examined the relation between CSR and profitability of IBs across 13 countries. Their findings suggest that IBs CSR disclosures include more items than those which are required by AAOIFI. They also found CSR disclosure to have positive association with the profitability of IBs, however, their data was limited for years 2010 and 2011. Platonova et al. (2018) studied the relationship between CSR disclosure and financial performance among GCC (excluding Oman) IBs covering an extensive sample period of 15 years (2000-2014). Their results also indicate that CSR disclosures have positive impact on profitability of IBs. The authors highlighted two important implications of the results. First, the level of CSR disclosures among IBs is below expectations. Second, they suggested that the majority of information disclosed by IBs pertained to financial information directed towards shareholders, and less information was disclosed that would be interesting to other stakeholders. Ahmed et al. (2012) also found profitability to be higher among high CSR disclosure banks in Bangladesh. On the other hand, Nobanee & Ellili (2016) found that IB profitability is not affected by CSR disclosures. Their findings also suggest that CSR among conventional banks of UAE was higher than those of IBs. Important implications derived from their study is that IBs disclose less information due to the less pressure exerted on them as they comply with Islamic principles and ethics, while, CBs face high leverage and financial constraints. Consequently, Islamic banks are less responsive to demands of their stakeholders. Mosaid & Boutti (2012) tested the relationship between CSR and profitability, and found no relationship between them. Similar result was found by Masruki et al. (2012) on a sample of Malaysian banks.

Their results show that bank size affects CSR disclosure. However, the study included only 3 variables to test the determinants of CSR and the sample period was short as well, which restricts generalization of results. Appendix A1, table A2 summarizes the literature of CSR in Islamic banks.

From the above analysis of prior research, it can be ascertained that there is a bulk of research pertaining to CSR in banks, but there is dearth of research that examines; CSR in GCC banks, the bi-directional effect of CSR and profitability, and similarities/differences among the IBs and CBs in terms of CSR- profitability relationship. Since, GCC countries are the hub of IBs as they own at least 42.3% of the total world IB assets (Islamic Financial Services Board, 2017) and they have CBs as well, it is commendable to make the study in this geographical setting. Thus, the present study is an attempt to fill this gap in the literature and enhance the literature on CSR disclosures in IBs and CBs.

3. Theoretical Framework

Past researches have adopted various theories to explain the relationship between VD and different corporate characteristics. Under this section, the most prominent among those theories are discussed which include; Stakeholder theory and Agency theory. Figure 1 depicts a summarized framework for the discussed theories.

3.1 Stakeholder Theory

Stakeholder's theory introduced first by Ansoff (1965) and developed further by Freeman (1984), is the most prominent theory used in the accounting literature to explain the social, environmental and governance behavior of companies (Gray et al., 1995). Conventionally, the stakeholder theory stems from the view of the company's management who is anxious about the success of their organization (Gray et al., 1995). It examines the relationship between business activities and its effect on various stakeholders (Mohamed & Faouzi, 2014).

A Stakeholder is defined as "any group or individual who can affect or is affected by the achievement of the firm's objective" (Freeman, 2010; Roberts, 1992 p. 3). The operations of an organization affect several stakeholders, such as; shareholders, employees, customers, suppliers, creditors, competitors, government agencies, regulators, public interest groups, stock markets and the general public (Mohamed & Fouzi, 2014). Consequently, all stakeholders can be regarded as contributing to the existence of the firm or act as catalyst for the firm's success/failure by providing them with critical resources and in turn expect their interests/expectations to be fulfilled (Hill & Jones, 1992; Mohamed & Fouzi, 2014). Therefore, one of the main objectives of the company is to be able to balance the conflicting demands of various stakeholders (Roberts, 1992). Moreover, the complex activities of banks require the creation of

intangible resources as good reputation and trust over time. Although to preserve reputation can be costly in the short run, it might mean long-term profitability (Galbreath & Shun, 2012).

Stakeholder theory in the context of social disclosure states that the shareholder value creation, being the core objective of any organization, cannot be achieved except through satisfying the needs of other stakeholders (Foster & Jonker, 2005). This would mean that if a company wants to maximize shareholders' value, then it has to simultaneously fulfill the requirements of its other stakeholders, through VD. However, certain stakeholder groups might exert significant influence over the management of the company, in such a way that they are compelled to prioritize their requirements (even if they are related to social disclosures) in terms of reporting and disclosures (Pirsch et al., 2007). Subsequently, such influence of certain groups over the management nullifies the normative approach of stakeholder theory which states that the interests of all stakeholders are to be treated equally (Jones & Wicks, 1999). On the other hand, VD reduces the agency costs and improves the relationship with other stakeholders. According to Jo and Hajoto (2012), there is an evidence of a missing link between corporate governance and the improvement in company's profitability.

Furthermore, researchers found that company's economic performance (both past and current) affects their social activities and disclosure. Firms with better profitability tend to implement a better social responsibility program to increase their level of earnings (Pirsch et al., 2007). Similarly, the instrumentalist view of stakeholder's theory suggests that a company should emphasize on improving economic performance. Company's management tends to focus on elements of social activities that are directly related to improving economic performance (Donaldson & Preston, 1995; Pirsch et al., 2007). For instance, management usually offers bonus-based incentives to their

employees as an appreciation to their work, which motivates them to improve their productivity, leading to enhanced profits (Brammer & Millington, 2008). Literature found a positive effect of ESG on worker productivity and on the ability of the company to maintain qualified employees (Asrar-ul-Haq, et al., 2017; Celma-Beinages et al. 2016 and Heal, 2005). Empirical evidence confirms the positive relationship between human capital and bank financial performance (Menton and Bontis, 2013; Esteban-Sanches et al., 2017).

3.2 Agency Theory

Agency theory is based on the principal-agent paradigm wherein the shareholders (the principal) authorize the managers (the agent) to act on their behalf, such that their welfare depends on the actions of managers (Jensen & Meckling, 1976). In most of the organizations, managers have significant control over the company's resources, and since the information about resources can reach the shareholders only through the management, it is highly likely that managers misuse these resources to pursue their personal goals, even at the cost of shareholders' returns (Brammer & Millington, 2008). However, from the principal's point of view, it is impossible that the agent will make accurate decisions without incurring any costs. These costs are referred to as the agency costs which include, the cost to monitor the activities of the agent, the cost of bonding the agent to the company usually as a result of contractual obligations, and the cost of reduction in principal welfare as a result of the agent decisions (Jensen & Meckling, 1976).

Moreover, the managers always strive to reflect themselves as acting in the best interest of the shareholders. This is achieved through disclosures made in the reports available to shareholders, being the primary source of communication about the firm (Ness &

Mirza, 1991). Consequently, this theory suggests that managers will only disclose voluntary information if it benefits them i.e. the cost of disclosure is less than the benefit achieved from it. Since increased VD reduce information asymmetry, consequently, the agency cost is reduced, it can be concluded that the managers will make disclosures to enhance firm value (Ishak & Al-Ebel, 2018; Friedman, 2007). On the other hand, the social responsibility commitment is also considered an agency issue because managers might have interest in over investing in social responsibility in order to achieve personal benefits from the reputation they receive, at the cost of shareholders (Barnea and Rubin, 2010). Thus, firms which meet social needs are in disadvantage given the cost they incur; thus, they tend to have lower profits (Jensen 2001, Simpson and Kohers, 2002).

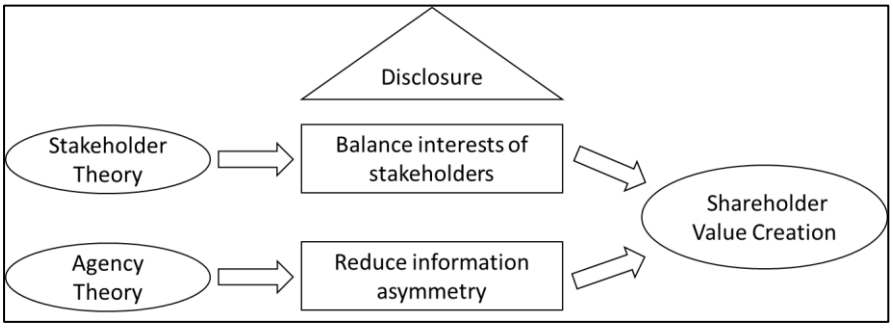

Figure 1. Theoretical Framework.

4. Hypothesis Development

Under this section, we use past studies and theories to develop our hypothesis. First, we predict the disclosure levels among IBs and CBs. Second, we predict the relationship between profitability and CSR.

4.1 IBs vs CBs ESG Voluntary Disclosure (VD) Levels

Islamic banks are known for their adherence to Islamic principles and morals while conducting business. Thus, they are expected to provide sufficient information to their stakeholders about financial, non-financial, social and environmental activities (Ibrahim et al., 2013). Considering their object of existence and their conscious effort to make social disclosures (Aribi & Gao), it is expected that IBs maintain higher disclosure levels as compared to CBs. However, according to stakeholder theory, typically firms would make higher disclosures to increase their profits, and since the motive of CBs is to increase profits (Cerovic et al., 2017) they are expected to have high disclosures as well.

Furthermore, Empirical studies suggest that there is no significant difference between IBs and CBs in terms of CSR disclosures (Aribi & Gao, 2010; Zubairu et al. 2012). Since, this study is conducted on banks operating in the GCC region, and the major population among these countries is Muslim ("Global Religious Diversity", 2014), we adopt the argument of 'relevant publics' (Newson & Deegan, 2002) and evidence of Farook et al. (2011) to infer that Muslim population has positive impact on disclosure levels in IBs. Hence, IBs tend to disclose more information as compared to their counterparts. Thus, our first hypothesis is:

H1: IBs have higher level of ESG compared to CBs.

4.2 Bi-directional Relationship Between ESG and Profitability

According to stakeholder's theory, ESG enhances firm's profitability keeping stakeholders informed about activities that are most relevant to them (Foster & Jonker, 2005; Donaldson & Preston, 1995; Pirsch et al., 2007). In addition, agency theory states that managers would disclose more information in their reports to show their profitability (Ness & Mirza, 1991), as well as to reduce agency costs which would otherwise be high due to information asymmetry (Ishak & Al-Ebel, 2018; Friedman, 2007). Hence, managers increase the disclosures to enhance the value of the firm.

Previous empirical research found conflicting results on the relationship between VD and bank profitability. Most of the empirical results show a positive impact of VD on bank profitability (Cornett et al., 2016; Shen et al., 2016; Matuszak & Rozanska, 2017; Bussoli & Conte, 2018), while other studies found a negative impact of VD on profitability (Deutsch & Pinter, 2016; Chakroun et al., 2017). In addition, other researchers found no relation between VD and profitability (Fijalkowska et al., 2018). This leads us to our second hypothesis:

H2a: Higher the ESG higher the bank's profitability

With regards to the converse relationship between the two variables, the stakeholder's theory suggests that firms with high profitability tend to involve more in social activities (Pirsch et al., 2007). Agency theory, on the other hand, suggests that managers of profitable firms will disclose more information to ensure continuance of their position in the firm and to have better compensation (Inchausti, 1997, as cited in Hossain & Hammami, 2009). They also aim at improving their reputation and strengthening their position in the market (Habbash et al., 2016). Empirical studies show mixed results for this relationship. Jizi et al. (2014) found positive impact of profitability on VD, while,

Bussoli & Conte (2018) found negative impact of profitability on VD. Other studies found no relationship between VD and profitability (Hossain & Hammari, (2009). Therefore, following a positivistic approach, we hypothesize the following:

H2b: Profitable banks are expected to engage more in ESG

5. Research Methodology

This research is basically of quantitative, empirical and deductive nature, wherein, it aims to predict and test the main hypotheses based on relevant theories and past research. It is followed by conducting statistical tests to confirm or reject the derived hypothesis. For ESG information, this study uses the secondary sources of data mainly annual reports and sustainability reports published by GCC banks on their websites. Financial information is collected from Bloomberg database. Furthermore, this paper adopts the ESG checklist developed by Eikon Thomson Reuters which serves as a base for the index we developed for the ESG reporting. Although the use of Thomson Reuters ESG ratings are not utilized much in the scientific research yet, but some of the studies have readily adopted these ratings (Dell'Atti et al., 2017; Bussoli & Conte, 2018). Since, the ratings on the database were not updated, their index was used as a guide to individually collect the data from the annual reports of banks. The index is divided into Environmental, Social and Governance metrics which consists of more than 400 items. Our constructed index uses 115 most relevant items to the banking sector, out of the 400 items listed by Eikon database. Our checklist consisted of 115 ESG indicators divided by dimension: 33 items for environment disclosure, 38 items for social disclosure and 44 items for governance disclosure (see detailed breakdown of each dimension in Appendix A, table A3 & table A4).

Under this section, we outline the research method implemented, the sample and data collection, the methodology we employ, and variable definitions.

5.1 Research Method

5.1.1 Sample and Data Collection

There is a total of 68 banks listed on the respective stock exchanges of GCC countries. Due to unavailability of data, 11 banks were removed from the sample, which left us with a total sample of 57 banks (see Appendix A, table A5). The sample consisted of 35 conventional banks and 22 Islamic banks. For each bank 11 years (2007-2017) sample period was taken into consideration which resulted in a total of 627 observations. Furthermore, the data regarding ESG was collected from the news section, annual reports, governance reports and sustainability reports of banks. All the reports were retrieved from companies' websites.

5.1.2 Content Analysis

This study adopts the content analysis approach in order to measure the ESG disclosure levels in the banks' reports. This method has been applied by several researchers related to empirical research on CSR (Dias et al., 2016; Haniffa & Cookke, 2005; Branco & Rodrigues, 2008; Pinto et al., 2014; Mallin et al., 2014 and Platonova et al., 2018). Under this method, if the items listed in the index are present in the reports of the company then it is considered as the item have been disclosed and a score of one (1) is given to that company for that particular item, otherwise a score of zero (0) is given (Haniffa & Cooke, 2005). Subsequently, after searching for all the items in the index, the scores are aggregated to reach the total ESG score for each bank. The aggregated scores are further averaged to gain accurate insight about the level of disclosures made by the banks (Dias et al., 2016). The following formula was used to evaluate each company:

$$ESG_{it} = \frac{\sum X_{it}}{n}$$

Where, n = total number of items listed in the index

X_{it}= the item in the index for bank i at time t. Takes a value of 1 if an item is disclosed, 0 if item is not disclosed

5.2 Methodology

This study adopts two equations, since it tends to examine the bi-directional relationship between ESG and profitability. Thus, the following models are developed:

Model1:

$$Performance_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 Size_{it} + \beta_3 Leverage_{it} + \beta_4 Liquidity_{it} + \beta_5 Macroeconomic_k + \beta_6 Age_{it} + \beta_7 BoardSize_{it} + \beta_8 CreditRisk_{it} + \beta_9 IB + \varepsilon_{it}$$

Model2:

$$ESG_{it} = \beta_0 + \beta_1 Performance_{it} + \beta_2 Size_{it} + \beta_3 Leverage_{it} + \beta_4 Liquidity_{it} + \beta_5 Age_{it} + \beta_6 BoardSize_{it} + \beta_7 GovtOwn_{it} + \beta_8 IB + \varepsilon_{it}$$

Where,

Performance– profitability of banks

ESG – ESG disclosure made by banks

Size – Bank size

Leverage – financial leverage of banks

Liquidity – liquidity of bank

Macroeconomic – Macroeconomic indicators of country

Age – Bank age

Board Size – Size of board serving the bank

Credit risk – default on debt of bank

GovtOwn – Government ownership in the bank

IB – Islamic bank dummy variable

In the first model, profitability is the dependent variable, whereas, ESG is the independent variable while, firm size, leverage, liquidity, macroeconomic, firm age, board size and credit risk are the control variables for each firm i at time t, and Islamic bank is used as dummy variable. In the second model, ESG is the dependent variable, profitability is the independent variable, while, firm size, leverage, liquidity, firm age, board size and government ownership for each bank i at time t, are control variables and Islamic bank is used as dummy variable. Each of the variables are explained in the next subsection.

5.3 Definition of Variables

Bank profitability: In the first model, bank profitability is the dependent variable, whereas, in the second model, it is the independent variable. We use three different measures of bank profitability to ensure robustness of the results. The first measure included in this study is, an accounting measure, Return on Assets (ROA), which is measured as net profits divided by average of total assets. It is one of the most common measures used in past studies as a proxy for profitability and has become an important indicator of bank's profitability (Golin & Delhaise, 2013). It reflects the banks' ability to generate returns by exploiting its assets (Bidhari et al., 2013). The second measure used in this study is, also an accounting measure, Return on Equity (ROE), calculated as net profits divided by average common stock equity. It reflects the bank's ability to generate returns from the capital provided by the owners (Bidhari et al., 2013). Many researchers adopted ROA and ROE simultaneously in their studies (see Dietrich &

Wanzenried, 2009; Tan & Floros, 2012; Petria et al., 2015; Lee et al., 2016). The third measure is Tobin's Q used to reflect market-based performance of banks and has been adopted by many researchers (see Yermack (1996), Guest (2009), Harjoto & Jo (2011), Alkhatib & Harsheh (2012) and Hummel & Schlick (2016)). It is calculated as market value of equity divided by book value of equity. It reflects the stock market perception reflecting the current and future expected value of the bank (Bidhari et al., 2013). Results are reported for all the three measures of profitability.

ESG (ESG): ESG is independent variable in the first model, whereas, it is used as dependent variable in the second model. The main explanatory variable used in first model is the ESG disclosure score. It includes Environmental, Social and Governance related voluntary information disclosed by banks and typically regarded as a reflection of firms' transparency and accountability (Hahn and Kühnen, 2013; Li et al., 2018). As mentioned earlier, data for ESG was collected using a content analysis approach and the main source of data were; company websites' news section, annual reports, corporate governance reports and CSR reports. Some studies have adopted readily available ratings from specialized agencies like Bloomberg who compile ESG information for large number of companies (Fatemi et al., 2017; Dell'Atti et al., 2017; Bussoli & Conte, 2018). However, due to unavailability of complete data on GCC banks, information about ESG was individually collected.

5.3.3 Control Variables

Firm Size (Ln (Total Capital) - TC): is calculated as the log of total capital. Bank size is an important variable that affects both; the profitability of banks, as well as, their CSR disclosure levels. There are various measures that can be used to proxy for bank size (Schildbach, 2017). Some of the measures include; total assets (Masruki et al., 2012; Martínez-Ferrero, 2015; Ben-Amar, 2017), total deposits (El-Bannany, 2007),

total employees (Hummel & Schlick, 2016; Lee et al., 2016), total sales (Niresh & Thirunavukkarasu, 2014), market capitalization (Naser et al., 2006), and total capital (Yermack, 1996; Conyon et al., 2001; Holm & Scholer, 2010). Among the several firm size measures mentioned, the most commonly used measure is the total assets or log of total assets, however, this measure is problematic and is unstable over time. The most prominent problem posed by total assets is that it fails to take into consideration many factors such as; the diversification of banks or individual bank's business model; the nature of risk surrounding them; the economic impact on banks; and the different accounting treatment of securities such as derivatives and bonds (Schildbach, 2017).

In contrast, the most stable measure of bank size is total capital. It provides a value of the bank as a measure of their size instead of taking into consideration the combined volume of their transactions (as in the case of total assets). Furthermore, total capital is not affected by the differences in the type of organization, their business models, and the financial system surrounding them (derivatives, bond market and so on). Thus, total capital, due to low fluctuations over time, tends to provide a better picture of the bank size as compared to other measures of firm size (Schildbach, 2007).

Past researchers state that large firms face fierce pressure from the stakeholders and consequently are expected to disclose more information about their ESG or CSR activities (Martínez-Ferrero, 2015; Amar et al., 2015; Nugraheni & Anuar, 2014). However, with regards to profitability and size, some studies show a negative effect of size on profitability (Naceur, 2003; Alkassim, 2005; Pasiouras & Kasmidou, 2007), while others found no significant relationship between size and profitability (Ramadan et al., 2011; Niresh & Thirunavukkarasu, 2014; Petria et al., 2015). There is also an evidence by researchers of a positive relationship between size and profitability (Alkassim, 2005; Davydenko, 2010; Anbar & Alper, 2011; Gul et al., 2011). Thus, bank

size is used as a control variable for ESG score and profitability and is calculated as log of total capital instead of dollar terms to be consistent with other variables.

Leverage (Debt Ratio - Lev): It is used as a control variable to reflect the effect of debt ratio on the profitability and ESG. Following Brammer & Millington (2004); a nd Mardini (2015) we calculate leverage as total debt to total assets. Firms with high level of debt are expected to disclose more ESG information to satisfy their stakeholders' demand for transparency through disclosure (Solomon & Lewis, 2002).

Past studies found a positive relationship between leverage and the level of firm disclosure (Naser, 2006; Clarkson et al., 2008; Mallin & Ow-yang, 2009; Mardini, 2015). Furthermore, researchers suggested that high debt levels lead to lower firm profitability, thus, associating leverage with firm performance levels (Degryse & Ongena, 2001; Samiloglu & Demirgunes, 2008; Asimakopoulos et al., 2009; Ahmad et al., 2015; Mathuva, 2015). Therefore, leverage is included as a control variable for both ESG and bank profitability.

Liquidity (Loan to deposit - LD): bank liquidity is associated with its profitability and social disclosure. It is measured as the ratio of total loans to total deposits (Dang, 2011). Banks with high loan to deposit ratio tend to have lower CSR activities (El-Bannany, 2007; Wu & Shen, 2013), whereas, loan to deposit is positively associated with bank's profitability (Dang, 2011).

Age (Age): Bank age is measured as the log of difference in date of incorporation and 2017 (date of data collection). We predict a negative relationship between age and bank profitability. This is supported by the argument that as the bank grows older, the bank's risk factor as seen by investors is reduced, thus, implying lower required rate of return (Pastor & Veronesi, 2003). Other studies supporting the inverse relation between firm

age and profitability found that corporate governance deteriorates over time, CEO pays rise, growth slows down, cost of sales and other overhead expenses go up, thus, resulting in reduced profits (Holderness, 2009; Loderer & Waelchli, 2010).

However, Malkawi & Pillai (2018) found a significant and positive relationship between firm age and profitability. Older banks are expected to voluntarily disclose more information related to social responsibility as they tend to maintain their accumulated reputation by engaging in CSR activities (Monteiro & Aibar-Guzman, 2010; Harjoto & Jo, 2011; Withisuphakorn & Jiraporn, 2016; Mdolo et al., 2018). However, some studies found no significant relationship between firm age and its CSR disclosure (Sukcharoensin, 2012; D'Amico et al., 2016; Mdolo et al., 2018).

Board Size (BoardSize): Following Guest (2009), we calculate board size as the log of number of board members on the board of directors of a bank. Board size is an important corporate governance variable that affects bank profitability as well as CSR. It is predicted that large board size tends to improve the overall bank profitability, as greater collective information is gathered by the board which is essential for the bank (Lehn et al., 2003). Previous research found that large board size improves profitability of firms (Adams & Mehran, 2005; Coles et al., 2008).

However, it is also argued that a large board might face several problems such as difficulties in assembling for meetings, too many conflicts, and a slow decision making, leading to firm inefficiencies (Jensen, 1993; Rao et al., 2012). Several studies support the negative relationship between board size and profitability (Mak & Kusnadi, 2005; Haniffa & Hudaib, 2006; Cheng et al., 2008; Guest, 2009).

On the other hand, Siregar & Bachtiar (2010) state that board size has positive effect on CSR which is also supported by the results of Esa & Ghazali (2012), Frias-Aceituno

et al. (2013) and Kilic et al., (2015). While Fuente et al., (2016) found no relation between board size and CSR disclosure.

Government ownership (Govtown): government ownership is taken into consideration to assess its effect on the CSR disclosure levels. It is suggested that CSR practices are expected to be higher in companies with major government ownership, as compared to those with non-governmental ownership (Esa & Ghazali, 2012). Several studies found evidence of a positive and significant relationship between government ownership and CSR disclosure (Ghazali, 2007; Said et al., 2009; Li & Zhang, 2010). Thus, it is used as control variable for ESG disclosure.

Credit Risk (Loan Loss provision to Total Loans – CR): Credit risk is measured as provision for loan loss to total loans (Petria et al., 2015). GCC banks are known to spend huge amounts on provision for loans loss (White, 2010), which implies that default rate is expected to be quite high among these banks. Thus, higher accumulation of unpaid loans eventually leads to lower returns for banks (Athanasoglou et a., 2009). For this purpose, it is important to include a credit risk measure to control for the profitability of the GCC banks. Any changes in banks' credit risk would reflect fluctuations in banks' loan portfolio, which further affects banks' profitability (Cooper et al., 2003; Shen et al., 2009). We predict that credit risk will have negative effect on GCC banks' profitability, as the provisions for loan loss are high among these banks (White, 2010).

Macroeconomic Indicators (GDP growth – GDPG & Inflation – Inf): Apart from the bank-specific factors mentioned earlier, there are some external factors that affect the bank profitability. Following Petria et al., (2015), we use the growth in Gross Domestic Product (GGDP) and inflation rates (Inf) to reflect the macroeconomic variables that

are more likely to affect the bank profitability (Sufian & Chong, 2008; Aburime, 2008). We expect that an increase in the economic activity leads to an increase in banks' profitability. GDP growth would lead to an increase in bank deposits and loans, which would lead to a positive impact on bank profitability (Dietrich & Wanzenried, 2009; Petria et al., 2013). Similarly, an increase in inflation rates leads to an increase in interest rates on loans, which in turn have a positive impact on banks' profitability (Tan & Floros, 2012; Petria et al., 2015).

5.3.4 Dummy Variable:

Islamic Bank: We create a dummy variable in order to check if there are any differences between Islamic and conventional banks in the relationship between ESG and bank profitability. The dummy variable takes a value of 1 for Islamic banks and zero for conventional ones.

5.4 Data Diagnostics Tests and GMM Models

We first apply the ordinary least square (OLS) method as previously applied by Bussoli & Conte (2018) (results are included in Appendix B, table B1 & B2). Under OLS regression, the variance of the error term is assumed to be constant (Williams, 2015). However, due to variations in the sample such as; Islamic & conventional banks and large & small banks, there can be variations in the error term as well, causing heteroskedasticity. Thus, we test for heteroskedasticity to confirm if our data is affected by heteroskedasticity or not.

We apply the "estat hettest" command incorporated in Stata which uses the Breusch-Paigan/ Cook-Weisberg tests to detect for heteroskedasticity. First, we run the OLS regression on equation 1 previously discussed, where profitability as dependent variable, ESG as independent variable, control variables and the dummy variable. Our

results show large Chi-square value which indicates the presence of heteroskedasticity (Williams, 2015) (results are provided in Appendix B, table B3).

In addition, we examine the bi-directional relationship between profitability and ESG, which causes endogeneity (simultaneity) problems in the model (Geweke, 1990; Ullah et al., 2018). In order to verify the existence/non-existence of endogeneity, we use the Durbin-Wu-Hausman (DWH) test incorporated in Stata (Davidson & MacKinnon, 1993). According to Ullah et al. (2018), "if a single variable in the econometric specification is endogenous, obviously, researchers need to implement a superior estimation technique that provides consistent estimates than OLS (p. 19). Thus, we check our explanatory variables for endogeneity and our results show that most of the variables are endogenously determined. First, we test the model with profitability measures ROA and ROE, and we find that Total Capital, Leverage, Loan to Deposit, credit risk and GDP growth are endogenously determined. Second, we test the model with profitability measure Tobin's Q and we find similar results, except that ESG and firm Age are also endogenously determined (Results as highlighted in Appendix B, table B4).

Thus, our model suffers from heteroskedasticity and endogeneity problems which makes OLS regression inconsistent and inefficient (Baum et al., 2003; Davidson & MacKinnon, 1993).

In order to deal with the problems of heteroskedasticity and endogeneity, researchers have suggested the use of General Methods of Moments (GMM) model (Baum et al., 2003; Tamazian & Rao 2010). Past researchers have proven that system GMM is more precise estimator compared to first difference GMM. They suggest that first difference GMM suffers from downward bias due to the negligence of persistency in the

dependent variable ((Blundell and Bond, 1998; Heid et al., 2012). Therefore, we adopt the dynamic two-step system GMM suggested by Arellano and Bover (1995) and Blundell and Bond (1998) using the preconfigured method in Stata. We also use the robust standard errors prescribed by Windmeijer (2005) to ensure the efficiency of the estimator.

Although there are other methods that can be used to deal with the aforementioned problems such as the two-stage least squares (2SLS) approach. However, GMM has advantages over 2SLS approach in the sense that it is able to deal with endogeneity problem with internally generated instruments instead of external instruments or mere experimentations. In addition, GMM includes prior year dependent variable value as one of its regressors, thus providing dynamicity to the model (Ali et al., 2018).

To verify the consistency of GMM estimation, two conditions are required to be fulfilled. The first condition relates to the serial correlation of the residuals in the first difference and the second difference. The first difference in residuals should be serially correlated (AR1) while the second difference in residuals should not be serially correlated (AR2) (Arellano and Bond, 1991; Ali et al., 2018). The second condition deals with the validity of the instruments, which is tested using the Sargan test of over identifying restrictions (Arellano & Bond, 1991; Arellano & Bover, 1995 and Blundel & Bond, 1998). Results on Sargan test should reject the null hypothesis of overidentifying restrictions, in order to confirm the validity of instruments (Ali et al., 2018; Elsayed & Paton, 2005). Both of these tests are conducted to ensure the validity of GMM for our data model and are discussed under the results (regression) section.

6. Empirical Results

This section contains detailed explanation of our findings. We explain our results using; descriptive statistics, correlation matrix, t-statistics, graphs, tables and regression analysis using GMM estimator.

6.1 Descriptive Statistics

The descriptive statistics of the variables are presented in table 1. The total number of observations after adjusting for unavailable data is 616 observations. Results indicate that the ESG score among the GCC banks is as low as 2.6% disclosures, which implies that most banks in the GCC do not consider ESG as an integral part to their organization, hence, they inadequately disclose voluntary information related to ESG. However, it is also evident that the maximum disclosure made in terms of ESG equals 57.4 %, with an average VD made by the GCC banks being 14.8% of the total items in the index. Therefore, we can say that the overall disclosure related to environment, social and governance activities in the banking sector of the GCC is very low. This result is consistent with the findings of Kamla (2007) and Mallin et.al (2014), who found low levels of environmental related disclosures by Arab companies including banks. Garas & ElMassah (2018) also found that GCC firms have a mean of 19.18 % ESG disclosure level. Thus, as suggested by Khamis & Semlali (2010), the transparency among the GCC banks should be given attention and must be enhanced.

Table 2 and Table 3 illustrate the descriptive statistics for our sample of both conventional and Islamic banks, respectively. The total number of observations for conventional banks is 385, with a total of 35 banks, while, there are 242 observations under Islamic banks with a total of 22 Islamic banks. Considering the maximum ESG disclosure scores by banks, it is observed that conventional bank has had the greatest

amount of disclosure (57.4%) as compared to Islamic banks whose highest disclosure was at 53%. Even On an average (mean), conventional banks have greater disclosure (15.1%) as compared to their counterparts whose disclosure level is 14.3%. Our results are consistent with the findings of Haniffa & Hudaib (2007) (in UAE, Bahrain and Kuwait) and Zubairu et al. (2012) (in Saudi Arabia), who found poor disclosure practices by IBs. The findings are inconsistent with the findings of Zainal et al. (2012), Anuar et al. (2009) and Aribi & Gao (2010) who found Islamic institutions to have higher disclosures compared to their counterparts. The differences in results might due to the number of items used in the indexes they implemented, the sample time, and of course the sample of banks under investigation. For example, Anuar et al (2009) studied Islamic bank disclosure only in Malaysia, while Aribi and Gao, looked at disclosure for the year 2004 only. It could also be possible that Islamic banks in Malaysia or Bangladesh disclose more ESG items than those in the GCC countries. The results are also against the presumption that Islamic banks tend to disclose more ESG information as compared to conventional banks. As our results suggest, overall, conventional banks in the GCC disclose more information voluntarily (57.4%) than Islamic banks. Both types of banks have a minimum disclosure of 2.6% and 3.5% respectively, which means that regardless of the purpose of establishing banks, there are certain banks in both categories that do not adhere to disclose much voluntarily information about ESG.

Figure 2 depicts the trend of ESG disclosure levels across all banks in the GCC, and compares between IBs and CBs disclosure levels. We found an increasing trend in ESG disclosure levels over time across both types of banks. For most of the years included in the study, CBs tend to contribute more towards ESG, as consistently being above IBs in terms of disclosure levels. However, during the year 2012, IBs had significantly

greater disclosure levels as compared to CBs. This could be due to the closure of Islamic windows in conventional banks in Qatar (Ibrahim, 2013) that lead IBs to increase their VD to attract stakeholders and build trust. Simultaneously, the establishment of Islamic banking system in Oman by late 2012 (Basu et al., 2015) could also cause increased disclosure levels. As evident from figure 3, only Qatar and Oman show an increasing trend during the year 2012, disclosure in the other GCC countries remained steady.

Looking at the other variables, results show that conventional banks are larger than Islamic banks, and more profitable, as measured by ROA, ROE and Tobin's Q. Both types of banks have similar financial leverage. Banks' liquidity, as measured by total loans to total deposits for Islamic banks is less than that of conventional banks. This means that on average, Islamic banks provide more loans as compared to their deposits as compared to conventional banks, which results in high total loan to total deposits ratio. This might indicate that Islamic banks are riskier, in terms of liquidity, than conventional banks. Credit risk as measured by provision of loan loss to total loans shows the riskiness of the banks in terms of lending. From tables 2 and 3, it can be ascertained that Islamic banks in GCC have more bad loans as compared to the conventional banks. This could be due to the concept of Murabaha[1] in Islamic banking system, which exposes IBs to credit risk when clients default on their debt (Swartz, 2013).

[1]"Murabaha is selling a commodity as per the purchasing price with a defined and agreed profit mark-up. This mark-up may be a percentage of the selling price or a lump sum. This transaction may be concluded either without a prior promise to buy, in which case it is called an ordinary Murabaha, or with a prior promise to buy submitted by a person interested in acquiring goods through the institution, in which case it is called a "banking Murabaha", i.e. Murabaha to the purchase orderer. This transaction is one of the trustbased contracts that depends on transparency as to the actual purchasing price or cost price in addition to common expenses" (see AAOIFI, 2010, p. 129).

Table 1. Descriptive Statistics (all banks)

	ROA	***ROE***	***TobQ***	***ESG***	***Total Capital***	***Leverage***	***Loan/Dep***	***Credit Risk***
Mean	1.708	11.665	1.096	0.148	8.348	7.700	97.339	1.12
Median	1.658	12.844	1.059	0.130	8.323	7.624	96.904	.75
Standard Deviation	1.435	10.135	0.158	0.083	1.128	2.601	32.427	1.33
Minimum	-7.169	-136.2	0.552	0.026	5.55	1.572	0.663	-3.11
Maximum	16.430	39.726	2.219	0.574	11.06	21.737	487.220	10.1
Count	627	627	627	627	627	627	627	627

Table 2. Descriptive Statistics (Conventional Banks)

	ROA	***ROE***	***TobQ***	***ESG***	***Total Capital***	***Leverage***	***Loan/Dep***	***Credit Risk***
Mean	1.86	12.5	1.102	0.151	8.38	7.71	96.15	.989
Median	1.77	13.10	1.06	0.139	8.34	7.62	98.52	.719
Standard Deviation	1.45	10.48	0.16	0.087	1.08	2.49	18.53	1.05
Minimum	-7.16	-136.02	0.551	0.026	5.88	1.57	44.084	-.95
Maximum	16.42	34.794	2.219	0.574	10.99	21.737	159.266	6.56
Count	385	385	385	385	385	385	385	385

Table 3. Descriptive Statistics (Islamic Banks)

	ROA	***ROE***	***TobQ***	***ESG***	***Total Capital***	***Leverage***	***Loan/Dep***	***Credit Risk***
Mean	1.451	10.324	1.08	0.143	8.288	7.672	99.231	1.33
Median	1.464	11.93	1.052	0.122	8.257	7.585	94.138	.847
Standard Deviation	1.376	9.413	0.153	0.075	1.2	2.772	46.667	1.66
Minimum	-5.727	-46.513	0.73	0.035	5.55	1.98	0.663	-3.118
Maximum	7.90	39.726	1.84	0.53	11.06	21.658	487.22	10.1
Count	242	242	242	242	242	242	242	242

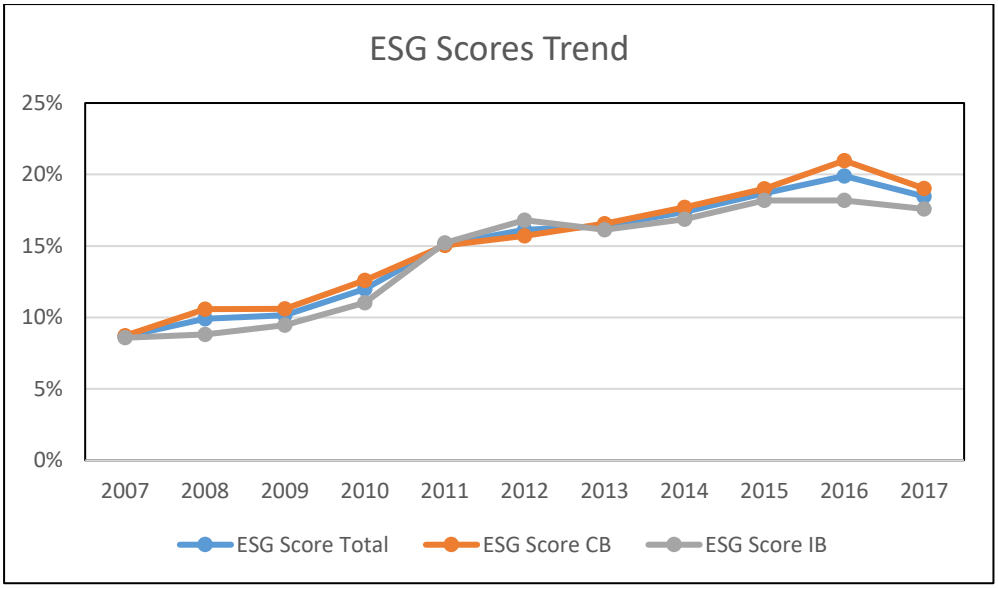

Figure 2. ESG score trend

6.2 T-test for Equality of Means

This section helps us in answering our first research question: Is there any difference between Islamic and conventional banks in their ESG levels?

To see if the differences between Islamic and conventional banks are statistically significant, we run the t-test of the difference in means. Table 4 shows the results of the independent t-test used to compare the mean score of Islamic and conventional banks. Results of the table indicate that for our sample, conventional banks are significantly larger and more profitable. Conventional banks also have higher financial leverage than those of Islamic banks. Contrary to our expectations, it is interesting to note that the level of disclosure by conventional banks is higher than that of Islamic banks. On the other hand, Islamic banks have higher loan to deposit ratio as compared to that of conventional ones. This implies that Islamic banks in our sample are less liquid than their conventional counterpart.

Based on the above analysis, we can reject our first hypothesis, which states that IBs have higher level of ESG as compared to CBs in the GCC. However, as highlighted earlier, our findings suggest that IBs have lower average ESG disclosures as compared to CBs. Thus, we reject our first hypothesis H1.

Table 4. Independent sample T-test for equality of means (assumed equal variance*)*

Variables	t	Sig. (2-tailed)	Mean difference	Std. Error Difference
TobQ	.882	0.378	.0114	.0129
ROE	2.086	0.038**	1.823	.874
ROA	2.652	0.009*	.308	.1161
ESG	3.018	0.003*	.021	.0069
TC	2.508	.013**	.249	.0995
Lev	1.547	0.123	.353	.229
LD	-1.752	0.2471	-5.659	3.229
CR	-3.186	.0015*	-.345	.108

*significant at 1%, ** significant at 5% Conventional 1 and Islamic 0

TobQ: refers to Tobin Q, ROE is return on equity (Net income/equity), ROA is Return on Assets (Net income/Total Assets), ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits) and CR is the credit risk (provision for loan loss/total loan).

6.3 ESG across GCC Countries

Table 5 shows the descriptive statistics of ESG disclosure practices in the GCC banks. We find that Bahrain leads in disclosure practices at an average disclosure level of 17.4% followed by Qatar who has 17% disclosure level. Saudi Arabia ranks third with 15.5 % disclosure followed by Kuwait and Oman with 14.4 % and 13.6 % disclosure levels respectively. The least disclosure levels were found in UAE banks with an average of only 12.8 %. Our results are similar to those of Khasharmeh & Desoky (2013) who also found lowest disclosure levels among UAE banks.

Furthermore, we conduct a trend analysis for each country to determine the disclosure practices among banks of each country across the sample period (2007-2017). We find that Bahrain, Kuwait, Oman and the UAE have steady disclosure levels from year 2007 to year 2009, while Saudi Arabia disclosures went down in 2009, while Qatar has an increasing disclosure levels over the study period. From year 2010, all the countries see a tremendous increase in disclosure levels, except for UAE whose disclosures tend to increase from year 2011. We also noticed that for all the countries in the study the level of disclosure dropped for the year 2017, except for Kuwait and Qatar.

Moreover, considering the period of crisis (2007-2008), our findings show no significant effect on the GCC banks' disclosure levels. Countries that were most affected by the crisis were Bahrain, Kuwait and the UAE (Khamis & Semlali, 2010). Looking at their disclosure trend, we observe a slight increase in Bahraini banks' disclosure levels during the year 2008, while disclosure by Kuwaiti and UAE banks remain steady. On the other hand, Omani banks' disclosure levels was reduced during year 2008, while disclosure by Saudi Arabian banks was improved significantly in year 2008. Overall, all GCC banks had increasing disclosure levels throughout the study period.

Table 5. Descriptive statistics of ESG across GCC countries

	Bahrain	*Kuwait*	*Oman*	*Qatar*	*Saudi*	*UAE*
Mean	0.1743	0.1437	0.1362	0.1704	0.1547	0.1271
Median	0.1826	0.1400	0.1478	0.1815	0.1770	0.1342
Standard Deviation	0.0476	0.0419	0.0490	0.0409	0.0457	0.0327
Minimum	0.0993	0.0898	0.0739	0.0978	0.0703	0.0847
Maximum	0.2372	0.1942	0.2086	0.2141	0.2094	0.1766

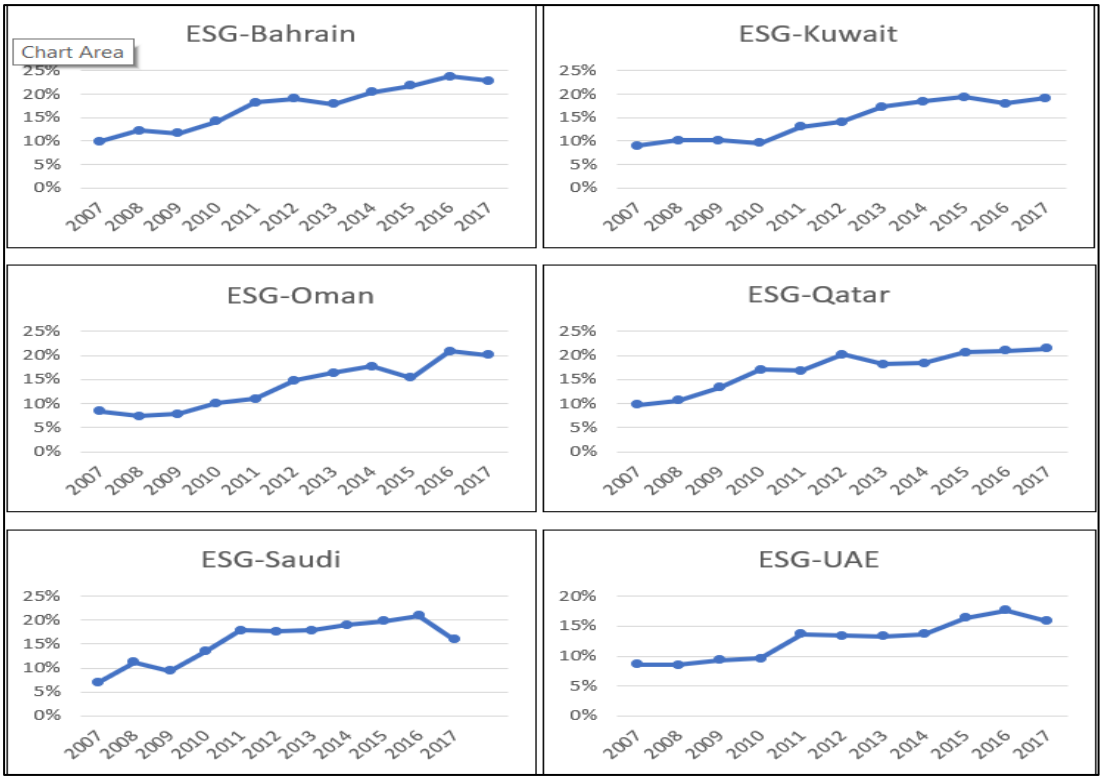

Figure 3. ESG trend across GCC countries

6.4 ESG Disclosure Score

Figure 4 illustrates the proportion of Environmental, Social and Governance disclosures in the GCC banks. Out of our disclosure scores, we find that Information related to Environment constitutes only 9% of the total disclosures made. Social items represent around, 28%, while disclosure related to governance constitutes around 63% of the total ESG scores.

Furthermore, we broke down each of the ESG aspects to find out the most disclosed items in the GCC banks. Table 6 depicts the breakdown of individual items in the ESG index. We found that within the environment aspect, information related to emission is the highest disclosed information, followed by use of resources and innovation. It is apparent since GCC countries are one of the leading countries in terms of harmful gas

emissions (Saddam, 2012). In terms of social disclosures, the most disclosed information is those related to the workforce, followed by community, product responsibility and human rights. Our result is consistent with Ellili & Nobanee (2017), who found that the highest disclosure in the UAE Islamic and conventional banks, was related to workforce.

With regards to governance, the most disclosed information is those related to management (58.5%) of the total information disclosed. This is consistent with the notion of the agency theory, that managers disclose information for personal gains, so as to achieve reputation in sight of stakeholders (Barnea & Rubin, 2010). A similar finding was made by Gillan et al., (2010) who suggested that managers tend to use ESG to improve their own welfare at the cost of shareholders. Information related to shareholders and ESG strategy are only 3.3% and 1.6% respectively. Moreover, figure 5 shows the trend of ESG items across the study period. We found that all three aspects of ESG face a downfall in the year 2008. From year 2009 to 2017 all items constantly increased throughout the years

Table 6. ESG score breakdown

	Proportion of ESG items disclosed total	individual score contributing to average ESG score
Environment	8.7%	0.0129
Resource Use	3.2%	0.0047
Emissions	4.2%	0.0063
Innovation	1.3%	0.0019
Social	27.9%	0.0412
Workforce	15.1%	0.0223
Human Rights	0.9%	0.0013
Community	9.0%	0.0133
Product responsibility	3.0%	0.0044
Governance	63.4%	0.0938
Management	58.5%	0.0865
Shareholders	3.3%	0.0049
ESG strategy	1.6%	0.0938
Total		14.80%

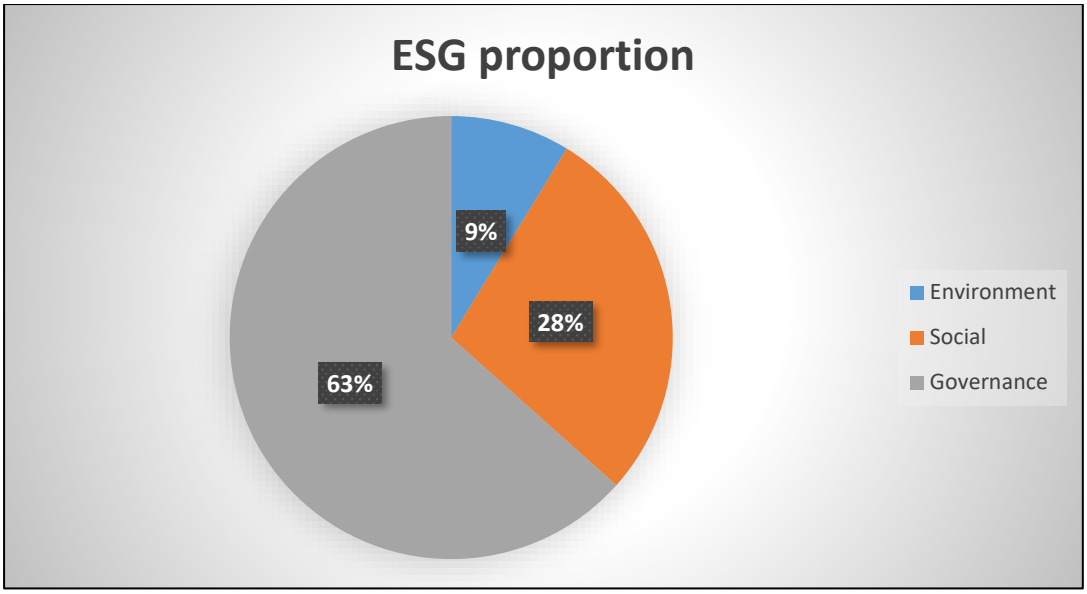

Figure 4. Proportion of ESG items

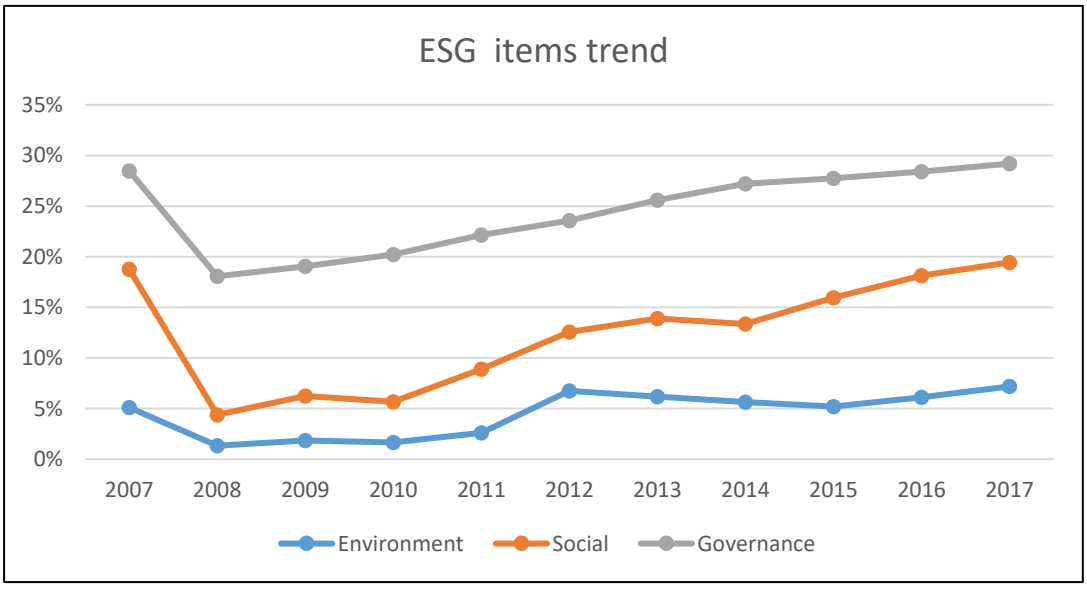

Figure 5. ESG individual score trend

6.5 Correlation Matrix

Table 7 shows results of the correlation between our independent variables. It is important to see if we have any significant correlation between our independent variables, since adding two highly correlated variables in the same regression would result in redundant information. Our results show that all variables have weak correlations, which ensures that there is no issue of multicollinearity in the variables.

Table 7. Pearson Correlation

Correlation		ROA	ESG	TC	Lev	LD	GDPG	Inf	Age	BoardSize	CR	GovtOwn
ROA	Pearson Correlation	1										
	Sig. (2-tailed)											
ESG	Pearson Correlation	-.044	1									
	Sig. (2-tailed)	.272										
TC	Pearson Correlation	.151*	.064	1								
	Sig. (2-tailed)	.000	.110									
Lev	Pearson Correlation	-.360*	.127*	.211*	1							
	Sig. (2-tailed)	.000	.001	.000								
LD	Pearson Correlation	-.012	.061	-.107*	-.231*	1						
	Sig. (2-tailed)	.763	.128	.007	.000							
GDPG	Pearson Correlation	.340*	-.080**	-.057	-.162*	.037	1					
	Sig. (2-tailed)	.000	.046	.152	.000	.351						
Inf	Pearson Correlation	.134*	-.205*	-.073	-.090**	.011	.315*	1				
	Sig. (2-tailed)	.000	.000	.068	.024	.793	.000					
Age	Pearson Correlation	-.018	.007	.171*	.156*	-.163*	-.087**	.000	1			
	Sig. (2-tailed)	.661	.863	.000	.000	.000	.029	1.000				
BoardSize	Pearson Correlation	-.060	.175*	.086**	.203*	-.023	-.052	-.003	.077	1		
	Sig. (2-tailed)	.133	.000	.031	.000	.563	.192	.939	.054			
CR	Pearson Correlation	-.307*	.001	-.174*	.034	.047	-.148*	-.058	.034	-.044	1	
	Sig. (2-tailed)	.000	.978	.000	.390	.243	.000	.146	.396	.269		
Govtown	Pearson Correlation	.104*	.037	-.021	-.007	-.058	-.007	.015	-.123*	-.030	-.007	1
	Sig. (2-tailed)	.009	.351	.600	.860	.150	.865	.704	.002	.450	.855	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

ROA is Return on Assets (Net income/Total Assets), ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members, CR is the credit risk measured as provision for loan loss to total loan (Loan loss provision/total loan) and Govtown is the government ownership in the firm.

6.6 Regression Results

We investigate the relationship between banks' profitability and ESG disclosure using a sample of 57 banks operating in the GCC for 2007-2017 period. The measures used for bank profitability were ROA, ROE and Tobin's Q. One of the issues confronted our model while implementing OLS regression, was that OLS did not control for endogeneity and heteroskedasticity which lead to inconsistencies in the results. As mentioned in the methodology section, we adopted the dynamic two-step system GMM estimator to get robust results.

6.6.1. Results of The Effect of ESG on Bank Profitability:

This section aims to answer our second research question, "Does ESG improve banks' profitability?".

Tables 8, 9 and 10 depict the results of our econometric model (equation 1). Beginning with the dependent variable, ROA, we run stepwise regression adding one variable at a time to see the effect of adding these variables on bank profitability. Table 8, panel A shows the results of regressing ESG, size, lev, L/D, GGDP, and Inf. on ROA.

Results show that bank profitability persist from the year before, however, it is insignificant for the second lag. Similar results were found by Al-Khouri & Arouri (2016) for the GCC banks and Tan & Floros (2012) on Chinese banks. The coefficient on the ESG disclosure Lag 1 year is negative and highly significant at 5% level. It implies that banks that had higher ESG disclosures in a particular year affects negatively their profitability in the year that follows. This could possibly be due to the increased burden of costs of voluntary information disclosures on the banks that affects their profits in the following year. Furthermore, this result contradicts the assumption that current year's ESG information disclosure helps investors in predicting the future

profitability or returns of the companies (Lys et al., 2015; Bussoli & Conte, 2018; Wang et al., 2018). Our results are consistent with Deutsch & Pinter (2016) and Chakroun et al. (2017), however, our results are inconsistent with past studies who found a positive effect of ESG on firm profitability (for example: Shen et al. (2016), Corenett et al. (2016), Matuszak & Rozanska, 2017).

We also found a positive and significant relationship between size and profitability of banks. This implies larger banks are more profitable as compared to smaller banks, similar to the findings of Arouri et al., (2011) and Al-Musalli & Ismail (2012). However, in the context of GCC, Naceur & Omran (2011) and Tai (2015) found no significant relationship between bank size and profitability, while, Zeitun (2012) found negative relationship between ROA and bank size.

Results of macroeconomic variables show that inflation is consistently significant and positively related to profitability. This means that any increase in the inflation rate leads to an increase in interest rates (on given loans), which consequently would lead to an increase in bank profitability (Tan & Floros, 2012). However, the result is inconsistent with those found by Zeitun (2012) who showed a negative relationship between inflation and profitability of GCC banks.

In table 8, panel B, we added bank age to see if the relationship between ESG and bank ROA would change. We expected that as banks become older, they tend to disclose more ESG information and become more transparent. Our results show no significant effect of age on bank's profitability. In addition, our results from panel A did not change as we added bank age to our regression. However, age of the bank is insignificant and negatively related to the profitability implying that older banks might not necessarily earn more profits as suggested by Pastor & Veronesi (2003).

Table 8, panel C, outlines the results after adding board size as an explanatory variable. Following previous research (Guest, 2009), we added board size as an explanatory variable. We expected that board size would have an effect on ESG disclosure and consequently would change our results. Our results concerning the relationship between ESG and bank profitability were still robust and did not change. However, as we added board size, bank liquidity as measured by loan to deposit (L/D) became significant, and remained negatively related to bank profitability (ROA). It suggests that banks with high liquidity are less profitable. This might suggest that banks in the GCC had high demands for loans, which forces them to resort to external source of funding to meet these demands, thus, increasing the cost of funding resulted in lower profits (Shen et al., 2009).

In order to check if the results of the relationship between ESG disclosure and ROA change, and whether Loan to Deposit (L/D) proxy for credit risk, we added another variable namely; loan loss provision to total loans (LLP/TL) as a measure of banks' credit risk. Table 8, Panel D shows the results after adding LLP/TL as explanatory variable. The regression results indicated that credit risk is significant at 5% significance level and negatively related to bank profitability. This implies that banks in the GCC are generally accepting high risk in their lending, where the amount of bad loans was quite high, which lead to the negative affect of credit risk on ROA. Similar results were found by Athanasoglou et al. (2008), Shen et al. (2009) and Petria et al. (2015) but in different geographical settings.

To see if there is any difference between conventional and Islamic banks in terms of the effect of ESG disclosure on profitability, we added an interaction variable IB. Table 8, Panel E depicts that adding this interaction variable did not affect the results found in all other regression results run previously. Thus, our results suggest that in both

types of banks one-year lag of ESG disclosure had a negative effect on GCC banks' profitability. Therefore, controlling for bank specific and macroeconomic indicators, our results show no significant difference between Islamic and conventional banks, in the sense that ESG is costly for both types of banks alike.

Overall, results of table 8 show that in all our regressions, financial leverage (Lev) is insignificant and negatively associated with bank profitability. This result is consistent with the findings by previous studies (Ahmad et al., 2015; Mathuva, 2015). GDP growth is positively, but insignificantly related to profitability. Our result is inconsistent with that found by Al-Khouri & Arouri (2016). Banks' age is insignificant and negatively related to the profitability consistent with the findings of Zeitun (2012). This implies that older banks might not necessarily earn more profits as viewed by Pastor & Veronesi (2003). Board size is also insignificant and negatively related to profitability. The negative relation might imply the inefficiency of board members to take correct decision due to lack of required skills, and an inadequate understanding of the banking environment, that exists among the board members in the GCC banking industry (OECD, 2009).

In order to verify the absence of serial correlation and to affirm the validity of the instrumental variables used in the model, we perform autocorrelation tests and Sargan tests respectively, as proposed by Arellano & Bond (1991). As discussed under the methodology section, the second order correlation should be insignificant and Sargan test should have large chi-squared value and insignificant p-value. From the results in table 8, we can see that our instrumental variables are valid and the model satisfies the conditions for consistency in the GMM estimator employed.

We use two more measures for profitability, namely; Tobin's Q and ROE. Table 9 illustrates the results for ROE as dependent variable, as a measure of bank proftiability. Results from regressing our variables on ROE are identical to those found in the previous regression on ROA, however, the coefficients and level of significance differ slightly between the variables. Banks in the GCC are persistence in their profitability even when measured by ROE. With regards to ESG score, the large coefficient (-27.9) depicts huge impact of last year ESG disclosure on current year's ROE. This could imply that high ESG disclosures attract capital from shareholders, but the cost burden is significant enough to keep the returns low, thus, lowering the overall ROE. The results are similar to those found by Deutsch & Pinter (2016) and Chakroun et al., (2017) in the context of Hungary and Tunisia banks respectively. Similar to the results found for ROA, credit risk affects ROE (significantly and negatively). Furthermore, it can be noticed from table 9 that bank Age is significant at 5% significance level when board size and IB dummy variable were not included. However, after including the aforementioned variables, bank age becomes a weak explanatory variable for bank profitability (ROE). Other variables remain insignificant in explaining ROE.

We also verified this model (table 9) using autocorrelation and Sargan tests. We found that the model satisfied the condition for consistency in the GMM estimator employed.

The final measure used for profitability was a market-based performance measure namely; Tobin's Q. We found that based on Tobin's Q, a firm's profit was independent of the previous year's profits. Concerning ESG, the results are similar to those found for ROA and ROE i.e. significant and negative relation between ESG disclosure and Tobin's Q. This could imply that the market perception is unaffected by the ESG activities of the bank contrary to the idea of stakeholder's theory. The results are inconsistent with study of Cornett et al. (2016) who found a positive relationship

between Tobin's Q and ESG. However, credit risk did not seem have any effect on profitability, as it is insignificant and negatively related to Tobin's Q. Bank size is significant and positively related to profitability. We also found that inflation is positively but insignificantly related to profitability. Finally, board size seemed to have significant and positive effect on profitability, consistent with Belkhir (2009). This could imply that GCC market perceives large board size as good indicator of banks' value and growth potential. However, other variables do not seem to have any significant relationship to profitability (Tobin's Q).

Furthermore, table 10 shows that there exists no second order correlation and large chi-square values for Sargan tests. Thus, the estimator is consistent for the tested model.

To sum, given our sample and controlling for bank specific and macroeconomic factors, our results show mainly that ESG activities is costly for the GCC banks. ESG activities seem to affect bank profitability negatively the year that follows spending on such activities. Furthermore, in both types of banks, Islamic and conventional ESG tend to have adverse effect on profitability. Therefore, we reject our second hypothesis H2.

Table 8. Determinants of Profitability (ROA)

Dep: ROA	Panel A	Panel B	Panel C	Panel D	Panel E
Dependent L1	.3898*	.4084*	.4089*	.3968*	.383*
	(.000)	(.000)	(.000)	(.000)	(.000)
Dependent L2	.0176	.0191	.0163	.0131	.0064
	(.800)	(.718)	(.766)	(.780)	(.887)
ESG	5.681**	4.2989	4.541	3.262	2.738
	(.033)	(.121)	(.125)	(.257)	(.178)
L1	-5.855**	-5.024***	-5.181***	-4.467***	-3.713 ***
	(.012)	(.061)	(.052)	(.077)	(.065)
TC	.1866**	.3554**	.3824**	.2664***	.256
	(.036)	(.028)	(.038)	(.079)	(.107)
Lev	-.0444	-.0257	-.033	-.0132	-.0155
	(.348)	(.596)	(.520)	(.791)	(.740)
LD	-.0039	-.0036	-.0036***	-.0017	-.0018
	(.166)	(.120)	(.056)	(.224)	(.166)
GDPG	.0141	.0097	.0106	.0087	.007
	(.208)	(.422)	(.363)	(.330)	(.421)
Inf	.0101**	.0104**	.0109**	.0084**	-.1713*
	(.012)	(.019)	(.019)	(.032)	(.008)
Age	-	-.427	-.2401	-.1124	-.171
		(.221)	(.601)	(.801)	(.657)
BoardSize	-	-	-.3738	-.0934	.111
			(.681)	(.920)	(.886)
CR	-	-	-	-.3228**	-.3301*
				(.023)	(.005)
IB	-	-	-	-	-1.574
					(.391)
AR1	-3.097*	-2.8669*	-2.844*	-3.152*	-2.998*
	(.0020)	(.0041)	(.0045)	(.0016)	(.0027)
AR2	-1.0256	-1.2506	-1.239	-1.056	-1.123
	(.3051)	(.2111)	(.2152)	(.2908)	(.2612)
Sargan test	chi2(29) = 25.64	chi2(28) = 25.17	chi2(27) = 23.75	chi2(27) = 27.85	Chi2(27) = 27.77
No. of groups	57	57	57	57	57
No. of instruments	38	38	38	39	40

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA is Return on Assets (Net income/Total Assets), ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members, CR is the credit risk measured as provision for loan loss to total loan (Loan loss provision/total loan) and IB is the Islamic bank dummy variable.

Table 9. Determinants of Profitability (ROE)

Dep: ROE	Panel A	Panel B	Panel C	Panel D	Panel E
Dependent L1	.266*	.2763*	.2685*	.2386*	.2153**
	(.000)	(.000)	(.000)	(.004)	(.024)
Dependent L2	-.017	-.0424	-.0299	-.0312	-.0215
	(.817)	(.583)	(.669)	(.588)	(.686)
ESG	28.767	13.286	19.511	6.909	5.515
	(.212)	(.437)	(.344)	(.641)	(.749)
L1	-47.35*	-35.796**	-33.99***	-31.56**	-32.21**
	(.009)	(.018)	(.099)	(.032)	(.011)
TC	1.553	3.9055**	4.128*	2.9003**	2.868**
	(.109)	(.010)	(.008)	(.023)	(.021)
Lev	.4645	.4856	.5653	.4061	.335
	(.372)	(.330)	(.176)	(.429)	(.582)
LD	-.0507	-.0488***	-.0361**	-.0222**	-.021**
	(.122)	(.062)	(.025)	(.023)	(.034)
GDPG	.0637	.0621	.0622	.0469	.036
	(.449)	(.385)	(.367)	(.481)	(.531)
Inf	.069**	.0745**	.0815**	.0441	.046***
	(.035)	(.015)	(.012)	(.121)	(.063)
Age	-	-5.474**	-.4818	-1.413	.972
		(.022)	(.904)	(.743)	(.889)
BoardSize	-	-	-10.417	-1.835	-4.975
			(.126)	(.738)	(.613)
CR	-	-	-	-2.866*	-3.053*
				(.005)	(.007)
IB	-	-	-	-	5.227
					(.824)
AR1	-2.331**	-2.441**	-2.391**	-2.481**	-2.495**
	(.0195)	(.0147)	(.0168)	(.0131)	(.0126)
AR2	-1.1618	-1.1957	-1.2992	-1.2463	-1.225
	(.2453)	(.2318)	(.1939)	(.2127)	(.2206)
Sargan test	chi2(29) = 27.44	chi2(28) = 22.03	chi2(27) = 21.27	chi2(27) = 22.26	Chi2(27) = 24.23
No. of groups	57	57	57	57	57
No. of instruments	38	38	38	39	40

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROE is return on equity (Net income/equity), ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members, CR is the credit risk measured as provision for loan loss to total loan (Loan loss provision/total loan) and IB is the Islamic bank dummy variable..

Table 10. Determinants of Profitability (Tobin's Q)

Dep: TobQ	Panel A	Panel B	Panel C	Panel D	Panel E
Dependent L1	.2338*	.212**	.0667	.0711	.1331
	(.004)	(.010)	(.484)	(.464)	(.281)
Dependent L2	.1486*	.1283**	-.0414	-.0409	-.008
	(.001)	(.042)	(.559)	(.566)	(.920)
ESG	.3824	.3814	-.2654	-.2636	.0145
	(.172)	(.188)	(.294)	(.291)	(.957)
L1	-.5575**	-.609**	-.6622*	-.6624**	-.694*
	(.044)	(.030)	(.009)	(.010)	(.001)
TC	.0773*	.0701*	.0630*	.0612*	.0593*
	(.000)	(.001)	(.001)	(.001)	(.004)
Lev	.0022	.0022	-.0018	-.0019	-.0005
	(.697)	(.703)	(.747)	(.721)	(.918)
LD	-.00022	-.0001	-.00032	-.00032	-.0004
	(.563)	(.798)	(.543)	(.532)	(.452)
GDPG	-.00002	.00018	-.0007	-.0007	-.0008
	(.988)	(.873)	(.433)	(.417)	(.440)
Inf	.00123*	.00114**	.00039	.0004	.0006***
	(.005)	(.017)	(.237)	(.261)	(.065)
Age	-	.0305	-.0471	-.0445	-.0463
		(.631)	(.449)	(.470)	(.485)
BoardSize	-	-	.3974*	.3998*	.3462*
			(.001)	(.001)	(.005)
CR	-	-		-.0026	-.0024
				(.658)	(.673)
IB	-	-	-	-	-.1801
					(.553)
AR1	-1.4762	-1.51	-.5535	-5533	-.9106
	(.1399)	(.1310)	(.5799)	(.5801)	(.3625)
AR2	-1.4751	-1.4213	-.7147	-.7027	-.763
	(.1402)	(.1552)	(.4748)	(.4823)	(.4455)
Sargan test	Chi2(29) =45.33	chi2(28) = 44.53	chi2(27) = 29.40	chi2(27) = 28.99	Chi2(27) = 31.33
No. of groups	57	57	57	57	57
No. of instruments	38	38	38	39	40

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

TobQ: refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members, CR is the credit risk measured as provision for loan loss to total loan (Loan loss provision/total loan) and IB is the Islamic bank dummy variable.

6.6.2. Results of the Effect of Bank Profitability on ESG Disclosure

This section aims to answer our third research question, "Do profitable banks engage more in ESG"? In addition, we can determine in this regression the main factors that affect the decision of banks to engage in ESG.

Table 11 illustrates the results of our econometric model (equation 2). We run stepwise regression, adding one variable at a time, to see the effect of adding these variables on the ESG disclosure. Table 11 panel A shows the results of regressing bank size, leverage, loan to deposit ratios and firm age on ESG.

Results suggest that ESG disclosure among banks persists significantly for two years. It means that banks that disclosed ESG related information in a year tend to continue this practice in the upcoming years. The coefficient on the ROA is positive and significant at 5% level and the coefficient of ROA lag 1 period is also significant at 5% level, but affects ESG negatively. It indicates that profitable banks tend to have high ESG disclosures in the same year however, their disclosure would decrease slightly in the year that follows. It implies that in the GCC market, banks with high profitability are highly visible in the market, thus, they disclose more ESG information to meet the social norms (Chakroun et a., 2017). However, to increase short term profitability managers tend to cut short expenses for ESG resulting in negative relationship between ESG and previous year ROA (Bussoli & Conte, 2018). Our results are consistent with the findings of Jizi et al. (2014), Rogosic (2014), Shukla (2017) and Bussoli & Conte (2018). However, inconsistent with findings of Qui et al. (2016) who found profitable firms to disclose more information in the following year.

Bank size did not affect ESG disclosure, contrary to the idea that large banks face immense pressure to disclose more ESG related information (Martínez-Ferrero, 2015). Leverage has no effect on ESG; however, the relationship is negative. It indicates that

firms with high debt levels tend to reduce their transparency and disclosure (Solomon & Lewis, 2002). We also find liquidity to be insignificant in explaining the ESG disclosure. Our result is inconsistent with El-Bannany (2007) and Wu & Shen (2013). Furthermore, bank age does not affect ESG disclosure as well. Our result is consistent with Sukcharoensin (2012), D'Amico et al. (2016) and Mdolo et al. (2018).

In Table 11, panel B, we added board size as an explanatory variable to examine changes in the relationship between profitability and ESG. We find no effect on our model and the results remained the same in terms of significance and directional effect. Table 11, panel C includes an additional explanatory variable i.e. government ownership. We find no significant effect on the overall results of the regression. Furthermore, in table 11, panel D we added our dummy variable IB to check the difference in Islamic and conventional banks in terms of effect of profitability on ESG. Our results remain persistent and hence, the only variable explaining the change in ESG disclosure seems to be the bank's profitability (ROA). Other variables included in the regression did not have any significant effect on ESG disclosure.

We tested our model for serial correlation and validity of the instruments. As evident from table 11 our model is valid and consistent.

As mentioned earlier, we use two additional measures of profitability namely; ROE and Tobin's Q. Table 12 depicts results for profitability (ROE) and ESG. We find similar results for ROE and ROA in relation to ESG, except that previous year's ROE did not have any significant effect on ESG. It is inconsistent with the idea that past profitability affects social disclosure (Pirsch et al., 2007). Moreover, other variables remain insignificant in explaining the ESG disclosure.

Table 13 outlines the effect of Tobin's Q on ESG. Our findings suggest that there is no significant effect of Tobin's Q on ESG. Since, Tobin's Q is a market-based measure (Bidhari et al., 2013), our results could indicate ineffectiveness of stakeholder pressure on the GCC banks. It means that management of GCC banks prioritize the existing shareholder value as viewed by agency theory, and care less about the market perception of the bank. This is inconsistent with the notion developed by stakeholder theory that profitability affects social disclosure (Pirsch et al., 2007). In table 13, panel B, our results indicate that board size is significantly affecting ESG disclosure. Our result is consistent with Esa & Ghazali (2012), Frias-Aceituno et al. (2013) and Kilic et al (2015). Table 13, panel C, shows that after adding government ownership as an explanatory variable, liquidity (L/D) tends to significantly and negatively affect the ESG disclosure among banks. Our result is consistent with El-Bannany (2007) and Wu & Shen (2013) who also found inverse relation between liquidity and ESG. Moreover, table 13, panel D shows no significant difference between Islamic and conventional banks in terms of the effect of profitability (Tobin's Q) on ESG.

Table 11. Determinants of ESG (using ROA)

Dep: ESG	Panel A	Panel B	Panel C	Panel D
Dependent L1	.5307*	.5445*	.5458*	.5244*
	(.000)	(.000)	(.000)	(.000)
Dependent L2	.1946**	.1806**	.1748**	.1955**
	(.020)	(.032)	(.045)	(.035)
ROA	.0284**	.0281**	.068**	.0232**
	(.015)	(.015)	(.016)	(.032)
L1	-.0234**	-.022**	-.0196***	-.0183***
	(.035)	(.039)	(.063)	(.078)
TC	.0059	.0054	.0074	.0062
	(.543)	(.585)	(.566)	(.708)
Lev	-.0033	-.003	-.0029	-.0027
	(.253)	(.296)	(.285)	(.315)
LD	.00006	.00004	.00001	.00002
	(.537)	(.772)	(.936)	(.867)
Age	.0076	-.0071	-.0149	-.0138
	(.756)	(.773)	(.663)	(.859)
BoardSize	-	.02466	.0281	.0365
		(.551)	(.513)	(.630)
GovtOwn	-	-	.0001	.000127
			(.739)	(.854)
IB	-	-	-	-.0158
				(.781)
AR1	-3.3109*	-3.3134*	-3.19*	-3.0163*
	(.0009)	(.0009)	(.0014)	(.0026)
AR2	-1.1067	-1.0545	-1.0031	-1.1179
	(.2684)	(.2917)	(.3158)	(.2636)
Sargan test	chi2(28) = 26.956	chi2(27) = 27.695	chi2(26) = 26.548	chi2(25) = 25.088
No. of groups	57	57	57	57
No. of instruments	36	36	36	36

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA refers to return on assets (Net income/Assets), ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), Age is the firm age, BoardSize is no. of board members, Govtown is the government ownership in the firm and IB is the Islamic bank dummy variable.

Table 12. Determinants of ESG (using ROE)

Dep: ESG	Panel A	Panel B	Panel C	Panel D
Dependent L1	.5823*	.5831*	.5865*	.5738*
	(.000)	(.000)	(.000)	(.004)
Dependent L2	.2368*	.2303*	.2315*	.2526*
	(.005)	(.005)	(.003)	(.007)
ROE	.00464**	.0043**	.0042**	.0041***
L1	(.047)	(.024)	(.015)	(.067)
	-.0022	-.0023	-.00199	-.0022
	(.142)	(.124)	(.133)	(.243)
TC	-.0038	-.0026	-.00067	-.0123
	(.798)	(.846)	(.968)	(.248)
Lev	-.0055	-.0055	-.00515	-.0056
	(.191)	(.167)	(.183)	(.182)
LD	.00009	.00008	.00007	.000063
	(.502)	(.645)	(.713)	(.727)
Age	.0236	.0062	-.0018	.0518
	(.525)	(.869)	(.966)	(.425)
BoardSize	-	.0265	.0284	-.0168
		(.595)	(.576)	(.854)
GovtOwn	-	-	.00011	.00018
			(.779)	(.704)
IB	-	-	-	.04718
				(.467)
AR1	-3.02*	-3.0776*	-3.2195*	-2.8847*
	(.0025)	(.0021)	(.0013)	(.0039)
AR2	-1.176	-1.1366	-1.1984	-1.287
	(.2396)	(.2557)	(.2307)	(.1981)
Sargan test	chi2(28) = 29.081	chi2(27) = 28.741	chi2(26) = 28.276	chi2(25) = 25.643
No. of groups	57	57	57	57
No. of instruments	36	36	36	36

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROE is return on equity (Net income/equity), ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), Age is the firm age, BoardSize is no. of board members, Govtown is the government ownership in the bank and IB is the Islamic bank dummy variable.

Table 13. Determinants of ESG (using Tobin's Q)

Dep: ESG	Panel A	Panel B	Panel C	Panel D
Dependent L1	.5993*	.505*	.4962*	.4856*
	(.000)	(.000)	(.000)	(.000)
Dependent L2	.156*	.1777**	.1621***	.1654**
	(.006)	(.042)	(.060)	(.038)
TobQ	.0409	-.0404	-.04816	-.0707
L1	(.604)	(.612)	(.515)	(.323)
	-.0689	-.0553	-.0576	-.0458
	(.255)	(.259)	(.210)	(.315)
TC	-.0083	-.0005	.003	.0052
	(.337)	(.958)	(.776)	(.603)
Lev	.0017	.0009	.00111	.0016
	(.363)	(.551)	(.475)	(.339)
LD	-.0001	-.0001	-.0001***	-.0001***
	(.326)	(.134)	(.071)	(.050)
Age	.0391	-.0126	-.0212	-.0228
	(.157)	(.599)	(.407)	(.389)
BoardSize	-	.1036***	.1066**	.1102**
		(.049)	(.025)	(.042)
GovtOwn	-	-	.0003	.0003
			(.405)	(.244)
IB	-	-	-	-.0465
				(.275)
AR1	-3.157*	-3.0215*	-3.0319*	-3.0327*
	(.0016)	(.0025)	(.0024)	(.0024)
AR2	-1.79***	-1.58	-1.5085	-1.5559
	(.0734)	(.1141)	(.1314)	(.1197)
Sargan test	chi2(28) = 32.488	chi2(27) = 27.891	chi2(26) = 27.034	chi2(25)=24.088
No. of groups	57	57	57	57
No. of instruments	36	36	36	36

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

TobQ refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), Age is the firm age, BoardSize is no. of board members, Govtown is the government ownership in the firm and IB is the Islamic bank dummy variable.

We developed two hypotheses to examine the bi-directional relationship between profitability and ESG. Hypothesis H2a stated that high ESG disclosures leads to high banks' profitability while hypothesis H2b stated that high profitable firms have high ESG disclosures. As seen from the results, we found no significant effect of ESG disclosures on bank profitability at the same year. However, previous year's ESG disclosure had negative effect on current year's profitability as explained by the increased cost of disclosures. On the other hand, our results indicate that banks with high profits have high ESG at the same year. Therefore, based on the results presented we can affirm that our research hypothesis H2a is rejected while H2b is verified.

6.6 Robustness Checks:

As part of robustness checks we made several additional tests to affirm our results. Firstly, we examined the regression models separately for Islamic and Conventional banks. This helps us in determining the accuracy of the results that we obtained earlier by using interaction variable of IBs. It also helps in finding if the determinants of profitability differ among both types of banks. Secondly, we implemented three extra profitability measures to check the accuracy of the results. This helps in gaining insight about other profitability measures that could be determining ESG. The three extra profitability measures used were namely; interest income, non-interest income and price to book ratio (Wu & Shen, 2013; Marsat & Williams, 2011).

We found that the results are quite similar to those done for all banks together (Appendix C, table C1 and C2). In case of CBs and IBs the ESG did not seem to affect the bank's ROA, whereas, for all banks' collective regression, ESG affected ROA. However, for CBs, inflation has effect on ROA and for IBs liquidity risk and credit risk affected ROA. Secondly, ESG of previous year had a negative and significant effect on

ROE of CBs and IBs. Leverage and inflation of CBs significantly affected the ROE, whereas, liquidity and credit risk affected the ROE of IBs significantly. Lastly, Tobin's Q for CBs was affected by their size, liquidity and board size, while for IBs the only determinants were size and leverage.

We tested the differences in determinants of ESG disclosure in both types of banks (Appendix C, table C3 & C4). We found that in CBs, ROA had a positive and significant effect on ESG, whereas Tobin's Q lagged one period had a negative and significant effect on ESG disclosure. Board size affected in both types of banks' ESG. No other variable affected the ESG disclosures of IBs.

With regards to the additional profitability measures used in the study, we find that only non-interest income is affected positively by ESG disclosure (Appendix C, table C5). Wu & Shen (2013) suggested that high ESG disclosures tend to attract customers thus, increasing the non-interest income. We next tested the effect of these three profitability measures on ESG (Appendix C, table C6). We found that lag1 interest income affects the ESG disclosures negatively. It means that banks who had high interest income their disclosures were low in the year that followed. However, banks who had high interest income also had higher disclosures in the current year. This could imply that banks spend on ESG activities in the same year in which they had high interest income, consequently, they did not have sufficient to spend in the next year. We further note that non-interest income is insignificantly related to ESG disclosures. Thus, we can deduce that banks in the GCC rely more on their interest income to use for ESG activities as suggested by the regression results. Furthermore, with regards to price-to-book ratio, we found that the previous year's price-to-book ratio is significant and negatively related to ESG disclosures. This could imply that in order to maintain the positive market value, bank managers tend to reduce their costs, by cutting off extra

activities (including ESG activities). This is also evident from table C5 (Appendix C) wherein, price-to-book ratio Persists over the years.

7. Conclusion

In this section, we will provide summary and conclusions for the thesis. First, a brief background of the study is provided, followed by the approach taken to answer the research questions. Second, we discuss the results attained in the research. Third, we outline the limitations that we countered during the course of research and provide suggestions for future research. Finally, the research is concluded with important contributions made by this study and Policy implications.

7.1 Summary and Conclusions

VD is increasingly becoming important for banks, as it ensures stakeholders that sufficient transparency is maintained by the bank. Furthermore, most of the importance adhering to VD is due to its linkage with improved profitability (Mardini, 2015). Since the link could move from ESG to profitability, as well as, from profitability to ESG, we study the bi-directional relationship between ESG and bank profitability. The thesis studies this link under two prominent theories namely; the stakeholder theory and the agency theory. This study is applied to a sample of 57 Islamic and conventional banks operating in the GCC region. This helps to examine the similarities and/ or the differences in the way ESG disclosures react to profitability (and vice-versa) for both types of banks. Furthermore, we examine the extent of ESG disclosure in both banks.

Most of previous studies found that disclosure by IBs was poor as compared to their counterparts, while other studies found no link between profitability and ESG (Masruki et al., 2012; Mosaid Boutti, 2012; Zubairu et al., 2012; Nobanee & Ellili, 2016; Platonova et al., 2018). However, these studies have severe limitations. Some of the studies had limited number of banks taken into account, while, some had short sample

period. This thesis extends the existing literature by including all banks in the GCC (with available data) for a sample period of 11 years (2007-2011).

To test our hypotheses, and to ensure efficiency of the results, we employed the System General Methods of Moments (GMM) estimator.

The empirical findings suggest that IBs level of ESG disclosures is lower than that of CBs. Hassan & Hrahap (2010) suggested that IBs do not give much importance to VD, thus, their disclosure levels are low. The thesis results also provide evidence that IBs are not compatible with their main purpose of establishment i.e. to be socially responsible (Yusoff et al., 2013). Our regression results for GCC banks suggest that ESG disclosures of previous year affects negatively bank profitability of the current year. It implies that spending on ESG is costly for GCC banks. We also found that high profitable banks tend to disclose more information than non-profitable ones which implies that profitable banks are visible in the market, thus, they disclosure more information to maintain their image.

To check the robustness of our results, we tested the data using additional profitable measures. Using price-to-book ratio, we found that previous year's price-to-book ratio affected the current year's ESG disclosure negatively. It could imply that managers wish to maintain the profitable image of their banks, thus, cutting off costs that are spent on voluntary activities. This would lower the ESG disclosures and reduce the cost burden on the bank income. Eventually, leading to steady or improved market performance of banks.

We also rerun our regressions separately for IBs and CBs. We found that profitability does not seem to affect either of the banks' ESG disclosures. However, for both the banks, ROE of previous year had significant effect on current year's ESG disclosure.

With regards to ESG, it remained unaffected by any profitable measure in IBs, whereas, ROA and Tobin's Q had significant effect on ESG disclosures in CBs.

During the course of the research, we faced certain limitations that could be addressed in future research studies. Firstly, several banks had missing data which led to their exclusion from the sample. This also led to reduction in the number of Islamic banks that were included in the study. It certainly portrays that banks in the GCC region care-less about their stakeholders or/and perhaps there is lack of pressure from the stakeholders to disclose information. Secondly, there is dearth of studies in the context of GCC related to ESG that explain the issues of heteroskedasticity and endogeneity. This limits our alternatives towards countering these issues in the study. Furthermore, it also questions the results of past studies since ESG and profitability are likely to be endogenously determined. Thirdly, there is inconsistency in the way data is disclosed by the banks in the GCC. Some of them have separate reports for financial statements, sustainability reporting and corporate governance reporting, while others have all this information in one annual report. It results in difficulties while collecting data since some of them have governance related information in the annual report, but they have no information regarding ESG. It is sometimes disclosed in the news section of the websites. Moreover, the information regarding banks disclosed in the GCC region appears biased since the only source of data collection is company websites and annual reports. They will certainly disclose information that is in their best interest. However, there is scarce or no information regarding the negatives of the banks. For instance, the controversies facing the banks, the ill effects of their investments on environment and other similar information. This limits our study as we are unable to analyse the negative side of the banking industry in the GCC region. Fourthly, our VD measure is limited to ESG information. There could possibly be other VD that affect the profitability of the

firms. Future studies can include other voluntary information such as those related to risk, intellectual capital, future prospects, management discussions and other non-financial information that could affect decision making. Apart from being limited to ESG information, our study uses a specific ESG index adopted from Eikon Thomson Reuters, future studies can develop an index on own that is much relevant to the GCC market. Furthermore, research studies can employ different estimators to counter the issues of heteroskedasticity and endogeneity. This will help in comparing and contrasting the results and the reliability of estimators. Lastly, future studies can also include additional control measures that could affect the ESG/profitability of the firms such as expenses, governance factors and institutional factors.

Regardless of the aforementioned limitations, this thesis has many contributions. First, it enhances the literature on Islamic and Conventional banks with regards to ESG disclosure and profitability. Second, this study is also the first to employ two-step dynamic system GMM estimator in the GCC region to study the bi-directional relation between ESG and profitability. Third, contrary to previous studies, we based our ESG index on comprehensive collected data from different sources and not just from banks' annual reports.

Since, more information is essential to reduce the level of asymmetric information between managers, bank owners and depositors. This study is also useful for all the stakeholders and especially the investors. It will guide them in decision making as the market is expanding and it is essential that sufficient information is made available in order to facilitate their investment decisions. This study will have policy implications to regulators of the banking sector in the GCC countries. Given our results that ESG is costly to the banking sector, there will be no incentives for banks to engage in ESG activities. Therefore, our results are expected to assist policy makers to formulate

policies based on the level of disclosures made by banks, such as setting up new policies that would lead to greater board monitoring, which in turn lead to increased VD. This study also helps managers to manage their budgets efficiently, to invest accordingly in the ESG activities and to balance the interests of various stakeholders. Our research paves way for further studies to be conducted in the context of Islamic banks and conventional banks in relation to VD.

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Appendix

Appendix (A)

Table A1. Summarized relationship between CSR and financial profitability

Author and year	Research context	Variables	Findings
Cornett et al. (2016)	US	Profitability: ROA, ROE, operating profit, Tobin's Q CSR: ESG MSCI database	Profitability +ve related to CSR
Shen et al. (2016)	Australia, Canada, Ireland, UK etc.	Profitability: ROA, ROE, net interest income, non-interest income CSR: FTSE4GOOD index	Profitability +ve related to CSR
Matuszak & Rozanska (2017)	Poland	Profitability: ROA, ROE CSR: Content analysis	Profitability +ve related to CSR

Awan & Nazish (2016)	Pakistan	Profitability: ROA, ROE, EPS CSR: content analysis	Profitability +ve related to CSR
Ashraf et al., (2017)	Pakistan & Bangladesh	Profitability: ROA, ROE, EPS, P/E CSR: content analysis	Profitability +ve related to CSR
Niresh & Silva (2018)	Sri Lanka	Profitability: ROA, ROE CSR: content analysis	Profitability +ve related to CSR
Maqbool & Zameer (2018)	India	Profitability: ROA, ROE, Net profit, CSR: content analysis	Profitability +ve related to CSR
Bussoli & Conte (2018)	Europe	Profitability: ROAA (average assets) CSR: Thomson Reuters ESG rating	Profitability +ve related to CSR CSR negative related to profitability

Jizi et al. (2014)	US	Profitability: ROA CSR: content analysis	CSR +ve related to profitability
Rogosic (2014)	Bosnia and Herzegovina, Croatia and Montenegro	Profitability: Gross profit CSR: Global reporting index	CSR +ve related to profitability
Shukla (2017)	India	Profitability: profit after tax, ROA, ROE, Market capitalization CSR: content analysis	CSR +ve related to profitability
Dell'Atti et al. (2017)	Global financial banking industry report 75 international banks	Profitability: EPS, CSR: Thomson Reuters ESG rating Reputation: Reputation institute	Profitability +ve related to reputation Reputation +ve related to CSR
Deutsch & Pinter (2016)	Hungary	Profitability: ROA, ROE	Profitability –ve related to CSR

		CSR: content analysis	
Chakroun et al. (2017)	Tunisia	Profitability: ROE CSR: content analysis	Profitability –ve related to CSR
Fijalkowska et al. (2018)	Central and eastern Europe	Profitability: ROA, ROE CSR: content analysis	No relation

Table A2. Summary of CSR in Islamic banks

Author and year	Context	Variables	Findings
Zubairu et al. (2012)	Saudi Arabia	-	IBs have poor disclosures, IBs and CBs have similar CSR items disclosed
Aribi & Gao (2010)	GCC	-	IBs disclose more required by AAOIFI.

Mallin et al. (2014)	13 countries Bahrain, Bangladesh Indonesia, Jordan, Kuwait, Malaysia, Pakistan, Qatar, Saudi Arabia, Sudan, Syria, UAE, UK	Profitability: ROA, ROE CSR: content analysis	IBs disclose more required by AAOIFI. CSR +ve related to profitability
Platonova et al. (2018)	GCC (excluding Oman)	Profitability: ROA, ROE CSR: content analysis	Level of CSR in IBs below expectations Profitability +ve related to CSR
Ahmed et al. (2012)	Bangladesh	Profitability: ROA,	Profitability +ve related to CSR

		CSR: content analysis	
Nobanee & Ellili (2016)	UAE	Profitability: Growth of short-term deposits CSR: content analysis	Profitability not affected by CSR
Mosaid & Boutti (2012)	8 banks (GCC)	Profitability: ROA, ROE CSR: content analysis	CSR not affected by profitability
Masruki et al. (2012)	Malaysia	Profitability: ROA CSR: content analysis	CSR not affected by profitability CSR affected by bank size

Table A3. Dimensions of ESG

	No. of items in index
Environment	33
Resource Use	9
Emissions	17
Innovation	7
Social	38
Workforce	20
Human Rights	4
Community	10
Product responsibility	4
Governance	44
Management	32
Shareholders	10
CSR strategy	2
Total	115

Table A4. ESG index breakdown

A.	Environment	
I.	*Resource Use*	targets water efficiency, targets energy efficiency, Environment management, renewables energy use, energy use total, indirect energy use, electricity purchased, green buildings, water use
II.	*Emissions*	Biodiversity impact reduction, CO2 equivalent emissions total, Carbon offsets, co2 estimation method, climate change commercial risk opportunities, ozone depleting substances, Sox emissions, waste total, waste recycled total, hazardous waste, waste reduction initiatives, e-waste reduction, water discharged, ISO 14001/EMS (environment management strategy), accidental spills, environmental provisions, environmental investments

III.	*Innovation*	Eco-design products, fleet fuel consumption, equator principles, environmental project financing, nuclear, organic products initiatives, renewable/clean energy products
B	Social	
I.	*Workforce*	Health and safety policy, training and development policy, policy skills training, policy career development, policy diversity and opportunity, OHSAS 18001, employee satisfaction, salaries and wages, net employment creation, number of employees, turnover of employees, women employees, employees with disabilities, total injury rate, accidents total, employee fatalities, lost days, average training hours, training costs, diversity and opportunity,
II.	*Human Rights*	Human rights policy, Policy freedom of association, Policy child labor, Policy forced labor

III.	*Community*	Policy fair competition, policy bribery and corruption, policy business ethics, policy community involvement, whistleblower protection, OECD guidelines, extractive industries transparency initiative, total donations, employee engagement voluntary, corporate responsibility awards
IV.	*Product responsibility*	quality management systems, ISO 9000-9001, Six sigma, Customer satisfaction
C.	Governance	
I.	*Management*	Board functions policy, corporate governance board committee, Nomination board committee, audit board committee, remuneration/compensation board committee, board structure policy, Board size, Board independence, Board diversity, Board experience, executive compensation, executive

		retention, internal audit department reporting, external consultants, audit committee independence, compensation committee independence, compensation committee nonexecutive members, remuneration committee non-executive, nomination committee independence, board attendance, number of board meetings, board meeting attendance, committee meeting attendance, board size more ten less eight, board size, board background and skills, board specific skills, average board tenure, nonexecutive board members, independent board members, board individual reelection,
II.	*Shareholders*	Shareholders rights policy, policy equal voting rights, policy shareholder engagement, state owned enterprise SOE, classified board structure, elimination of cumulative voting rights, Pre-

		emptive rights, non-audit to audit fees ratio, auditor independence rotation, insider dealing
III.	*CSR strategy*	CSR sustainability committee, Global Impact

Table A5. Samples used in the study

Country	Islamic Banks	Conventional Banks	Total
Saudi Arabia	4	7	11
Bahrain	5	3	8
Kuwait	4	5	9
Qatar	3	5	8
UAE	9	6	15
Oman	2	4	6
Total	22	35	57

Table A6. Total Banks distribution in GCC (Listed on stock exchange)

Country	Islamic Banks	Conventional Banks	Total
Saudi Arabia	4	7	11
Bahrain	5	3	8
Kuwait	4	5	9
Qatar	3	5	8
UAE	9	15	24
Oman	4	4	8
Total	29	39	68

Table A7. List of all banks in the GCC

Saudi Arabia banks list:

A. Islamic Banks:
    1. Al Rajhi Bank
    2. Bank Bilad
    3. Bank AlJazira
    4. Alinma Bank
B. Conventional banks:
    1. Arab National Bank
    2. Riyad Bank
    3. Samba Bank
    4. Banque Saudi Fransi
    5. Alawwal Bank
    6. Saudi Investment Bank
    7. National Commercial Bank

Bahrain banks list:

A. Islamic Banks
    1. Khaleeji Commercial Bank - listed
    2. Ithmaar Bank - Listed
    3. Al Salam Bank - Listed

4. Bahrain Islamic Bank – Listed
5. Ahli United Bank

B. Conventional Banks:

1. Bank of Bahrain and Kuwait (BBK)
2. Barka Bank
3. National Bank of Bahrain

Kuwait Banks list:

A. Islamic Banks:

1. Boubyan bank
2. Al Ahli United bank
3. International Bank of Kuwait
4. Kuwait Finance House

B. Conventional Banks:

1. National Bank of Kuwait
2. Gulf Bank
3. Commercial Bank of Kuwait
4. Al-Ahli Bank of Kuwait
5. Burgan Bank

Qatar Banks list:

A. Islamic Banks:

1. Qatar Islamic Bank
2. Qatar International Islamic Bank
3. Masraf Al Rayan

B. Conventional Banks

1. Qatar National bank
2. Commercial Bank of Qatar
3. Doha Bank
4. Ahli Bank
5. Al Khalij Commercial Bank

United Arab Emirates Banks list:

A. Islamic Banks:

1. Al Salam Bank
2. Emirates Islamic Bank
3. Dubai Islamic Bank
4. Ajman Bank
5. Abu Dhabi commercial bank
6. AL Salam Sudan
7. Al Baraka Banking Group
8. Abu Dhabi Islamic Bank
9. Sharjah Islamic Bank

B. Conventional Banks:

1. Commercial Bank of Dubai
2. Bank of Sharjah
3. Commercial bank international
4. Emirates NBD
5. First Abu dhabi bank
6. Investment Bank
7. Mashreqbank
8. National Bank Fujairah
9. Ras Al Khaima Bank
10. Umm Qawain Bank
11. United Arab Bank

Oman Banks List:

A. Islamic Banks:

1. Bank Muscat
2. National Bank of Oman
3. Alizz Islamic Bank (not included)
4. Bank Nizwa.

B. Conventional Banks:

1. Sohar Bank

2. HSBC Bank Oman
3. Bank Dhofar
4. Ahli Bank

Table A8. Definition of variables

Characteristic	Variable	Name	Description	Source
Profitability	Return on Assets	ROA	Net income/Total assets	Bloomberg
	Return on Equity	ROE	Net income/Common equity	Bloomberg
	Tobin's Q	TobQ	(Market value of equity + Book value of debt)/Book value of assets	Bloomberg
ESG	ESG score	ESG	No. of keywords found in annual report/total number of words	Bank websites, annual reports, governance

				reports, CSR reports.
Firm Size	Total Capital	TC	Natural logarithm of firm's total capital	Bloomberg
Financial Leverage	Debt ratio	Lev	Total book value of debt/ Total book value of assets	Bloomberg
Liquidity	Loans to Deposits	LD	Total Loans/Total deposits	Bloomberg
Macroeconomic variables	GDP growth (annual)	GDPG	(GDP current year – GDP previous year)/GDP previous year	Worldbank
	Inflation GDP deflator	Inf	Inflation as percentage of GDP	Worldbank
Firm Age	Age of the firm	Age	Natural logarithm of	Bank website.

			(2017 - date of establishment)	
Governance measure	Board Size	Boardsize	Natural logarithm of no. of board members on board.	Annual reports, Gulfbase.
Risk	Credit Risk	CR	Provision of loan loss to total loans	Bloomberg
Ownership concentration	Government ownership	Govtown	Government ownership in banks	Bloomberg
Type of bank	Islamic bank	IB	ESG* (Islamic bank – 1, Conventional bank – 0)	

Appendix (B)

Table B1. OLS regression: profitability as dependent variable

	ROA	ROE	TobQ
ESG	.4651 (.450)	2.551 (.581)	-.327* (.000)
TC	.249* (.000)	2.05* (.000)	.021* (.000)
Lev	-.2022* (.000)	-.476* (.002)	-.0099* (.000)
LD	-.0032* (.039)	-.048* (.000)	-.0007* (.000)
GDPG	.072* (.000)	.4056* (000)	.006* (.000)
Inf	.0027 (.524)	.0049 (.877)	.0004 (.433)
Age	.015 (.871)	.8171 (.249)	.0244** (.036)
Boardsize	.0558 (.810)	-1.218 (.486)	-.002 (.947)
CR	-.2258* (.000)	-1.974* (.000)	.005 (.248)
IB	-1.103*** (.086)	.4077 (.933)	-.036 (.647)
No. of observations	627	627	627
R-Squared	.3243	.2334	.1482

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA refers to return on assets (Net income/Assets), ROE is return on equity (Net income/equity), TobQ refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members, CR is credit risk (loan loss provision to total loan) and IB is the Islamic bank dummy variable.

Table B2. OLS regression: ESG as dependent variable

	ESG		
ROA	.0007 (.441)	-	-
ROE	-	-.0001 (.861)	-
TobQ	-	-	-.1045* (.000)
TC	.0023 (.313)	.0027 (.390)	.0044 (.136)
Lev	.002 (.132)	.0026*** (.052)	.0013 (.306)
LD	-.0001 (.327)	-.0001 (.351)	-.0002 (.103)
Age	.0083 (.150)	-.0093 (.160)	-.006 (.297)
Boardsize	.0384* (.000)	.067* (.000)	.0642* (.000)
Govtown	.0001 (.403)	.0001 (.438)	.0001 (.505)
IB	-.017** (.020)	-.0165** (.025)	-.0165** (.021)
No. of observations	627	627	627
R-Squared	.0523	.0515	.0883

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA refers to return on assets (Net income/Assets), ROE is return on equity (Net income/equity), TobQ refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), Age is the firm age, BoardSize is no. of board members and IB is the Islamic bank dummy variable.

Table B3. Test for heteroskedasticity

Dependent variable:	ROA	ROE	Tobin's Q
Chi-Squared	39.99	345.33	125.70
Prob>Chi-Squared	0.000	0.000	0.000

Table B4. Test for endogeneity

Independent / Dependent	ESG	TC	Lev	Liquidity	Age	Board Size	Credit Risk	GDP Growth	Inflation
ROA (p-value)	0.95	0.00	0.00	0.031	0.59	0.54	0.00	0.00	0.536
ROE (p-value)	0.64	0.00	0.00	0.00	0.51	0.68	0.00	0.00	0.90
Tobin's Q (p-value)	0.00	0.00	0.00	0.00	0.05	0.98	0.24	0.00	0.43

*A low p-value for ROA, ROE and Tobin's Q indicates the existence of endogeneity (Chmelarova, 2007).

Appendix (C)

Table C1. Determinants of profitability: Conventional banks

Dependent / Independent	ROA	ROE	TobQ
Dependent L1	.4059* (.000)	.2485* (.003)	.1695 (.144)
Dependent L2	.0793*** (.083)	.0418** (.034)	.0919 (.104)
ESG	4.032 (.190)	11.979 (.291)	-.3203 (.208)
L1	-2.579 (.219)	-17.88** (.016)	-.3949 (.171)
TC	.058 (.737)	.759 (.534)	.043* (.007)
Lev	-.0454 (.643)	1.534* (.000)	.002 (.886)
LD	-.0057 (.313)	-.043 (.147)	-.0013** (.030)
GDPG	-.0015 (.929)	-.011 (.911)	-.001 (.411)
Inf	.0096** (.035)	.0791* (.004)	.0003 (.380)
Age	.697 (.154)	4.366 (.568)	-.0745 (.270)
Boardsize	-.7085 (.461)	-8.98 (.418)	.4218* (.006)
CR	-.299 (.119)	-1.675 (.166)	.003 (.760)
AR1	-2.3284** (.0199)	-1.416 (.1568)	-.5875 (.5569)
AR2	-1.1694 (.2423)	-1.591 (.1115)	-.3874 (.6985)
Sargan test	chi2(27) = 24.981	chi2(27) = 22.78	Chi2(27) = 24.27
No. of groups	35	35	35
No. of instruments	39	39	39

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA refers to return on assets (Net income/Assets), ROE is return on equity (Net income/equity), TobQ refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members and CR is credit risk (loan loss provision to total loan).

Table C2. Determinants of profitability: Islamic Banks

Dependent / Independent	ROA	ROE	TobQ
Dependent L1	.2604 (.117)	.1388 (.309)	.149*** (.386)
Dependent L2	-.0402 (.796)	-.108 (.436)	.0232 (.884)
ESG	2.301 (.721)	-6.394 (.841)	-.0368 (.949)
L1	-4.53 (.146)	-30.474** (.018)	-.322*** (.364)
TC	.4844 (.232)	2.765 (.267)	.0512** (.017)
Lev	-.0137 (.712)	.129 (.852)	.00622** (.014)
LD	-.0028** (.020)	-.022* (.005)	-.0004 (.245)
GDPG	.0088 (.558)	.1055 (.328)	.0004 (.820)
Inf	.0077 (.240)	.032 (.488)	.0005 (.617)
Age	-.2939 (.711)	4.252 (.583)	-.0203 (.851)
Boardsize	-.1328 (.930)	-6.747 (.575)	.238 (.203)
CR	-.3736** (.049)	-3.342** (.014)	-.0042 (.660)
AR1	-2.387** (.0170)	-1.5777 (.1146)	-.2075 (.8356)
AR2	-.3355 (.7372)	-.1638 (.8699)	-1.3493 (.1772)
Sargan test	chi2(27) = 11.938	chi2(27) = 9.077	Chi2(27) = 10.153
No. of groups	22	22	22
No. of instruments	39	39	39

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA refers to return on assets (Net income/Assets), ROE is return on equity (Net income/equity), TobQ refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members and CR is credit risk (loan loss provision to total loan).

Table C3. Determinants of ESG: Conventional Banks

Dependent / Independent	ESG		
Dependent L1	.4921* (.000)	.618* (.001)	.3058* (004)
Dependent L2	.2505* (.001)	-.0847 (.736)	.0997 (.301)
ROA	.01263** (.032)	-	-
L1	-.011 (.196)		
ROE	-	.0038 (.182)	-
L1		.0001 (.938)	
TobQ	-	-	-.1156 (.185)
L1			-.1272** (.040)
TC	.0088 (.371)	-.0154 (.391)	.0049 (.661)
Lev	-.0044 (.322)	.0038 (.254)	.0005 (.871)
LD	-.00025 (.473)	-.00012 (.219)	-.0002 (.633)
Age	-.0435 (.243)	-.093 (.528)	-.0585 (.196)
BoardSize	.0938 (.216)	.1096** (.011)	.2535* (.007)
GovtOwn	-.00001 (.999)	-.0001 (.688)	.001 (.111)
AR1	-2.517*** (.0118)	-2.381** (.0173)	-2.3406** (.0193)
AR2	-1.5745 (.1154)	-1.883*** (.0597)	-1.0792 (.2805)
Sargan test	chi2(26) = 22.415	chi2(26) = 23.086	Chi2(26) = 25.458
No. of groups	35	35	35
No. of instruments	36	36	36

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA refers to return on assets (Net income/Assets), ROE is return on equity (Net income/equity), TobQ refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), Age is the firm age, BoardSize is no. of board members and Govtown is the government ownership in the firm.

Table C4. Determinants of ESG: Islamic Banks

Dependent / Independent	ESG		
Dependent L1	.582* (004)	.618* (.001)	.4942 (.179)
Dependent L2	-.0086 (.964)	-.0847 (.736)	-.0631 (.713)
ROA	.0323 (.238)	-	-
L1	-.0123 (.418)		
ROE	-	.0038 (.182)	-
L1		.0001 (.938)	
TobQ	-	-	-.04376 (.696)
L1			-.1163 (.291)
TC	-.0156 (.550)	-.0155 (.391)	.0019 (.935)
Lev	.0021 (.520)	.0038 (.254)	.0035 (.248)
LD	-.00002 (.828)	-.0001 (.219)	-.00013** (.018)
Age	-.0278(.809)	-.0293 (.528)	-.0516 (.527)
BoardSize	.1108 (.215)	.1096** (.011)	.2156 (.164)
GovtOwn	.0006 (.529)	-.0001 (.688)	-.0033 (.746)
AR1	-1.9125*** (.0558)	-1.6155 (.1062)	-1.3527 (.1761)
AR2	-.388 (.6980)	-.2032 (.8390)	-.7514 (.4524)
Sargan test	chi2(26) = 14.688	chi2(26) = 9.795	Chi2(26) = 8.714
No. of groups	22	22	22
No. of instruments	36	36	36

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

ROA refers to return on assets (Net income/Assets), ROE is return on equity (Net income/equity), TobQ refers to Tobin's Q, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), Age is the firm age, BoardSize is no. of board members and GovtOwn is the government ownership in the firm.

Table C5. Effect of ESG on other profitability measures

Dependent / Independent	Intinc	NII	Pricetobook
Dependent L1	.7912* (.000)	.4377* (.000)	.272** (.028)
Dependent L2	.0213 (.813)	.0091 (.930)	.044 (.599)
ESG	.0329 (.639)	.2083*** (.057)	.657 (.692)
L1	-.0192 (.555)	-.027 (.692)	-2.622 (.146)
TC	.0063*** (.067)	.0184*** (.081)	.342** (.046)
Lev	.00056 (.484)	-.0001 (.936)	-.0128 (.751)
LD	.0001 (.462)	.00032** (.034)	-.00052 (.777)
GDPG	.0006** (.011)	-.0003 (.542)	-.0041 (.565)
Inf	-.00007 (.424)	.0002 (.281)	.0032 (.269)
Age	-.005 (.680)	-.0057 (.793)	-.926*** (.069)
Boardsize	.033 (.216)	.0421 (.421)	.893 (.212)
CR	-.0018 (.217)	-.0058 (.352)	.0074 (.897)
IB	-.0037 (.953)	-.201 (.183)	-1.055 (.517)
AR1	-3.037* (.0024)	-2.354** (.0186)	-1.7177*** (.0858)
AR2	-.9404 (.3470)	.240 (.8100)	-1.0333 (.3015)
Sargan test	chi2(27) = 34.088	chi2(27) = 27.884	Chi2(27) = 39.769
No. of groups	57	57	57
No. of instruments	40	40	40

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

Intinc is interest income, NII is non-interest income, Pricetobook is the price to book ratio, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), GDPG is the GDP growth ((GDP current year – GDP previous year)/GDP previous year), Inf is the inflation as percentage of GDP, Age is the firm age, BoardSize is no. of board members, CR is credit risk (loan loss provision to total loan) and IB is the Islamic bank dummy variable.

Table C6. Other profitability measures' effect on ESG

Dependent / Independent	ESG		
Dependent L1	.564* (.000)	.599* (.000)	.5753* (.000)
Dependent L2	.188* (.002)	.1532*** (.070)	.1821** (.027)
Intinc	.441** (.029)		
L1	-1.02* (.001)	-	-
NII		.175 (.273)	
L1	-	-.227 (.368)	-
Pricetobook			.0126 (.469)
L1	-	-	-.0145** (.016)
TC	-.0103 (.602)	.0054 (.620)	-.0010 (.916)
Lev	-.002 (.775)	.001 (.620)	.0011 (.640)
LD	-.0001 (.179)	-.0002 (.706)	-.00004 (.504)
Age	-.0004 (.430)	-.0412 (.498)	-.0257 (.482)
BoardSize	.2534* (.005)	.0941 (.251)	.0695 (.261)
GovtOwn	.0004 (.709)	.0006 (.582)	.00042 (.336)
IB	-.1256 (.351)	-.1767 (.174)	-.0141 (.357)
AR1	-3.2114* (.0013)	-3.1026* (.0019)	-3.0565* (.0022)
AR2	-1.837*** (.0663)	-1.2913 (.1966)	-1.451 (.1468)
Sargan test	chi2(26) = 16.294	chi2(26) = 30.321	Chi2(26) = 31.8112
No. of groups	57	57	57
No. of instruments	37	37	37

*represents significance of coefficient at 1% level

** represents significance of coefficient at 5% level

***represents significance of coefficient at 10% level

Intinc is interest income, NII is non-interest income, Pricetobook is the price to book ratio, ESG is Environmental, Social & Governance Score, TC is Total Capital, Lev is financial leverage (Debt/Assets), LD is loans to deposits (total loans/total deposits), Age is the firm age, BoardSize is no. of board members, GovtOwn is the government ownership in the firm and IB is the Islamic bank dummy variable.