Corporate Risk Disclosure: A Conventional and Islamic Bank Perspective

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Abstract
Focusing on the differences between conventional and Islamic banks, this paper examines the association between the extent of risk disclosure and banks' risk governance, board structure and audit quality characteristics. Using 390 bank-year observations from 2006-2018, this paper uses content analysis to explore the extent of risk disclosure by conventional and Islamic banks. The results reveal that governance factors (e.g., risk committee, presence of a risk management unit, board independence, board size and Big4 auditor) are associated with the extent of risk disclosure more in conventional banks compared with their Islamic bank counterparts. The results support the notion that regulatory regimes for risk reporting within conventional banks emphasise risk governance characteristics and indicate a need for further improvement in an Islamic bank context. The results also support the notion that more strongly governed banks are likely to provide a higher level of risk disclosure and they provide a foundation for further research in this area. This paper adds to the limited existing literature on risk disclosure and is distinctive in examining risk governance characteristics in both conventional and Islamic banks within a developing country context where risk disclosure is effectively voluntary.
Keywords: Risk governance, Risk disclosure, International standards, Content analysis.

1. Introduction

This study focuses on the risk disclosure and governance of Islamic (hereafter, IBs) and Conventional banks (hereafter, CBs) and raises policy questions as to whether Islamic banks need to be regulated differently from their counterparts. Several differences exist between IBs and CBs, however, the most important is that IBs operate under an Islamic Shari'ah based, i.e. profit/loss sharing mode whereas CBs charge interest. Over the last few decades, Islamic banks have grown rapidly, with annual growth of 13% - 15% during 2017, a rate two to three times faster than

conventional banks (Mughal 2017). The outstanding growth of Islamic banks raises questions about whether this is an outcome of the comparative advantages of the Islamic banking paradigm (profit/loss sharing mode) compared with conventional banking. To better understand this comparatively high growth, it is important to investigate how the regulation and supervision of Islamic banking differs from that of conventional banks.

Financial and non-financial disclosures in IBs should differ from those of CBs, contingent on enforcement. In addition to prevailing country and international requirements that should be complied with by both IBs and CBs, IBs should comply with Shari'ah law[1] where they undertake that disclosures in annual reports are correct and comply with Shari'ah. Shari'ah, which is also known as Islamic law, is not against risk management; rather it is against taking an excessive risk by indulging in gambling or speculation. Accordingly, disclosing the truth is fundamental in Islam as The Quran emphasises the disclosure of fact: "And cover not Truth with falsehood, nor conceal the Truth when you know (what it is)" (Quran, Surat Al-Baqarah 2:42).

As religious-based commercial banks, it is expected that IBs' religious dimension should emerge through, for instance, sustainability reporting, employee reporting, and risk reporting (Ahmed 2009). Baydoun and Willett (2000) provide a detailed explanation of the reasons for expected differences in disclosure under Shari'ah compared with Western notions of personal accountability through corporate annual reporting. They note that disclosure policy under a Benthamite viewpoint is based on a criterion of personal accountability whereas Western disclosure policy is based on rights rather than obligations. Hence in theory, disclosures for IBs should be more extensive than those for CBs in an environment where enforcement of disclosures required under standards is lacking. Several studies examine non-financial disclosures by IBs (e.g., Belal et al. 2015; Muttakin et al. 2018; Elamer et al. 2020), however few examine financial disclosures since their generally mandatory nature means that little variability exists within samples. This study takes advantage of a research setting in which enforcement of even mandatory disclosures is lacking in order to examine the risk disclosures of IBs and CBs. Worldwide, 37 countries maintain a controlled legal and regulatory framework for Islamic banking and finance (World Database for Islamic Banking and Finance, 2018).

In Bangladesh, one of the largest Muslim majority countries in South East Asia, IBs reflect a strong financial position with future expansion possibilities (Bangladesh Bank 2013). However, its Constitution makes Bangladesh a secular state. Given this, IBs face challenges in meeting the expectations of Muslim communities. Implementation of International Financial Reporting Standards (IFRS) has not been properly monitored as the Bangladesh Securities and Exchange Commission has scant technical, personnel and logistical support resources to monitor disclosures within financial reporting (Sobhani, Amran & Zainuddin 2012; Nahar 2015). Moreover, the legal system in Bangladesh is poor in its ability to oversee corporate affairs (Belal, Cooper & Roberts 2013).

Further, Big 4 auditors, generally acknowledged to be of higher quality than non-Big 4 auditors, have a relatively weak market share since only KPMG operates under its

[1] Islamic law is based on the fundamental concepts of Islam.

name with the remainder operating indirectly through Bangladeshi affiliates (Muttakin, Khan & Mihret 2017). These circumstances make compliance with the requirements of IFRS 7 [*Financial Instruments: Disclosures*] virtually voluntary, even though Bangladesh formally adopts IFRS. Using Bangladesh as the context since it embraces both CBs and IBs, this paper examines risk disclosure practices for both types of bank. The comparatively large sample of listed banks in Bangladesh, together with the virtually voluntary nature of disclosures given the poor enforcement of international standards, favours selection of Bangladesh as an appropriate research setting for this study.

Evidence from Bangladesh indicates that IBs can survive within a CBs framework by switching from a profit and loss sharing mode to trade-related modes of financing (Sarker 1999). In addition, even for CBs, adoption of international standards for banking institutions is effectively voluntary. Unlike many other developing countries, the corporate sector in Bangladesh faces weak enforcement of international standards, along with poor legal structure (Khan, Muttakin & Siddiqui 2013) and questionable audit quality (Muttakin, Khan & Mihret 2017) given the difficulty of auditing often opaque business dealings in emerging economies (Backman 1999). A study on risk disclosure would provide meaningless results if conducted using data from a high rule of law country where enforcement of governance, accounting and prudential standards over disclosure was mandated and effectively enforced.

This paper contributes to the risk governance literature in several ways. First, previous risk disclosure studies have focused mainly on non-financial companies from developed countries (Abraham & Cox 2007; Amran, Bin & Hassan 2008; Beretta & Bozzolan 2004; Oliveira, Rodrigues & Craig 2011; Solomon et al. 2000). Some studies have examined banks (Linsley, Shrives & Crumpton 2006; Helbok & Wagner 2006; Hossain 2008; PWC 2008) but an examination of differences in risk disclosure between IBs and CBs are rare. In addition, studies using an international standards framework (such as International Financial Reporting Standards (IFRS) and Basel II: Market Discipline) and risk governance are limited in respect of developing countries. Hence, it is important to investigate whether prior findings related to risk disclosure remain valid in countries where disclosure regime and economic features are considerably dissimilar. This study explores differences in risk disclosure between CBs and IBs in a developing country where the adoption of international standards is not reliably enforced.

Second, it is of interest to investigate how risk reporting has developed over time in response to the development of new (or revised) international standards and codes of corporate governance (Ahsan, Skully & Wickramanayake 2009) in order to evaluate likely responses to future changes, for example in response to implementation of Basel III[2]. To the researchers' knowledge, no research to date has compared IBs' and CBs' risk disclosure practices in relation to those expected by international standards applicable particularly to banks. This is especially important in a developing country such as Bangladesh where foreign direct investment is important to economic growth (Bari 2013), and disclosure is important to creating a more efficient capital market (Basher, Hassan & Islam 2007).

[2] Basel III was initially scheduled to be implemented in Bangladesh from 2013 until 2015; however, the implementation process has been extended until March 2019.

Third and finally, the paper also examines risk governance characteristics in association with the disclosure of risk, an area that is important and timely. The governance structure in IBs is different from that in CBs as Shari'ah supervision plays a vital governance role in IBs, and performs as an additional layer of board governance, overseeing financial reporting and auditing (Young 2014). Thus, this study also emphasises whether the religiosity reflected in the governance structure exhibits a relationship with risk disclosure.

The remainder of the paper is organised as follows. Section 2 outlines the unique aspects of IBs in comparison with CBs. Section 3 discusses theoretical motivation and hypotheses development; section 4 presents the research design, with empirical analysis reported in section 5, and the paper concluding in section 6.

2. Overview of Shari'ah compliant banking

There are certain conditions that must be followed if a financial institution wants to be Shari'ah compliant. For example, in Shari'ah (Islamic law) contracts, uncertainty and risk (*gharar*) are not allowed based on the belief that contracts should be clearly defined without ambiguity in order to prevent the weak from being exploited. The uncertainty of suppliers' contractual obligations, (i.e., inability to deliver the subject of sale) needs to be explained clearly in the contract. However, as these financial contracts cannot be controlled fully, the contract is valid under *Istisna'a*[3] and *Bai' Salam*[4] circumstances. Shari'ah compliant institutions are prohibited from risk-taking investment decisions, for example, derivative items (i.e., futures and options) as exclusions from *gharar.* Investment decisions are based on market analysis, however, gambling, which could twist risk, is prohibited in Islam. Islam offers full freedom to make any contract with the understanding and recognition of *gharar* (Mollah, Hassan et al. 2017).

Interest (*riba)* is prohibited in Shari'ah contracts to protect the business from exploitive gains. A predetermined fixed term interest claim on assets is exercised in CBs. Therefore, the uncertainty of income is borne by stakeholders only. However, what constitutes *riba* is controversial in the Muslim community (Ilahiane 2014). In addition, theoretically, the distinctive feature that differentiates Shari'ah compliant institutions is the profit-loss sharing paradigm that allows lender and borrower to share the success or failure of their investments since it is deemed that both lender and borrower should bear the risk of the investment.

Moreover, CBs follow legal accountability constraints. However, for Shari'ah compliant institutions' legal and moral accountability practices may contrast. Finally, corporate governance mechanisms for common businesses comprise one layer (Board of Directors), whereas Shari'ah supervision plays a vital governance role in Shari'ah compliant institutions (Beck, Demirgüç-Kunt & Merrouche 2013; Mollah et al. 2017; Anwar et al. 2020)

[3] A contract of sale for specified goods to be manufactured, e.g. raw material or cost of manufacturing the goods and delivering them on completion.

[4] A contract of purchase for deferred delivery in exchange for immediate payment.

The risk associated with Islamic Banking

Islamic banks face a number of unique types of risks. It is important to identify these risks and manage them according to Shari'ah requirements and report them accordingly. Errico and Farahbakhsh (1998) noted that IBs face *operational risks* regarding their profit-loss sharing undertakings. This profit-loss sharing further leads to withdrawal risks as investment holders may prefer to withdraw their funds if IBs fail to comply with Shari'ah law (Khan & Ahmed 2001; Chapra & Ahmed 2002). Withdrawal risk tempts IBs to deviate from Shari'ah doctrines if they pay competitive returns to investment account holders (IAHs) regardless of their actual performance.

Liquidity risk is also higher in IBs as their business nature permits them to hold less liquid assets (e.g., cash equivalents) compared with CBs. Negotiable financial instruments, such as *Shari'a-compliant* instruments also could create liquidity risks if not exercised. Furthermore, liquidity risk can be exposed in IBs as they are prohibited from borrowing at short notice by discounting debt obligation receivables or using lender-of-last-resort facilities from central banks, in contrast to CBs.

IBs also face challenges in *market risks* (e.g. inability to pay a competitive return in comparison with peer group banks). Abedifar, Molyneux and Tarazi (2013) suggest that complexities of the Islamic mode of finance and the associated risks should be taken into account for effective risk management.

Regulatory context of Islamic banks

For disclosure requirements, IBs, worldwide, are guided by the AAOIFI. However, they also should adhere to domestic regulations. The following details the principles for different kinds of risk management mentioned by the IFSB:

Table 1: Principles of Credit Risk Management stated by the IFSB for Institutions Offering Islamic Financial Services (IIFS)

Number	Principles
Principle 2.1	IIFS shall have in place a strategy for financing, using various instruments in compliance with Sharī`ah, whereby it recognises the potential credit exposures that may arise at different stages of the various financing agreements
Principle 2.2:	IIFS shall carry out a due diligence review in respect of counterparties prior to deciding on the choice of an appropriate Islamic financing instrument.
Principle 2.3:	IIFS shall have in place appropriate methodologies for measuring and reporting the credit risk exposures arising under each Islamic financing instrument.
Principle 2.4:	IIFS shall have in place Sharī`ah-compliant credit risk mitigating techniques appropriate for each Islamic financing instrument.
Principles of Market Risk Management stated in IFSB	
Number	Principles
Principle 4.1	IIFS shall have in place an appropriate framework for market risk management (including reporting) in respect of all assets held, including those that do not have a ready market and/or are exposed to high price volatility
Principles of Liquidity Risk Management stated in IFSB	
Number	Principles
Principle 5.1	IIFS shall have in place a liquidity management framework (including reporting) taking into account separately and on an overall basis their liquidity exposures in respect of each category of current accounts, unrestricted and restricted investment accounts.
Principle 5.2:	IIFS shall assume liquidity risk commensurate with their ability to have sufficient recourse to Sharī`ah-compliant funds to mitigate such risk.

Source: IFSB-1 Guiding Principles of Risk Management for Institutions (other than Insurance Institutions) offering only Islamic Financial Services (December 2005)

In addition, the International Accounting Standards Board (IASB) issued IFRS 7 and BASEL II: Market Discipline to govern or to provide guidance on accounting practices and disclosure. IFRS 7 includes financial instrument disclosure requirements for all companies as it incorporates the disclosure requirements regarding financial instruments which were previously set out in International Accounting Standard (IAS)[5] 30 *(Disclosure in the Financial Statements of Banks and Similar Financial Institutions)* and IAS 32 (*Financial Instruments: Presentation*).

To develop a more resilient banking sector, the Basel Committee on Banking Supervision (BCBS)[6] provides regulatory guidelines in respect of financial institutions. Basel II: Pillar 2 provides risk management guidance concerning banking

[5] IAS is the predecessor name for IFRS.

[6] The BCBS was established in 1974 comprising representatives from Central Banks and supervisory authorities of the Group of Ten countries (Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom, United States and Luxembourg). The Committee meets at the Bank for International Settlements, Basle, Switzerland. To date, it comprises 27 countries world-wide, including Bangladesh.

institutions about interest rates, credit risks, operational risks, cross-border communication and securitisation. The aim of the second pillar in the framework is to ensure adequate capital to support all risks in the business and encourage banks to develop better monitoring techniques to manage their risks and extensive risk disclosure (Basel 2012).

Ajili and Bouri (2017) find that IBs comply to a greater extent with the disclosure requirements of IFRS than with those of AAOIFI in Gulf states and Adznan and Nelson (2015) examine compliance with the disclosure requirements of IFRS 7 for Malaysian listed companies, finding some omissions in disclosure.

Islamic Banks within the context of Bangladesh

In the context of Bangladesh, Islamic banking was executed following the signing of an agreement with the Charter of Islamic Development Bank[7] in August 1974 and the subsequent establishment of its first IB, Islami Bank Bangladesh Limited, in 1983 (the first interest-free Shari'ah-based bank in South Asia). Since then, seven listed IBs have been established with a contribution of around 25 per cent of the total banking industry in Bangladesh (Bangladesh Bank 2013).

Banks in Bangladesh, both IBs and CBs, are regulated by the central bank, Bangladesh Bank, under the *Companies Act 1994* and the *Bank Company Act 1991.* However, major issues arise from different types of banking and regulatory actions for IBs in comparison to CBs, including participation in the interbank Islamic money market, discriminatory capital reserves, the restrictive environment of the capital market, and lack of legal support (Ahmad and Hassan 2007). In November 2009, Bangladesh Bank issued BRPD Circular No 15 aiming for greater transparency, accountability and governance for IBs. The *Bank Company Act 1991* does not include any separate format for the financial statements prepared by IBs.

Moreover, the corporate governance code and principles in Bangladesh do not adequately cover risk disclosure requirements. In 2012, Bangladesh Bank issued 'Risk Management Guidelines' which provide structured recommendations for risk management. However, in the absence of mandatory requirements under the *Bank Company Act 1991,* compliance with international standards or Basel prudential standards is argued to be effectively voluntary.

Prior literature on risk disclosure

While a considerable body of literature exists on corporate disclosures, limited studies exist on IB disclosures, Ullah and Khanam (2015) being an important exception. That study focused primarily on disclosures within the financial statements rather than on governance or risk. Further, while there is literature reflecting detailed academic work on disclosures concerning corporate governance, there is limited research on corporate risk disclosures (Beasley, Clune & Hermanson 2005 and Lajili 2009). This dearth of research is even stronger in the context of IBs. Previous studies have examined risk disclosures and performance, value, and stock price decisions (Aebi, Sabato & Schmid 2012; Amran, Bin & Hassan 2008; Barakat & Hossainey 2013;

[7]To attain economic development and social progress in accordance with the principles of Islamic Shariah law, the Islamic Development Bank was established in 1975. At present the bank consists of 56 member countries, including Bangladesh.

Hoitash, Hoitash & Bedard 2009; Ntim, Lindop & Thomas, 2013). These studies show that risk disclosure is associated positively with changes in firm value and share price.

Given the importance of risk disclosure, some studies investigate the underlying determinants of risk disclosure. For example, firm size (e.g. Amran, Bin & Hassan 2008, Lopes & Rodrigues 2007), ownership structure, and independent directors (e.g. Abraham & Cox 2007, Oliveira, Rodrigues & Craig 2011) have been found to be determinants in Western settings, but it is not clear if these variables hold for other settings.

The majority of risk disclosure studies are limited to financial (including CBs) and non-financial institutions (e.g., Adams 2012; Beltratti & Stulz 2012; Erkens, Hung & Matos 2012; Fahlenbrach, Prilmeier & Stulz 2011). An appropriate question to ask is whether the findings on risk governance in the context of CBs are consistent with those for IBs, where the institutional settings and business model is different. As such, this paper extends this growing line of inquiry in that it investigates the association between risk disclosure and risk governance from both IB and CB perspectives.

Theoretical motivation and hypotheses development

As discussed in section 2, IBs are different from CBs primarily regarding their business model and investment mode. CBs focus on financial and economic aspects of business, whereas IBs focus primarily on the religious perspective. As all Islamic banks in the world follow Sharī`ah law, we can generalise that the Bangladesh Islamic bank context is representative of all Islamic banks elsewhere.

Regardless of bank type (IBs or CBs), agency conflicts exist due to the separation between management and ownership (agent-principal) and the unique governance structure in banks (Mollah et al. 2017). Thus, agency costs are anticipated to be more pronounced in banks compared with companies in other industries because of the high opacity in contractual agreements (e.g., loan portfolio), highly leveraged cost structures (e.g. for excessive risk-taking behaviour) (Mehran, Morisson & Shapiro 2011), and greater information asymmetries between insiders (managers) and outsiders (stakeholders) (Beck, Demirgüç-Kunt & Merrouche 2013).

Compared to CBs, agency costs (conflicts) are even more complex in the context of IBs. The traditional conflicts in CBs relate to the agent-principal relationship, however, IBs face additional conflicts that arise between managers and depositors (Abdelsalam et al. 2016). For instance, IBs are prohibited from charging interest and depositors' are contracted as investment account holders who share in profits-losses-risks of the investment(s) related to their deposits. An agency conflict arises since investment account holders participate in profit-loss sharing in a way similar to shareholders (Chapra & Ahmed 2002). Thus, depositors often encounter managers who have to be challenged to receive the mutually agreed proportion of profit. This triggers further agency costs to mitigate the conflicts.

Also, generally, IBs operate in an environment where the level of investor protection and ownership concentration is very low (Srairi 2013)[8]. In a weak investor protection setting, monitoring bank management is not effective, and conflicts of interest build between depositors and managers with different risk appetites (Athari et al. 2016).

A moral hazard issue occurs for IBs and investment account holders as a result of their exceptional relationship (Abedifar, Molyneux & Tarazi 2013). Additionally, if the bank does not provide relevant information, a problem of information asymmetry occurs as the agents (bank) have an information advantage. Shareholders may have limited ability to assess managerial decisions. Consequently, managers may take advantage of greater information access to increase their wealth (Foerster, Sapp & Shi 2013). Information asymmetry creates moral hazard issues and may lead to imprudent decisions from the shareholders' perspective. In the context of agency relationships, Jensen and Meckling (1976) hypothesised that if principals and agents seek to maximise their self-interest, agents become opportunistic and maximise their welfare by serving their own best interest. As a result, they do not pursue maximisation of principals' wealth. However, using a monitoring system through risk disclosure may assist to lessen the agency problem.

The disclosure of risk information can improve risk management (Jorigon 2002) and mitigate information asymmetry problems (Hill & Short 2009). If managers choose not to disclose relevant information in annual reports, the information gap results in less transparency in the annual report (Marshall & Weetman 2002) and the withheld disclosure consequence is a possible conflict of interest concerning principal and agent. This information may also affect users' perceptions and can act as a regulatory tool by providing for the information needs of an effective capital market (Barth & Landsman 2010). Extant studies by Lajili (2009) and Linsley, Shrives & Crumpton (2006) offer insights into the potential usefulness and perceived benefits and costs of disclosure. These authors assert that improved disclosure enhances corporate transparency and provides useful information for stakeholders, lowers the cost of capital, and reduces information asymmetry. However, in the absence of monitoring systems, managers may be opportunistic in manipulating or providing misleading disclosure (Latham & Jacobs 2000).

Some studies (Weaver & Agle 2002: Leventis, & owusu-Ansah 2013) argue that organisational religiosity persuades 'social norms[9]' that conquer opportunistic behaviour of bank managers and encourages adherence to strict moral constraints. However, the unprecedented losses during the Global Financial Crisis (GFC) (2007-2008) encouraged bank managers, whether in countries badly affected or not, to focus more on risk governance and disclosures after amendment or issuance of policy documents in the context of international standards (e.g. IFRS 7, Basel II: Market Discipline). Bangladesh experienced little impact from the GFC[10] (Nahar,

[8] IBs operate mainly in Muslim populated countries (e.g., Bahrain, Bangladesh, Egypt, Gambia, Indonesia, Iraq, Pakistan, Sudan, etc.), which are also emerging countries.

[9] These are external rules 'shared by a group, sustained both by sanctions and by emotions of guilt and shame, whose primary characteristic is that they enjoin followers to forgo selfish benefits in the name of group benefits' (Festre, 2010, p. 514).

[10] Bangladesh's annual GDP growth was 6.5% in 2005, 6.7% in 2006, 7.1% in 2007, 6.0% in 2008, 5.0% in 2009, 5.6% in 2010, 6.5% in 2011, 6.5% in 2012, 6.0% in 2013, 6.0% in 2014, and 6.6% in

Jubb & Azim 2016; Bangladesh Bank 2016), which strengthens the case for using Bangladesh as a research setting in a study such as this that uses longitudinal data that traverses the 2007-2008 period.

Religiosity extends the moral accountability that obliges all associated parties (shareholders, managers, depositors) to pursue the best interests of value maximisation. This requires them to achieve objectives through religious trust, justice and perfection (Beekun & Badawi 2005) and to disclose all information needed by stakeholders. Moreover, Shari'ah-compliant investment creates additional agency problems as depositors may withdraw their funds if banks fail to comply with Shari'ah rules (Safieddine 2009). Thus, we argue that IB managers practise ethical choices in assessing and reporting financial transactions. In other words, we argue that moral accountability encourages IB managers to be over confident and discourage risk reporting practices, even though Shari'ah encourages full disclosure (Baydoun & Willett, 2000). In addition, many studies that have examined compliance with disclosure requirements for IBs of both a financial and non-financial (e.g. corporate social responsibility) nature report levels of disclosure below that which might be expected (e.g., Ajili & Bouri 2017; Ullah & Khanom 2015, Haniffa & Hudaib 2007; Mnif & Tahari 2017; Kamla 2009). Accordingly, higher transparency is conjectured to exist for CBs in comparison with their Islamic counterparts. Therefore, our null hypothesise is that:

> *H_1: There is no difference in risk governance structure between the extents of risk disclosure in CBs compared with that for IBs.*

The corporate governance literature emphasises board structure as an important governance mechanism, as the board can influence managers' risk choices using their monitoring and advisory functions (Adams 2012). However, the studies in corporate governance in relation to the impact of board size and financial performances provide inconclusive results - with some finding larger boards are effective (e.g., Beltratti & Stulz 2012, Aebi, Sabato & Schmid 2012), while others support the efficacy of smaller board size (e.g. Adams & Mehran 2012, Khanchel 2007). Yermack (1996) argues that larger boards increase agency costs as they may lack cohesiveness. Contrary to this, larger boards are also viewed as a key governance mechanism to reduce agency costs by aligning interests between corporate insiders and outsiders (Elshandidy & Neri 2015).

In addition to board size, empirical evidence (Adams & Mehran 2012, Aebi, Sabato & Schmid 2012) is inconclusive about the association between independent boards and financial outcomes. However, agency theory posits that the presence of independent directors is viewed as an important corporate structure as independent directors can mitigate agency conflicts between managers (Linsley & Shrives 2006) and shareholders, as well as create value for stakeholders (Amran, Bin & Hassan 2008). Independent directors have less involvement in day-to-day internal business than inside directors and are not biased by internal management (Lim, Matolscsy & Chow 2007). Further, independent directors are generally encouraging of greater transparency as by doing so they may improve their reputations (Oliveira, Rodrigues

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2015, 7.11% in 2016, 7.86% in 2017 and 7.35% in 2018 (World Bank Data Bank World Development Indicators.
(http://databank.worldbank.org/data/reports.aspx?Code=NY.GDP.MKTP.KD.ZG&id=1ff4a498&report_name=Popular-Indicators&populartype=series&ispopular=y).

& Craig 2011). Despite the well-known governance literature in the context of CBs, there is a lack of research about governance and risk disclosure in IBs.

As discussed in section 2, IBs differ from CBs through the obligation imposed by a religious perspective. Thus, the operational and governance mechanisms of IBs are dissimilar to those for CBs (Beck, Demirgüç-Kunt & Merrouche 2013; Mollah et al. 2017). However, Beck, Demirgüç-Kunt and Merrouche (2013), Bourkhis and Nabi (2013) found no significant differences in business orientation between IBs and CBs. Further, Abedifar, Molyneux and Tarazi (2013) provide evidence that IBs face extra risks due to the complexity of their business model and also face limitations in funding and risk management activities. Beck, Demirgüç-Kunt and Merrouche (2013); Mollah et al. (2017) provide evidence that Shari'ah supervision acts in a vital governance role in IBs. Shari'ah supervision is meant to ensure social justice in IBs in compliance with the principles of the religious verdict that bring confidence to the financial markets to achieve reliability through Islamic finance operations. However, agency problems arise in IBs when the Islamic products do not conform to Shari'ah principles (e.g., profit-sharing contracts). IBs can reduce moral hazard and adverse selection through the monitoring by managers and depositors that comes from mutual respect, religious values and trust. CBs, conversely, increase this monitoring by instigating strong governance mechanisms. This leads to the next null hypothesis:

> *H_2: There is no difference in board structure between the extents of risk disclosure in CBs compared with that for IBs.*

Choice in procuring external audit quality is another aspect of governance. The audit committee in IBs safeguards the interests of stakeholders without bias and oversees the process of identification and management of risk. Theoretically just like auditors, Shari'ah supervision confirms for IBs whether the Islamic products, policies and operations conform with Shari'ah. However, previous studies (e.g., Aebi, Sabato & Schmid 2012, and Elshandidy & Neri 2015, among others) find that engaging a reputed audit firm is a significant element in explaining the extent of voluntary disclosure by increasing stakeholders' confidence in the annual report. Also, the existence of a higher percentage of independent directors on the audit committee offers more effective monitoring of risk management (Fraser & Henry 2007), which helps ensure transparency and accountability. Also, independent directors on the audit committee help ensure the effectiveness and reliability of audit committees (Turley & Zaman 2004), which increases managerial ability. However, the Shari'ah advisor in IBs to some extent undertakes a role that resembles some elements of both internal (e.g., through evaluating and advising financial institutions and external corporate auditors) and external (e.g., as regulatory bodies, depositors and shareholders rely on their opinion) auditors. Also the market for audit services in Bangladesh in terms of larger and industry specialist auditors providing higher quality, similar to elsewhere despite Big4 firms needing to affiliate with local audit firms (Kabir, Sharma, et al., 2011; Muttakin, Khan & Mihret 2017). This leads to the next null hypothesis:

> *H_3: There is no difference in the quality of audit between CBs extent of risk disclosure compared with that for IBs.*

3. Research Design

Sample and data

The sample is based on all 30 listed banks on the Dhaka Stock Exchange (DSE) for the period 2006-2018 and consists of 390 bank-year observations for seven IBs and

23 CBs in each of the thirteen years. The annual reports are not available from a single source; different sources such as (i) the Dhaka Stock Exchange (DSE), (ii) the head offices of sample banks, and (iii) the Securities and Exchange Commission of Bangladesh, are used to collect reports. Data hand collected from all sample banks' annual reports over the ten period are used for testing the hypotheses. The annual reports from 2006-2008 are mostly collected using site visits. However 2009-2018 reports were mostly available from sample banks' websites. Table 2 describes the sample of the study.

Table 2: Sample selection

	Observation	No of Banks
IBs		**7**
CBs		**23**
Total		30
Annual reports collected from website (2009-2018)	278	
Annual reports collected from other sources (Dhaka Stock exchange, The head office of sample banks and Securities and Exchange Commission library, 2006-2008)	112	
Final sample		390

Method of analysis

In determining the extent of risk disclosure in listed banks, this study uses a content analysis approach; a technique involving observing and analysing documents, such as annual reports. Content analysis is a widely used method of assessing disclosure in prior studies (i.e. Haniffa & Cooke 2002; Amran 2006). The content analysis method captures valid interpretation from the text (Weber 1990). For this study, the content analysis approach was chosen as this study focuses on the extent and nature of risk disclosure in banks' annual reports. This approach is conducted using a Risk Disclosure Index checklist.

Nahar, Jubb and Azim's (2015) Risk Disclosure Index is adopted for this study, as that Index is constructed based on international standards (IFRS 7 Financial Instruments: Disclosures and Basel II: Market Discipline) and previous literature. This Index is extensive and includes a range of risk disclosure items, including market, credit, operational, liquidity and equities risks (139 items in total). The reliability of the coded output is ensured through t-tests of differences in mean disclosure scores generated by the first-named researcher and an individual expert coder for ten sets of annual reports. The outcomes from both coders are compared to ascertain whether any significant differences exist between the two scores. The results revealed no significant differences (t-tests results not shown for brevity).

Models

We use the following model to test our hypotheses.

$$RDI_{it} = \alpha_0 + \alpha_1 IBs_{it} + \beta_1 RC_{it} + \beta_2 RMU_{it} + \beta_3 IND_{it} + \beta_3 LnBS_{it} + \beta_3 Big4_{it} + \beta_3 ACI_{it} + y\, X_{it} + \varepsilon_{it}$$

Where, the dependent variable: the Risk Disclosure Index is the proxy for risk disclosure score of banks *i* at time *t*. The description is variables are elaborated in Table 3.

Table 3: Explanation of definitions and operationalisation of variables for bank *i* at time *t*

Variables	Definition
Dependent	
RDI_{it}	Risk Disclosure Index score for bank *i* in year *t*
Independent	
RC_{it}	Number of risk committees for bank *i* in year *t*
RMU_{it}	Dummy variable coded 1 for the presence of a dedicated risk management unit *RMU* within the bank and '0' otherwise
IND_{it}	The proportion of independent directors on the board
$LnBS_{it}$	Log of board size measured as the number of directors on the board
$Big4_{it}$	The auditor is a Big4 firm, coded 1 if yes, otherwise 0
ACI_{it}	The proportion of independent directors on the audit committee
IBs	Dummy variable coded 1 for the presence of an IB, 0 otherwise
Control	
DE_{it}	Debt to equity ratio
$LnTA_{it}$	Bank size measured using the natural logarithm of total assets
ROE_{it}	The bank's net profit divided by total equity

5. Empirical Analysis

5.1 Descriptive Statistics

This section presents descriptive statistics for the full sample (390 bank-year observations) and sub-samples (CBs and IBs) in Table 4. We also present two sample t-tests of difference and Chi-Square tests for dichotomous variables are presented in Table 4. Concerning the dependent variable, Table 4 reveals that for the IB (CB, full) sample the average Risk Disclosure Index score is 42 per cent (61 per cent, 51 per cent) across the period (2006-2018). The test of difference reveals a weakly significant (at $p<0.10$ level) difference about risk disclosure between IBs and CBs.

Table 4: Descriptive Statistics

	Full sample (N=390)		CBs (N=299)				IBs (N=91)				t-test
Variables	mean	sd	mean	sd	min	max	mean	sd	min	max	
RDI	0.51	0.19	0.61	0.17	0.20	0.87	0.42	0.18	0.83	0.19	0.13*
RC	1.39	1.37	1.56	1.45	0.00	6.00	1.22	0.00	3.00	0.91	2.16*
IND	0.04	0.04	0.05	0.04	0.00	0.25	0.03	0.00	0.20	0.04	0.02
BS	13.86	4.40	14.62	4.14	6.00	23.00	13.10	5.00	23.00	5.07	3.36*
ACI	0.13	0.14	0.16	0.14	0.00	0.33	0.10	0.00	0.33	0.13	0.06
DE	0.10	0.14	0.14	0.09	0.13	0.71	0.06	1.43	0.21	0.22	0.05
LnTA	84.18	82.27	82.88	70.90	15.00	824.00	85.45	15.00	502.00	112.64	5.26
ROE	0.10	.26	.11	0.15	-2.25	1.05	.09	0.14	-1.27	1.55	0.33
RMU	56.5		62.1				51.0				
Big4	74.7		82.2				67.3				

This Table presents the descriptive statistics for the variables for the full sample and sub-samples (conventional and Islamic banks) used in the model. All variable definitions are presented in Table 3

With respect to independent variables, the number of risk committees for the IBs (CBs, full) is 1.22 (1.56, 1.39) (weakly significant (at p<.10 difference between IBs and CBs), proportion of independent board members is 0.03 per cent (0.05 per cent, 0.04 per cent), log of board size is 13.10 (14.62, 13.86) (weakly significant (at p<.10 difference between IBs and CBs), proportion of independent audit committee members is 0.10 per cent (0.16 per cent, 0.13 per cent). Table 4 further reveals that the number of risk committees and board size is weakly significantly (at p<0.10 level) different between the two types of banks. The proportion of banks with a risk management unit for IBs (CBs, full) sample is 51 per cent (62 per cent, 56.5 per cent), and with a Big4 auditor is 67.3 per cent (82.2 per cent, 74.75 per cent). The means for control variables for the IBs (CBs, full) are debt to equity 0.06 (0.14, 0.10), log of total assets 85.45 (82.88, 84.18) and return on equity 0.09 (0.11, 0.10).

Multicollinearity as a statistical problem is one of the potential issues in multivariate analysis. Multicollinearity occurs when there are high correlations between the independent variables, and it can create misleading results. The Pearson product-moment correlation coefficients are calculated to test the correlations between the dependent variable (Risk Disclosure Index) and between the predictors (RC, RMU, IND, LnBS, Big4, ACI, DE, LnTA, ROE), transformed as appropriate. The correlation coefficients remain at less than 0.56 (not shown for brevity) for the independent variables in the model. Correlation coefficients between independent variables of 0.7and above are often the benchmark for multicollinearity concerns (Tabachnik & Fidell 2001). Therefore, the model shows no indication of an unacceptable level of multicollinearity issues.

5.2 Regression Results

Table 5 presents the regression results examining the association of risk governance, board structure and audit quality on risk disclosure. The regression specification reported in column 1 includes hypothesis and control variables included

in this paper. Additionally, column 2 takes account of IBs as a control variable with other hypothesis and control variables. Each column shows the results for the full period in Table 5. The adjusted coefficient of determination (adjusted R^2) indicates that the chosen parameters are good estimators of the variation of the risk disclosure and the models are highly significant (at $p<0.01$ level).

Table 5: Risk governance, board structure, and audit quality on risk disclosure for 2006-2018

Variables	**(1)**	**(2)**
Constant	0.113	1.913***
	(1.452)	(3.650)
RC	0.630**	0.554
	(1.993)	(1.501)
RMU	0.102**	0.035**
	(1.841)	(1.661)
IND	0.116**	0.013
	(1.954)	(1.641)
LnBS	0.067**	0.027*
	(1.816)	(1.532)
Big4	0.079***	0.085***
	(3.451)	(3.553)
ACI	0.135	0.135
	(1.387)	(0.516)
Big4*ACI	0.079**	0.085**
	(1.691)	(1.653)
DE	0.048	0.050
	(0.502)	(0.983)
LnTA	0.078***	0.067***
	(3.015)	(2.721)
ROE	0.024*	0.173*
	(1.643)	(1.815)
IBs	-	0.162***
		(3.004)
Year Dummies	Yes	Yes
R-squared	0.585	0.593
Adj. R-squared	0.553	0.551
F-Stat.	27***	27***
White Stat.(p-value)	0.145	0.114
No. of Observations	300	300
Highest VIF	1.46	1.96

This Table presents the results of risk governance, board structure and audit quality of samples banks on risk disclosure for all period used in equation 1. See Table 3 for variables definition. Big4*ACI is interaction variable. t-statistics are reported in brackets. ***,** and * denote the level of significance at 1%, 5% and 10% level

With respect to H_1, we find that the risk governance variables are positively related to risk disclosure for the full period (see column 1: Table 5). We find that the coefficients of the relationship between risk governance variables (RC , RMU) and risk disclosure are positive and statistically significant suggesting that the existence of a risk committee enhances risk disclosure. The regression result is consistent with the theoretical framework discussed in the early section (section 3) in this study that supports agency tenets. The findings support the notion that higher numbers of risk committees more robustly monitor the risk management process with appropriate skill and resources, closely assess the risk profile of banks and increase communication with stakeholders about risks. Therefore, risk committees assist to reduce information asymmetry, increase transparency and lessen the conflicts of interest between agents and principals (managers and shareholders). The findings in this study are consistent with Aebi, Sabato, and Schmid (2012) which find risk committee assist monitoring to have control over corporate governance and risk management. In addition, the results show that the significance of risk committees is evidenced more in CBs compared to IBs about the extent of risk disclosure. This may be because risk committees are more established in CBs to conform to regulatory requirements or that risk committee are limited in IBs due to the nature of their business.

Another risk governance variable included in this study is the presence of a risk management unit (RMU). This variable has a positive and significant association with risk disclosure for both CBS and IBs. This finding suggests that the presence of a dedicated risk management unit with the expertise and knowledge to assess risk objectively, compatible with advisory risk management techniques, can assist in achieving greater transparency about the risk profile. This is consistent with previous studies (Hassan & Halbouni 2013; Aebi, Sabato, & Schmid 2012) which find that managerial actions are aligned with performance.

Table 5 also reports that the board structure variables (board independence and board size) have a positive (for both CBs and IBs) and significant (with CBs) association with risk disclosure lead to rejecting the null hypothesis H_2 that there is no difference in board structure between the extents of risk disclosure in CBs compared with that for IBs. This finding is consistent with previous studies (Aebi, Sabato & Schmid 2012; Baek, Johnson & Kim 2009; Cheng & Courtenay 2006) the result reports that board independence (BI) is a significant predictor for risk disclosure. A higher percentage of independent board members mitigates the conflicts of interests between the agents by increasing transparency and thus seem to influence risk disclosure positively. In addition, consistent with previous findings (Beretta & Bozzolan 2004; Elshandidy & Neri 2015), the large board can share knowledge effectively, monitor and assess risk management process that may help to disclose risk information. However, the level of significance differed and observed the stronger contribution in CBs compared to their counterparts (IBs). This could be due to IBs exercise Shari'ah board on the top of the board of directors, or Shari'ya supervision power might be more active rather than a board of directors (Pathan and Faff 2013).

Audit quality variables (Big4 and ACI) are positive and significant (Big4 for both IBs and CBs at $p<0.01$ level) and the interaction between Big4 and ACI has a significant (at $p<0.05$ level) relationship with risk disclosure. These results failed to support our

null hypothesis H_3 that there is no difference in the quality of audit between CBs extent of risk disclosure compared with that for *IBs.* This finding is consistent with prior studies (e.g. Fraser & Henry 2007; Elshandidy & Neri 2015). Regarding control variables, bank size (BS) and return on equity (ROE) have a significant positive effect on risk disclosure. In line with prior studies (e.g. Linsley, Shrives & Crumpton 2006; Lopes & Rodrigues 2007), this study also provides evidence that larger sized and more profitable banks are likely to provide more risk disclosure and integrate information to reduce agency costs.

5.3 Robustness checks

To ascertain the robustness of the findings emerging from the main regression model, additional analyses are conducted. First, regression models are re-examined after classifying banks into strong and weak governance groups. Hoitash, Hoitash and Bedard (2009) suggest using an independent board as an indicator of strong governance. In addition to board independence, the number of risk committee also represents an indicator of risk governance. Thus, sample banks are classified into strongly governed banks for which the proportion of the independent directors and number of risk committees (separately) exceeds the median, while the weakly governed group consists of banks with lower than the median for these variables. Table 6 provides evidence that the proportion of independent directors on the board- as an indicator for strongly (weakly) governed banks (Panel A) and the number of risk committees as an indicator for strongly (weakly) governed banks (Panel B). Overall, Panels A and B indicate that strongly governed banks are likely to provide more risk disclosure and the hypotheses variables are significant mostly in strongly governed banks. The interaction variable between board independence and risk committees is also positive and associated significantly with strongly governed banks. Risk disclosure is highly influenced by risk governance (RC, RMU), board structure (board independence and board size) and audit quality (Big4) factors for strongly governed banks. Big4 and bank size are the main indicators for weakly governed banks.

Table 6: Strongly and weakly governed banks (Independent Board and Risk Committee)

	Panel A				Panel B			
	Strongly governed		Weakly governed		Strongly governed		Weakly governed	
Variables	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Constant	0.211	1.313	0.212	1.813***	0.214	1.413***	0.213	1.411
	(1.561)	(2.410)	(1. 751)	(3.350)	(1.414)	(2.240)	(1.412)	(0.410)
RC	0.510**	0.464	0.651**	0.652	0.641**	0.421	0.431**	0.452
	(1.901)	(1.612)	(1.972)	(1.421)	(1.795)	(1.411)	(1.872)	(1.414)
RMU	0.412**	0.125**	0.142*	0.445*	0.176**	0.233**	0.181*	0.134*
	(1.942)	(1.962)	(1.745)	(1.543)	(1.921)	(1.561)	(1.531)	(1.511)
IND	0.217**	0.412	0.147**	0.215	0.189**	0.423	0.175**	0.212
	(1.755)	(1.421)	(1.915)	(0.423)	(1.855)	(1.441)	(1.822)	(1.442)
LnBS	0.177**	0.128*	0.168**	0.648*	0.188**	0.125*	0.174*	0.125
	(1.776)	(1.623)	(1.919)	(1.764)	(1.911)	(1.521)	(1.515)	(1.441)
Big4	0.479***	0.175***	0.159***	0.194***	0.871***	0.481***	0.174***	0.181**
	(2.581)	(3.852)	(2.355)	(2.583)	(3.821)	(3.652)	(2.214)	(1.953)
ACI	0.325	0.172	0.174	0.534	0.745	0.141	0.152	0.144
	(1.797)	(0.417)	(1.684)	(0.414)	(1.711)	(0.317)	(1.487)	(0.417)
IND*RC	0.432**	0.101*	0.142*	0.445**	0.176*	0.233**	0.181**	0.134*
	(1.912)	(1.552)	(1.665)	(1.663)	(1.661)	(1.561)	(1.671)	(1.421)
DE	0.738	0.151	1.524	0.151	0.147	0.014	0.457	0.451
	(0.372)	(0.823)	(0.512)	(0.584)	(0.541)	(0.882)	(0.318)	(0.482)
LnTA	0.087***	0.464***	0.054***	0.164**	0.145*	0.164*	0.174**	0.164*
	(3.414)	(2.744)	(2.054)	(1.904)	(1.611)	(1.644)	(1.911)	(1.631)
ROE	0.142*	0.142*	0.125*	0.183*	0.422	0.572	0.122*	0.147
	(1.575)	(1.711)	(1.246)	(1.712)	(0.263)	(0.712)	(1.631)	(1.412)

CBs	-	0.054*** (3.071)	-	0.169** (1.914)	-	0.124** (1.912)	-	0.051* (1.501)
Year Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.512	0.473	0.514	0.473	0.522	0.514	0.521	0.512
Adj. R-squared	0.473	0.411	0.441	0.431	0.454	0.451	0.493	0.491
F-Stat.	22***	21***	18***	17***	27***	27***	27***	27***
White Stat.(p-value)	0.155	0.134	0.142	0.123	0.133	0.114	0.151	0.125
No. of Observations	390	390	390	390	390	390	390	390
Highest VIF	1.62	1.72	1.63	1.86	1.53	1.76	1.46	1.56
F-tests (CBs and IBs)	14.22 (0.000)		12.19 (0.000)		13.15 (0.000)		16.24 (0.000)	
F-tests (strongly and weakly governed banks)	13.21 (0.000)	-	11.36 (0.000)	-	12.27 (0.000)	-	10.24 (0.000)	-

ThisTable presents the results of regressing Risk Governance, Board Structure and Audit Quality for sample banks on Risk Disclosure Index, with a distinction between strongly and weakly governed banks for all periods. Independent board (Column 1) and Risk Committee (Column 2) are indicators for strongly and weakly governed banks. RDI_{it}=Risk Disclosure Index score for bank *i*in year *t,* RC_{it}=Number of risk committees for bank *i* in year *t,* RMU_{it}=Dummy variable '1' for the presence of a dedicated risk management unit *RMU* within the bank and '0' otherwise, IND_{it}=The proportion of independent directors on the board, $LnBS_{it}$=Log of

board size measured as the number of directors on the board, $Big4_{it}$=Auditor is a Big4 firm, coded 1 if yes, otherwise 0, ACI_{it}=The proportion of independent directors on the audit committee, DE_{it}=Debt to equity ratio, $LnTA_{it}$=Bank size measured using the natural logarithm of total assets, ROE_{it} =Bank's net profit divided by total equity, CB=Conventional bank indicator (coded 1 if yes, otherwise 0). All variable definitions are as described in Table 3. IND*RC is an interaction variable. t-statistics are reported in brackets. ***,** and * denote the level of significance at 1%, 5% and 10% levels respectively.

Additionally, Table 6 shows F tests for i) CBs and IBs in strongly and weakly governed banks; ii) CBs and IBs strongly (weakly) governed which suggests the differences between coefficients for the two groups (strong and weak governed) of banks differ significantly. To conclude, the differences between strongly and weakly governed banks, as shown in Table 6, appear to be driven in strongly governed banks and, more specifically, the level of significance is higher for CBs.

Second, to observe how the hypothesis variables behave under conditions of high and low-risk disclosure, the full sample is further partitioned into risk disclosure groups (High and Low-risk disclosure) depending on whether the Risk Disclosure Index exceeds (or is less than) the median score. The results evidence that the hypothesis variables (RC, RMU, IND, LnBS, Big4 and ACI) are mainly significant for the High-risk disclosure group rather than the Low-risk disclosure group. RC, Big4 and bank size are identical for the Low-risk disclosure group. The F-tests also suggest that the coefficients reported in Panels A and B in Table 6 differ significantly (at $p<0.05$ level). Finally, to extend the investigation, lagged analysis (Hoitash, Hoitash & Bedard 2009) is conducted by regressing the current year Risk Disclosure Index score on the previous year's risk governance, board structure and audit quality variables included in this study. The results are similar to the prior findings. The results from analysis of the High and Low-risk disclosure groups and lagged analyses are omitted for brevity.

Third, it is argued in prior studies (e.g. Aebi, Sabato & Schmid 2012; Mollah et al. 2015) that endogeneity is a common issue arising from simultaneity bias (if any) in the corporate governance literature. To eliminate the endogeneity problem, this paper follows prior studies (Dhaliwal et al. 2011; Ntim, Lindop and Thomas 2013) and examines the number of risk committees and the presence of a risk management unit based on the existing literature on risk governance (e.g. Aebi, Sabato & Schmid 2012; Nahar, Jubb and Azim 2015). by developing and running the following regression models using 3SLS.

$$RDI_{it} = \alpha_0 + \beta_1 IBs_{it} + \beta_2 RC_{it} + \beta_3 RMU_{it} + \beta_4 IND_{it} + \beta_5 LnBS_{it} + \beta_6 Big4_{it} \beta_3 ACI_{it} + y X_{it+} + \varepsilon_i \quad (2)$$

$$RC_{it} = \beta_0 + \beta_1 IBs_{it} + \beta_2 RMU_{it} + \beta_3 IND_{it} + \beta_4 LnBS_{it} + \beta_5 Big4_{it} + \beta_6 ACI_{it} + y X_{it+} + \varepsilon_{it} \quad (3)$$

$$RMU_{it} = \beta_0 + \beta_1 IBs_{it} + \beta_2 RC_{it} + \beta_3 IND_{it} + \beta_4 LnBS_{it} + \beta_5 Big4_{it} + \beta_6 ACI_{it} + y X_{it+} + \varepsilon_{it} \quad (4)$$

The variables definition in Model 2-4 are similar to described in Table 6. In this paper, we use both 2SLS and 3SLS. Three-stage least squares estimates are obtained by estimating a set of limier or nonlinear equations with cross-equation constraints imposed, but with a diagonal covariance matrix of the disturbances across equations. This is the constrained two-stage least squares estimator. The parameter estimates thus obtained are used to form a consistent estimate of the covariance matrix of the disturbances, which is then used as a weighting matrix when the model is re-estimated to obtain new values of the parameters. The justification of using 3SLS model is that they are useful if there is any kind of cross-correlations in the residuals of the equations, and should result in better efficiency than 2SLS.

Interestingly, the results from 3SLS are similar to those obtained from 2SLS. Therefore, only the 3SLS results are reported in Table 7.

Table 7: 3SLS model- Risk governance, board structure and audit quality (2006-2018)

	Panel A					
VARIABLES	RDI	RC	RMU	RDI	RC	RMU
Constant	0.307**	0.164	0.311**	0.208**	0.074	0.161*
	1.670	0.142	1.691	1.713	0.425	1.623
RC	2.892***		2.689*	2.366***		1.533*
	(2.598)		(1.643)	(2.596)		(1.641)
RMU	0.337**	0.028*		0.422**	0.129*	
	(1.661)	(1.641)		(1.415)	(1.630)	
IND	0.164*	0.251*	0.952*	0.484*	0.234*	0.874*
	(1.596)	(1.561)	(1.632)	(1.680)	(1.596)	(1.531)
LnBS	0.164*	0.145*	0.127*	0.604*	0.234*	0.178*
	(1.581)	(1.583)	(1.633)	(1.591)	(1.496)	(1.591)
Big4	0.337*	0.358*	0.369*	0.370**	0.657*	0.263*
	(1.596)	(1.697)	(1.515)	(1.567)	(1.699)	(1.634)
ACI	0.640	0.451	0.338	0.943*	0.358	0.363
	(0.096)	(0.195)	(0.182)	(1.608)	(0.295)	(0.981)
IND*RC	1.537**			1.569**		
	(1.960)			(1.560)		
DE	0.052			0.452		
	(0.680)			(0.584)		
LnTA	1.337**			1.341**		
	(1.720)			(1.620)		
ROE	0.153			0.163		
	(0.182)			(0.681)		
CBs	0.251			0.263***	0.317**	2.252
	(1.231)			(2.961)	(1.72)	(1.971)
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	390	390	390	390	390	390

RDI_{it}=Risk Disclosure Index score for bank *i*n year *t,* RC_{it}=Number of risk committees for bank *i* in year *t,* RMU_{it}=Dummy variable '1' for the presence of a dedicated risk management unit *RMU* within the bank and '0' otherwise, IND_{it}=The proportion of independent directors on the board, $LnBS_{it}$=Log of board size measured as the number of directors on the board, $Big4_{it}$=Auditor is a Big4 firm, coded 1 if yes, otherwise 0, ACI_{it}=The proportion of independent directors on the audit committee, DE_{it}=Debt to equity ratio, $LnTA_{it}$=Bank size measured using the natural logarithm of total assets, ROE_{it} =Bank's net profit divided by total equity, CB=Conventional bank indicator (coded 1 if yes, otherwise 0), IND*RC is an interaction variable. t-statistics are reported in brackets. ***,** and * denote the level of significance at 1%, 5% and 10% respectively.

Overall, after controlling endogeneity using 3SLS, the influence of risk governance is significant, with the number of risk committees significant and positive at p<.01 in both Panels and the presence of a risk management unit significant and positive at p<.05 in both Panels. Board structure is also important, with the interaction between the number of risk committees and the proportion of independent board members

significant and positive at p<.05 in both Panels. Audit quality varies in significance between Panels A and B, with the presence of a Big4 affiliated auditor weakly significant and positive at p<0.10 in Panel A and significant and positive at p<.05 in Panel B. Audit committee independence is weakly significant only in Panel B where an indicator for conventional banks is included. Of the control variables, bank size is significant (p<.05). Importantly, the indicator for CBs is positive and highly significant (p<.01) in Panel B, indicating that these banks are associated with the Risk Disclosure Index to a greater extent than IBs.

To avoid selection bias in a setting like this, it is recommended to use *Propensity Score Matching* (PSM) approach to have two similar groups treatment and control group. However, for a country like Bangladesh, where there are not many banks active in the economy – this might not have any difference on the results.

4. Conclusion

This study explains the differences between conventional and Islamic banking regarding underlying risk governance, board structure and audit quality practices. Relying on a theoretical framework using agency theory, the expected relationships between risk governance and risk disclosure contingent on the type of bank (conventional or Islamic) are examined. Further, it extends our knowledge and goes one-step further by undertaking an empirical investigation of corporate risk disclosure practices for both Islamic and conventional banks in an effectively voluntary environment. Using content analysis of corporate annual reports, it examines banks' risk governance characteristics in association with risk disclosure practices within an Islamic and conventional banking context. In particular, the focus of this study is on exploring the differences of risk governance, board structure and audit quality on the extent of risk disclosure between CBs and IBs.

The empirical findings contribute to the literature on international disclosure and governance by examining both in a developing country context where compliance with international standards and guidelines is not enforced and therefore is virtually voluntary. This study is motivated by the dearth of research examining the extent of risk disclosure in CBs compare to IBs and the association of such disclosure with risk governance mechanisms. Thus, this paper makes a significant contribution as the study is based on the assumption that IBs that follow Islamic Shari'ah law might record different levels of corporate risk disclosure compared with CBs. The study fills a gap in the existing literature by testing this issue empirically.

The findings reveal that disclosure of risk by IBs is lower than that for CBs, despite Shari'ah law principles encouraging full disclosure to ensure the vulnerable or not left weakened. This result is consistent with Haniffa and Hudaib (2007), who find only one in seven IBs in Malaysia score above average on an 'ethical identity index', with disclosure comprising one of the categories of departure. It is also consistent with Ajili and Bouri (2017) who find IBs comply more with IFRS than with AAOIFI guidelines.

This result is consistent with that of Hayat and Hassan (2017), who find that Shari'ah compliant S&P Fortune 500 companies do not have significantly different corporate governance than non-Shari'ah compliant companies, despite lower leverage

potentially signifying substituted other governance mechanisms. Mnif Sellami and Tahari (2017) find that audit committees enhance compliance with AAOIFI amongst IBs. However, audit committee independence is not significant in this study.

These findings have several implications for CBs, IBs, regulators and other stakeholders. An implication of the finding for banks (CBs and IBs) and regulators is to consider the need to ensure risk governance mechanisms are present as these have a positive association with risk disclosure. However, the findings signal that IBs need further improvement in risk governance features. This is important for regulators and policymakers in an environment where corporate governance mechanisms are poorly exercised.

The results from this study enrich the corporate governance literature in a holistic way by considering agency tenets. While the study sample is limited to a single country, future studies can adopt a cross-country context to extend the issues explored in this study. Further research can contribute to better knowledge of risk governance in financial institutions.

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