DETERMINANTS OF RISK DISCLOSURE IN COMMERCIAL BANKS OF SRI LANKA

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Abstract

The purpose of the study is to investigate the determinants of risk disclosures in commercial banks in Sri Lanka. The theoretical framework is developed based on agency theory and the creation of a risk disclosure index (RDI) based on International Financial Reporting Standard (IFRS) 7, Basel II: market discipline and prior literature. Data was collected from annual reports of 10 commercial banks and interim financial statement from Colombo Stock Exchange over the period of 2007-2016 total of 92 annual reports were considered for analysis. The findings reveal that implementation of IFRS 7 and Basel II: market discipline standards raised the extent of risk disclosure in market, credit, liquidity and operational risks associated with commercial bank of Sri Lanka. The effect can be attributed to regulatory requirement executed by central bank of Sri Lanka. The study also found that determinants of disclosure vary across types of risk, bank size, the number of risk committees and board size. The existence of an integrated risk management committee has a significant impact on all types of risk disclosures. Further, findings show that there is no significant impact of leverage on risk disclosure of commercial bank in Sri Lanka. These findings will help regulatory agencies in Sri Lanka and elsewhere in monitoring banking institutions by identifying the impact of standards. Both existing and potential clients of banks can use these findings in strategically choosing their preferred bank of interest.

Keywords: Annual Report, Risk Disclosure, Agency Theory, Risk Management

Introduction

In this age of globalization with the rapidly changing business environment, firms are automatically placed into a more vulnerable position to risks. As this affects to all operations and decision making process of business firms, banks as well as stakeholders, disclosure of risk become more important part. The global financial crisis in year 2007/2008 also created significant concerns about risk disclosures by financial institutions. Introduction of IFRS 7 by International Accounting Standards Board adds to the quality of risk disclosure practices to be exercised by all preparers of financial statements. It is expected to provide existing and potential investors the opportunity to better evaluate risk exposures of entities holding material financial assets and liabilities. Basel II simultaneously introduced a regulatory framework for risk disclosure and shifted the regulatory focus from top-down to bottom-up governance, prompting increased reliance on self-evaluation and market discipline.

The financial sector has faced a lot of difficulties in the past few decades in Sri Lanka. The major cause of serious banking problems continues to be directly related to credit standards for borrowers and counterparties, poor portfolio risk management, or lack of attention to changes in economic or other circumstances that can lead to deterioration in the credit standing of a bank's counterparties. In unstable economic environments, interest rates charged by banks are fast over-taken by inflation and borrowers find it difficult to repay loans as real income falls, insider loans increase and over concentration in certain portfolios increases giving rise to credit risk.

When the financial and banking sector become more competitive, new risk management banking techniques emerged to manage the different types of risk. The risk that mostly applicable to banks are credit risk, operational risk, liquidity risk, market risk and equity risk. The Global financial crisis (2007-2008) also created a requirement of risk mitigation. Risk disclosure is the latest concern on risk mitigation. Financial markets are well informed, and entry is efficient. However, potential attempts for more transparency by additional disclosure requirements introduce a commitment device that provides incumbents with incentives to distort risk management (Hoang & Ruckes, 2017). Improvements in risk disclosure play an important role in protecting stakeholders' interests and accordingly, they are an important part of the corporate governance reforms (Solomon et al., 2000). At the same time, in order to generate trust and gain social legitimacy, firms have responded to the increasing stakeholders' pressures by voluntarily disclosing a greater amount of risk-related information (Abraham & Cox, 2007). Management should disclose information that enables users of its financial statements to evaluate the nature and extent of risks arising from financial instruments to which the entity is exposed at the end of the reporting period [IFRS 7 para 31]. The disclosures require focus on the risks that arise from financial instruments and how they have been managed. Therefore, present study aims to investigate the extent of risk disclosure and find the factors determining the risk disclosures in annual reports of commercial banking sector in Sri Lanka.

Research Objectives

The main objective of the study is to examine the risk disclosure in commercial banking sector in Sri Lanka. The study aims to find out how far to which extent they have disclosed their risks in annual report according to the regulatory frame work.
The specific aims of the study are:

- To identify the level of risk disclosure in commercial banks in Sri Lanka.
- To investigate the determinants of risk disclosure in commercial banks in Sri Lanka.
- To identify the most significant determinant /determinants influence on risk disclosure in commercial banks in Sri Lanka.

Literature Review

Risk disclosures may be part of an organizational strategy in order to manage public expectations and to justify corporate risk management (Power, 2007; Gabillon & Gabillon,2012). According to the most recent study carried out by the Institute of Chartered Accountants in England and Wales (ICAEW, 2011), it is important that companies disclose information related to their experience of risk as well as the lessons that they have learnt over time. In the absence of specific regulations, managers decide both the type and the amount of risk information to be disclosed (Beretta & Bozzolan, 2004). Therefore, it is

necessary to analyze the reasons why companies decide to voluntarily disclose corporate risk information.

The studies of corporate risk reporting were performed in relation to several aspects in several countries. Dobler (2008) has performed a study about incentive for risk reporting by extensive comparison of disclosure standards in several countries, especially the developed ones such as USA, UK and Germany. After making comparison with the standards used in different part of the world an explanation on risk reporting incentive based on existing framework such as Agency theory, Proprietary theory, and Signalling theory was given. In addition, the study of Ball, Robin, and Wu (2002) further examined the incentive for risk reporting in the case of Asian countries.

Apart from the study on reporting standards, numbers of researches in this field were carried out to learn about several determinants of corporate risk disclosures. For instance, Linsley and Shrives (2006) have studied about factors that affect level of company's risk reporting based on the sample of 79 UK listed companies. They hypothesized company's size and level of risk as two determinants of the risk disclosures and a positive association between them were observed. This result is in accordance with another study of Beretta and Bozzolan (2004), which was done based on data of Italian firms. It is also in accordance with many similar studies that were performed in social disclosures field, namely Beattie et al. (2004), Firth (1979), Hossain et al. (1995), and Hackston and Milne (1996). Nevertheless, there has been a contradictory result from the study of Campbell et al. (2003) on UK companies. The existing literature on risk disclosure focusses on specific disclosure items (e.g. operational risk or market risk or liquidity risk) or on a specific section (e.g. management report) in the annual report (Dobler et al., 2011). Previous literature has examined risk disclosures and performance, value, and stock price decisions (Aebi et al., 2012; Amran et al., 2009; Beasley et al., 2005; Hoitash et al., 2009). These studies noted the inadequacy of, and the qualitative and backward looking nature of risk disclosure. Kajüter (2006) and Linsley and Lawrence (2007) highlighted the vagueness and inadequacy of disclosures for determining risk profile and the unstandardized presentation of risk disclosures in annual reports (Oliveira et al., 2011).

Ahmed and Courtis (1999) used leverage to measure level of company's risk and identified that there is no significant relationship between this index and level of risk reporting. A similar result was discovered by Hossain et al. (1995), Adamu (2013), Oliveira et al., (2006), Meek et al. (1995), Raffournier (1995) and Hossain et al. (1995). In contrary to this finding, Malone et al., (1993) and Deumes and Knechel (2008) found a positive relationship between the extent of disclosure and financial leverage. Ntim et al. (2011) investigated the association between corporate governance and risk disclosure in South Africa. Barakat and Hussainey (2013) examined direct and joint effects of bank governance, regulation, supervision and risk reporting for European banks, proxied by operational risk disclosure. Setiyono and Tarazi (2014) investigated the impact of the correspondence of disclosure and proprietorship structure on bank risk. The point of the study conducted by Lipunga (2014) was to assess the level of risk disclosure level in yearly reports expressed by the Malawian commercial banks; the study additionally researched the impact of profitability on level of risk disclosed. Barakat and Hussainey in 2013 explored impact of the bank governance, regulation, and supervision on the quality of risk

reporting in the banking industry. The analyst utilized these components as intermediaries for ORD in test of European banks.

Ashfaq et al (2016) found the determinants of quantity as well as quality of the risk disclosures in annual reports of banking sector of Pakistan. Nahar et al (2015) investigated the extent of risk disclosure and the factors determining the same for all listed banks in Bangladesh. The implementation of IFRS 7 and Basel II: market discipline standards for banks in Bangladesh were further investigated in their study.

Theoretical Perspective and Hypotheses

Number of Risk Committees (RC)

Agency theory assists in explaining managers' motivation to make corporate disclosures when regulations are absent. The principal-agent relationship should efficiently use information in the organisation to minimise information asymmetry and risk bearing costs (Eisenhardt, 1989). Monitoring of risk governance instruments can reduce uncertainty and increase flow of information (Aebi et al., 2012). In the absence of monitoring mechanisms, such as RC, managers are more likely to be opportunistic by manipulating or making misleading disclosures (Latham and Jacobs, 2000). Dedicated and prudent RC can efficiently monitor risk exposure, policies and procedures affecting loans, non-performing loans, market and operational areas. The monitoring mechanism of RC underlies the risk governance characteristics of banks. By measuring, monitoring and maintaining an acceptable level of risks, RC assist banks to improve their sustainable risk management processes, strengthen their monitoring mechanisms, and achieve their strategic risk management policy. Banks RC can manage risk strongly ensuring better corporate governance. (Mongiardino & Plath 2010; Aebi et al., 2012). This is consistent with the notion that RC review and update risks on Asymmetric basis. Information asymmetry can also be reduced by monitoring managerial attitude (Jensen & Meckling, 1976). Having a risk committee indicates better risk management and better corporate governance (Aebi et al., 2012; Lajili, 2009) compared with not having one. Therefore, following hypotheses are generated for exploring the relationship between the number of RC and the extent of risk disclosure.

H1: There is a positive association between the number of RC and the extent of risk (market, credit, liquidity, operational and equities) disclosure.

Level of Debt in Capital Structure

In an active capital market, disclosure reduces information asymmetry and hence lessens the monitoring burden between principals and agents. If managers choose not to disclose relevant information in annual reports, the information gap results in less transparency (Marshall & Weetman, 2002) and also it results in a possible conflict of interest concerning principal and agent.

For example, adverse selection may arise because of misrepresentation of the agent's abilities. Therefore, companies disclose risk-related information to explain the causes of high-level risks to creditors and thus provide justification and explanation for inside information concerning the business (Linsley & Shrives, 2006). Agency cost is

greater in highly leveraged company because a large percentage of debt allows higher potential wealth transfers from debt holders to shareholders (Jensen & Meckling, 1976). Thus, agency theory predicts that corporate disclosures are expected to increase with leverage. Therefore, the following hypothesis is formulated between two variables.

H2. There is a positive association between leverage and the extent of risk (market, credit, liquidity, operational and equities) disclosure.

Bank size

The literature suggests that size is an important factor in examining accounting disclosures and its measurement can benefit all of the theories. However, when comparing banks, it is important to recall that the volume of total assets substantially affects a bank's riskiness. Laeven et al., (2014) found strong evidence that individual and systemic risk increases with bank size. This is consistent with the presence of agency conflicts in large organisations as well as with the hypothesis that regulators are reluctant to unwind banks that are too big to fail, leading them to take on excessive risks. (Linsley & Shrives, 2006) have documented a positive relationship between firm size and disclosure. Accordingly, the third hypothesis is formulated as follows,

H3. There is a positive association between bank size and the extent of risk (market, credit, liquidity, operational and equities) disclosure.

Existence of Risk Management Unit (RMU)

Jensen and Meckling (1976) hypothesised that if principals and agents seek to maximise their own self-interest, agents become opportunistic and maximise their own welfare by serving their own best interest. As a result, they do not pursue the maximisation of principals' wealth. However, using a monitoring system through financial disclosure may assist to reduce the agency problem (Miller & Noulas, 1996). Without appropriate skills and abilities, the agent makes wrong decisions regarding the organisation's policies and disclosure decisions. Therefore, professional legitimacy could be achieved by establishing a RMU to manage the overall risk management strategy, lessen agency problems and at the same time increase risk disclosure. That is, stronger risk communication is expected in annual reports of these organisations compared to those that do not have a RMU. The RMU has the unique responsibility of risk management and monitoring processes and practices that inform risk information provided to that section of the bank responsible for compiling disclosures in the annual report. Therefore, the following hypothesis is developed between presence of RMU and extent of risk disclosure.

H4. The presence of a RMU is positively associated with the extent of risk (market,credit, liquidity, operational and equities) disclosure.

Board Size

According to agency theory, greater boards are bad and corrupt, while smaller boards are good and effective in terms of enhancing performance and disclosure (Jensen & Meckling, 1976). Free rider problems between executives, expanded decision making time, raised costs. Poor communication and monitoring could all have an adverse effect on disclosure levels and good practice. Jensen, (1993), Guest (2008) and Coles et al. (2008) documented a negative relationship between board size and disclosure and performance. However, stakeholder theory describes that larger boards provide greater access to the management to the external environment, (Ntim et al., 2013). Moreover, resource dependence theory indicates that boards having large number of member improve the base of the knowledge on which business opinion may be required. This in turn increases managements' aptitude to engage in improved business decisions (Ntim et al., 2013). Moreover, Chen and Jaggi (2000) argued that a large number of directors on the board could lessen the information asymmetry issue and instigate more disclosure. However, more directors could course less efficiency in relation to monitoring management. Also, Healy and Palepu (2001) confirmed that the number of directors on the board could affect its control and monitoring operations, though disclosure is regarded as a monitoring item that could be increased. Khurram et al., (2016) found that banking institutions operating in Pakistan may improve their own RDQ and quantity by appointing independent outside board directors. Hence, there is a contrary evidence on the relationship between risk disclosure and size of the board. Based on the stakeholder theory and dependence theory, this study generated following hypothesis between board size and extent of risk disclosure.

H5: There is a positive relationship between risk disclosure and board size.

Methodology

The goal of this study is to add to the literature on risk disclosures, in part the empirical scarcity in risk disclosure studies in developing countries, particularly across periods prior and after the global financial crisis and also in relation to different types of risk, using a sample of all listed commercial banks in Sri Lanka, a developing country. The population of the study comprises 25 commercial banks including 13 licensed commercial banks and 12 foreign banks in Sri Lanoka. Data was collected from annual reports of 10 commercial banks and Interim financial statement from Colombo Stock Exchange over the period of 2007-2016 covering of 92 annual reports for analysis.

In this study a Risk disclosure index is developed based on International Financial Reporting Standard (IFRS) 07, Basel II –market discipline and prior literature. Therefore, with the Risk disclosure index the extent of risk disclosure can be quantified, and also the determinants of it can be identified. The Risk disclosure index developed by considering five major risks in banking industry (credit risk, operational risk, liquidity risk, market risk, equity risk) and also five factors that can determine the risk disclosure. They are number of Risk committees, Level of debt in capital structure, Size of the bank, Existence of Risk management unit and Size of the Board.

The index was developed in two phases. In the first phase, an extensive review of prior studies provided the common items across the studies and it also help to identify the

items for an initial benchmark risk disclosure index for each component. These items were then categorised under regulatory requirements (IFRS 7[2], Basel II: market discipline).

In the second phase, additional items from the regulatory framework requirements were included within the benchmark risk disclosure index. In total, 91 items constitute the risk disclosure index for this paper and according to the characteristics of disclosed risks, they are grouped into market, credit, liquidity, operational and equities risks. For each risk item score of "1" indicates that the particular risk is disclosed in the banks' annual reports and "0" not disclosing in their annual reports. The following multiple regression models were constructed based on various risk disclosure components (market, credit, liquidity, operational and equities) to explore the determinants of these risk disclosure components.

RDI = a+ b1(number of RC) + b2(leverage) + b3(bank size) + b4(presence of a RMU) +b5(board size) +e

MRDI = a+ b1 RCit + b2 DEit+ b3 LnTAit+ b4 RMUit+b5 BSit+e

CRDI = a+ b1 RCit + b2 DEit+ b3 LnTAit+ b4 RMUit+b5 BSit+e

LRDI = a+ b1 RCit + b2 DEit+ b3 LnTAit+ b4 RMUit+b5 BSit+e

ORDI = a+ b1 RCit + b2 DEit+ b3 LnTAit+ b4 RMUit+b5 BSit+e

ERDI = a+ b1 RCit + b2 DEit+ b3 LnTAit+ b4 RMUit+b5 BSit+e Where,

RDI = Risk Disclosure Index for bank i in year t, which are risk (market (MRDI), credit (CRDI), liquidity (LRDI), operational (ORDI) and equities (ERDI));

RCit = Number of Risk Committees for bank i in year t;

DEit = Debt to Equity ratio for bank i in year t;

LnTAit =Natural Logarithm of Total Assets for bank i in year t;

RMUit = Presence of a Risk Management Units for bank i in year t.

LnBSit = Natural Logarithm of Board Size for bank i in year t;

Findings and Discussions

According to the number of risk indicators disclosed in annual reports, each type of risk was categorized under different groups. Market risk and Credit Risks are divided into three groups according to the number of risk disclosure which are Low, Medium and High levels.

Table 1: Credit Risk Group

No of Risk Disclosures	Risk Level	Frequency	Percent
1-7	Low	29	31.5%
8-13	Medium	22	23.9%
14-19	High	41	44.6%
Total		92	100.0%

Credit risk disclosure was categorized in to three groups according to the total no of credit risk indicators disclosed by commercial banks in their annual reports as shown in table1. 44.6 % of samples show high credit risk disclosure which is 41 number of repots. 23.9 % medium credit risk disclosure and 31.5% reports display low credit risk disclosure.

Table 2: Market Risk Group

No of Risk Disclosures	Risk Level	Frequency	Percent
3-9	Low	19	20.7
10-15	Medium	34	37.0
16-21	High	39	42.4
	Total	92	100.0

Level of Market risk disclosed was grouped as shown in table2. Under this credit risk category 42.4 % of annual reports showed high level of market risk disclosure on their annual reports as well as 37 % medium level and 20.7 % low market risk levels presented in their annual reports.

Analytical results of liquidity risk disclosure by number of risk disclosure indicators were shown in table 3. Maximum no of liquidity risk disclosure indicators is 9 out of 9 total liquidity risk indicators which was shown in 17.4% out of total samples (16 no of samples). 33.7 % presented only 2 indicators about liquidly risk which is the highest rank of the total samples.5.4 % of annual reports have not exposed operational risks in their annual reports.

Table 3: Liquidity Risk Group

No of Risk Disclosures	Frequency	Percentage
0	5	5.4
1	3	3.3
2	31	33.7
3	19	20.7
4	7	7.6
5	2	2.2
7	3	3.3
8	6	6.5
9	16	17.4
Total	92	100.0

Analysis of operational risks disclosure results given in table 4 indicate that 31.5 % of the total samples disclosed only one operational risk indicator and 19.6 % of the total

samples indicates only 2 indicators. Maximum number of 8 indicators disclosed by only 13% of the total sample.

Table 4: Operational Risk Group

No of Risk Disclosures Indicators	Frequency	Percentage
0	2	2.2
1	29	31.5
2	18	19.6
3	15	16.3
4	3	3.3
7	13	14.1
8	12	13.0
Total	92	100.0

Comparison of Risks Disclosure Prior to and After Regulatory Standards.

The analysis presents the implied impact after the international standards were implemented by Central bank of Sri Lanka. Basal II and IFRS regulatory standard were enforced by CBSL in year 2010 after global financial crisis. In order to compare impact of regulatory requirement the data base was divided into two separate sets: (Before 2010 and after 2010).This analysis will show the way to examine how banks have implemented this regulations.

Table 5: Level of Credit risk disclosure before and after regulatory requirements

No of Disclosure Indicators	Level of Risk Disclosure	Frequency			As a Percentage		
		Before	After	Total	Before	After	Total
1-7	Low	17	0	17	18.5%	0.0%	18.5%
8-13	Medium	11	9	20	12.0%	9.7%	21.7%
13-19	High	4	51	55	4.3%	55.4%	59.8%
Total		32	62	92	34.8%	62.5%	100.0%

After regulatory requirements were enforced by Central bank of Sri Lanka 34.8% of samples have disclosed credit risk information before and only 4.3 % of reports disclosed high level of credit risks (4 annual reports). Majority of banks have disclosed low level of credit risks with 55% of total risk disclosure before regulation executed as shown in table 5. After statutory legation were implemented by CBSL regulations, 62.5% has disclosed credit risk information (62 reports) and 81.8 % has disclosed high level of credit risk information. There was no low level of credit risk disclosed by any bank after implementing statutory regulations by CBSL Further details are presented by table6.

Table 6: Detailed evaluation of credit risk disclosure before and after regulation implemented.

Level of Risk Disclosure		Before Regulations	After Regulations	Total
Low	Frequency	17	0	17
	% within Credit Risk Group	100.0%	0.0%	100.0%
	% Total CRI Before Regulation	40.5%	0.0%	18.5%
	% of Total	18.5%	0.0%	18.5%
Medium	Frequency	15	5	20
	% within Credit Risk Group	75.0%	25.0%	100.0%
	% Total CRI Before Regulation	35.7%	10.0%	21.7%
	% of Total	16.3%	5.4%	21.7%
High	Frequency	10	45	55
	% within Credit Risk Group	18.2%	81.8%	100.0%
	% Total CRI Before Regulation	23.8%	90.0%	59.8%
	% of Total	10.9%	48.9%	59.8%
Total	Frequency	42	50	92
	% within Credit Risk Group	45.7%	54.3%	100.0%
	% Total CRI Before Regulation	100.0%	100.0%	100.0%
	% of Total	45.7%	54.3%	100.0%

Table 7 and 8 represents that evaluation of market risk disclosures before the regulations were executed of risk disclosure by central bank (before 2010) and after implemented the risk disclosure requirements (after 2010).

Table 7: Level of credit risk disclosure before and after regulatory requirements

No of Disclosure Indicators	Level of Risk Disclosure	Before		After		Total	
		Freq.	%	Freq.	%	Freq.	%
3-9	Low	17	18.5%	2	2.2%	19	20.7%
10-15	Medium	14	15.2%	20	21.7%	34	36.9%
16-21	High	1	1.1%	38	41.3%	39	42.4%
	Total	32	34.8%	60	65.2%	92	100.0%

34.8% of the sample disclosed market risk information before executing the regulatory requirements by CBSL. Out of this majority of reports (17 reports) were disclosed low level of market risk which represents 43.8% as shown in table 7. After the execution of regulations by CBSL revealed that 65.2 % banks have disclosed market risk information on their annual reports and majority of them are high level market risk disclosures (41.3%) and it is greater 97.4% compared to 2.6%. Only 2 bank reports have disclosed low level of market risk after regulatory requirements were introduced.

Table 8: Evaluation of Market Risk Disclosure before and after regulation implemented.

Level of Risk Disclosure		Before Regulations	After Regulations	Total
Low	Frequency	17	2	19
	% within Market Risk Group	89.5%	10.5%	100.0%
	% total MRI Before/ After Regulation	53.1%	3.3%	20.7%
	% of Total	18.5%	2.2%	20.7%
Medium	Frequency	14	20	34
	% within Market Risk Group	41.2%	58.8%	100.0%
	% total MRI Before/ After Regulation	43.8%	33.3%	37.0%
	% of Total	15.2%	21.7%	37.0%
High	Frequency	1	38	39
	% within Market Risk Group	2.6%	97.4%	100.0%
	% total MRI Before/ After Regulation	3.1%	63.3%	42.4%
	% of Total	1.1%	41.3%	42.4%
Total	Frequency	32	60	92
	% within Market Risk Group	34.8%	65.2%	100.0%
	% total MRI Before/ After Regulation	100.0%	100.0%	100.0%
	% of Total	34.8%	68.2%	100.0%

Table 9 represents evaluation of liquidity risk before and after statutory regulation executed by central bank of Sri Lanka.

Table 9: Evaluation of Liquidity Risk Disclosure Before and after regulation implemented

No of Disclosure Indicators	Before		After		Total	
	Freq.	%	Freq.	%	Freq.	%
0	5	15.63%	0	0.00%	5	5.43%
1	2	6.25%	1	1.67%	3	3.26%
2	18	56.25%	13	21.67%	31	33.70%
3	7	21.88%	12	20.00%	19	20.65%
4	0	0.00%	7	11.67%	7	7.61%
5	0	0.00%	2	3.33%	2	2.17%
7	0	0.00%	3	5.00%	3	3.26%
8	0	0.00%	6	10.00%	6	6.52%
9	0	0.00%	16	26.67%	16	17.39%
Total	32	100.00%	60	100.00%	92	100.00%

32 reports have disclosed liquidity risk before the introduction of regulations and after it has risen up to 60 numbers. Majority reported only 2 liquidity risk disclosures before and after regulations were implemented. Prior to introduction of regulations 15.63% had not disclosed liquidity risk information at all, but after the introduction of regulation no report which did not disclose any liquidity risk information has been found.

Table 10: Evaluation of operational risk after and before statutory regulation implements.

No of Disclosure Indicators	Before		After		Total	
	Freq.	%	Freq.	%	Freq.	%
0	2	2.17%	0	0.00%	2	2.17%
1	15	16.30%	0	0.00%	15	16.30%
2	5	5.43%	7	7.61%	12	13.04%
3	1	1.09%	12	13.04%	13	14.13%
4	2	2.17%	9	9.78%	11	11.96%
5	6	6.52%	4	4.35%	10	10.87%
6	1	1.09%	20	21.74%	21	22.83%
7	0	0.00%	8	8.70%	8	8.70%
Total	32	34.78%	60	65.22%	92	100.00%

As shown in the table 10 most of the banks have disclosed very little about operational risks before regulations were introduced. Only 34.78 percent of banks have disclosed information related to operational risks and majority of reports presents only one

indicator. (46.87%). After executing CBSL regulations the several banks have displayed more information on operational risk in their annual reports. Many banks have displayed over 5 indicators.

Multivariate Analysis

Multiple regression analyses were conducted to examine the relationship between credit risk, market risk, liquidity risk and operational risks with various potential predictors. Table 11 summarizes the results of the regression analysis. Moreover, the summary below indicates that the model is significant, with an F value as indicated in the table, confirming the fitness of the model used for the purpose of this study.

Table 11: Summary statistics of regression analysis

Variables	Credit Risk Index	Market Risk Index	Liquidity Risk Index	Operational Risk Index
(Constant)	-33.119***	-20.054**	-15.815*	-9.531**
LnTA	5.794***	4.908***	1.857	2.279***
DE	0.003	0.003	-0.001	-0.003
BS	0.711**	0.315	0.648**	0.068
IRMU	8.149***	5.325**	3.605*	2.554**
RC	0.069	-0.023	0.002	-0.233
R Square	0.514	0.378	0.175	0.330**
Adjusted R Square	0.478	0.332	0.113	0.281
F -Value	14.184	8.147	2.843	6.614
Sample size	92	92	92	92

Where ; LRDI, liquidity risk disclosure index ;LnTA, log value for total assets; DE, debt equity ratio; BS, board size; IRMU, integrated risk management Committee ; *,**,*** Denote the level of significance at* p< .05 ** p < .01 ***p<.001.

The regression results show that coefficient estimates for total assets (LTA) are significantly positive for all regressions (*p*-value<.001) except liquidity risks, suggesting that asset size is positively associated with bank disclosure of credit, market and operational categories of risk exposure. This indicates that larger the size of the banks the greater is the risk disclosure. Existing studies have found that larger rather than smaller banks characterize themselves by disclosing more risk information, which results in reduced monitoring costs and information asymmetry (Abraham & Cox, 2007; Aebi et al., 2012; Oliveira et al., 2011). Further these findings are related with the previous studies by Beretta and Bozzolan (2004), Linsley et al. (2006) and Lopes and Rodrigues (2007). According to legitimacy theory larger companies; disclose more risk-related information to manage stakeholders' perceptions about corporate reputation. A higher extent of disclosure assists larger firms to be more visible to relevant shareholders (Mashayekhi & Bazaz, 2008).Therefore the results are supported to H3.

The regression results also show that a significant positive relationship with the existence of RMU and the extent of risk disclosure of all type of credit, market, liquidity and operational risks. (credit, market at *p*-value<.001, liquidity and operational at *p*-

value<.05). This suggests that the level of risk disclosure is high in banks where integrated risk management unit has been established. Further this implied as: banks with greater risk exposure being more likely to set up a RMU. The RMU has the unique responsibility of risk management and monitoring processes and practices that inform risk information provided to that section of the bank responsible for compiling disclosures in the annual report. These findings are consistent with the theoretical prediction of agency theory perspective and legitimacy theory that discussed in development of hypothesis and theoretical perspectine. Therefore, the H4 is supported by the results for regression analysis.

Regression results are statistically significant (p-value < 0.01) in board size (BS) and positively associated with liquidity risk and credit risk disclosure. This implies that banks that have larger board size will tend to disclose more information about credit and liquidity. This is support to the findings of Shamsun et al (2008). They found that BS is significantly and positively associated with liquidity and credit risk. However, there is no significant association between board size with market and operational risk. Cheng and Courtenay (2006) established that there was no significant association between the two variables, while Jia et al. (2009) Guest (2009) and Coles et al. (2008) documented a negative relationship between board size and disclosure level in the banking industry. Farag et al (2014), Nitm et al. (2013), Elshandidy et al. (2013), Allegrini and Greco (2013) and Elshandidy and Neri (2015), emphasised on a positive relationship between the number of directors on the board and risk disclosure. Therefore, the empirical findings on this issue have been mixed.

However, there is no significant relationship found in number of risk committee (RC) and capital structure (DE) with all types of risk disclosures. Previous studies reveal mixed results in relation to the association between corporate risk disclosure and DE (proxy of capital structure). Most prior literature has not found any significant relationship between risk disclosure and leverage (Abraham & Cox, 2005; Amran *et al.*, 2009; Linsley & Shrives, 2006; Mohoboot, 2005). Lopes and Rodrigues (2007) concluded that there was an insignificant relationship. Further, Adamu (2013) documented that there is no significant relationship between company leverage and corporate risk disclosures. A possible explanation seems likely to be that monitoring information can be furnished by means other than in the annual report (Leuz *et al.*, 2004). Thus, the second hypnosis H2 is rejected.

Conclusions and Implication to the Practice

Overall, the analysis suggests that commercial banks in Sri Lanka has significantly improved their risk disclosure over time, these improvements are associated with disclosure of specific risks, consistent with agency theory. Results revealed that the international disclosure standards are associated with an increment in the extent of risk disclosures in all categories. This effect is more prevalent after 2010, highlighting the impact of statutory regulation operationalization by central bank of Sri Lanka. Further the results also confirmed that the adoption of high quality international regulatory standards (Basel II/IFRS) enhanced quality and quantity of risk information provided by commercial banks in SL. According to the results the highest level of risk disclosures were recorded in the credit and market risk information category, whereas the lowest is in operational risk

and liquidity information. Analysis of the results reveals that the asset size of banks is significantly associated with credit, market and liquidity categories of risk disclosures. The existence of a RMU is highly significant determinant of all categories of risk disclosures. To end with, there is no significant relationship between DE and corporate risk disclosures in commercial banks in Sri Lanka.

These findings will help regulatory agencies in Sri Lanka and elsewhere in monitoring banking institutions by identifying the impact of particular standards. Both existing and potential clients of banks can use these findings strategically choosing their preferred bank of interest. More particularly, the significance of bank characteristics will help clients identify the potential risks of the banks they are interested in doing business with.

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