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AN ANALYSIS OF THE EFFECTS OF THE FINANCIAL CRISIS ON ENTERPRISE RISK MANAGEMENT IN THE CANADIAN FINANCIAL SECTOR

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Abstract. *The effect of the financial crisis on enterprise risk management (ERM) disclosures was examined through a content analysis of the 2007 and 2008 annual reports of Canadian financial corporations listed on the S&P TSX Composite Index. Fourteen types of risk were tracked and categorized by level of risk exposure, risk consequence and risk management disclosures. We found very minor changes in the risk disclosures by Canadian financial corporations listed on the S&P TSX Composite Index from 2007 to 2008, despite plummeting net incomes (except for real estate trusts) and market valuations.*

Keywords: *Enterprise risk management, Financial crisis, Canadian financial sector, content analysis*

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INTRODUCTION

The objective of this research is to analyze the consequences of the recent financial crisis on the management of risks in the financial services sector in Canada. It is hypothesized that the global meltdown has had a major effect on the risk profiles and risk disclosures of these companies. We examine the financial companies listed on the Standard & Poor's (S&P) Toronto Stock Exchange (TSX) Composite Index for 2007 and 2008 through a content analysis of their annual reports.

Risk from the financial services sector has contributed to large-scale bankruptcies, bank failures, government intervention and rapid consolidation. And the repercussions have spread to the broader economy, as companies in nearly every industry have suffered from the global constriction of the credit markets, sharply reduced consumer demand and volatile commodity prices, currencies and stock prices (Lipton, 2009). In an earlier paper, we found that the change in risk disclosures by non-financial companies on the TSX Composite Index was minimal

between 2007 and 2008 (Maingot et al, 2012). Given the origins of the financial crisis in the financial sector, the question is whether risk disclosures were affected more in this sector.

The level of interest in enterprise risk management (ERM) has never been greater among corporate executives, financial analysts and regulators (Lam, 2006). While it has long been recognized as a core competence in banking and insurance, ERM has gained recognition as a critical management discipline in other risk-intensive industries. Stakeholders' expectations regarding risk management have been rising rapidly, especially after the financial crisis. In that crisis, weaknesses in risk management practices became painfully visible, and companies are currently under significant pressure to strengthen their risk management systems and to take appropriate actions to improve stakeholder value protection. In the wake of these increasing expectations, the idea of ERM has gained substantial momentum as a potentially effective response to risk management challenges (Paape and Speklé, 2012).

Against the background of the global financial crisis and the still uncertain global economy, companies are re-assessing their strategies for responding to the challenges and pressures of the new environment. ERM, and in particular, the risk oversight function of the board of directors, has taken centre stage in this re-assessment, and expectations for board engagement with risk are at all time highs (Lipton, 2009; Ernst and Young, 2012).

Recently, risk management has evolved from a "silo" perspective to a holistic all-encompassing view (Liebenberg and Hoyt, 2003; Beasley et al., 2005; Lam, 2006; Pagach and Warr, 2011). Managing each risk class in a separate silo creates inefficiencies due to lack of coordination between the various risk management departments (Fabozzi and Drake, 2009). The holistic approach addresses strategic, operational, reporting and compliance risks simultaneously rather than separately. Such an integrated approach should help companies to deal with risks and opportunities more effectively, enhancing the entity's capacity to create and preserve value for its stakeholders (COSO, 2004a; Lam, 2006; Paape and Speklé, 2012).

Can risk management actually help to protect business? According to Sullivan (2012), this is a question that has been asked regularly since the financial crisis. He claims however, that "evidence suggests that the companies that fared best in the downturn were those that had a clear, realistic understanding of their risks; had actually taken steps to address their key risks; had defined clear roles, responsibilities and accountability for managing risk and had a culture that encouraged open discussion of risks and emerging issues". He concluded that the economic crisis exposed a weakness in the risk governance of many organizations.

CORPORATE GOVERNANCE AND ERM

Companies need to align corporate governance with risk management (Sobel and Reding, 2004). What do we mean by corporate governance? The term "corporate governance" became fashionable in the UK (and elsewhere) after Sir Adrian Cadbury investigated the governing practices of companies listed on the London Stock Exchange (LSE) in 1991/1992. The Cadbury Report (1992) defined corporate governance as the system by which companies are directed and controlled. In Canada, Dey (1994) chaired the Toronto Stock Exchange Committee on Corporate Governance and provided the following definition of corporate governance.

"Corporate governance" means the process and structure used to direct and manage the business and affairs of the corporation with the objective of enhancing shareholder value, which includes ensuring the financial viability of the business. The process and structure define the division of power among shareholders, the board of directors and management. The direction and management of the business should take into account the impact on other stakeholders such as employees, customers, suppliers and communities.

The board of directors, senior management, internal auditors and external auditors are the "cornerstones of the foundation on which effective corporate governance must be built", according to a paper by the Institute of Internal Auditors (IIA) (2002). Sobel and Reding (2004) include "risk owners". These are the people in a corporation who are responsible and accountable for managing risks. Some large organizations appoint a Chief Risk Officer or other senior executive. Others have risk management committees or other coordinating mechanisms (Lindsay, 2003; Lawlor, 2012; Caldwell, 2012).

The formation of a risk committee or appointing a CRO sends out a strong message that the company is taking risk management seriously and it can also play a role in meeting increasing stakeholder expectations regarding risk oversight and how risk is aligned with the overall strategy of the company (Lawlor, 2012). Fabozzi and Drake (2009) conclude that internal controls (ICs) provide a mechanism for mitigating risks and increase the likelihood that a firm will achieve its financial objectives. They argue that ERM goes beyond ICs in three ways:

- In strategy, ERM requires the board to consider risks.
- ERM requires that the board identify the level of risks it is willing to accept. This involves consideration of the risk appetites and risk tolerances and their impacts on equity and profitability.

  Risk appetite is the amount of risk an entity is willing to accept in pursuit of value. This reflects the entity's risk management philosophy. The desired return from a strategy should be aligned with the entity's risk appetite (Ernst & Young Global Limited, 2010; Lamm-Tennant, 2010).

  Risk tolerance is the amount of variation the entity is willing to accept in achieving objectives (Caldwell, 2012). (Ernst & Young, 2012).
- ERM requires that risk management decisions be made throughout the firm in a manner consistent with the risk policy established.

Corporate governance and shareholder value have been cited as the main reasons for companies to adopt and implement an ERM program (Bowling and Rieger, 2005). Knight (2006) argued that corporate governance, ERM and ICs are interrelated and interdependent. He further claimed that corporate governance may be regarded as the glue which holds an organization together in pursuit of its objectives.

What is the appropriate role of the board in enterprise risk management? The board of directors is not directly responsible for risk management. That is management's job (IIA and Pricewaterhouse, Coopers, 2000). The board should, however, assume ultimate responsibility for corporate governance. According to Caldwell (2012), traditional models support the notion that boards cannot and should not be involved in day-to-day risk management. Rather, through their risk oversight role, directors should be able to satisfy themselves that effective risk management processes are in place and functioning effectively. The risk management system should allow management to bring to the board's attention the company's material risks. Sobel and Reding

(2004), Sheath (2010), and Caldwell (2012), however, hold the view that boards must take a more active and direct role in ERM, well beyond traditional oversight of typical risk management processes. Lindsay (2003) made this point earlier, by emphasizing that the role of the director includes asking management tough questions to ensure that risk has been fully considered in the strategic and business planning process.

THE CANADIAN FINANCIAL SERVICES SECTOR

The Canadian financial services sector is made up of banks, trust and loan companies, credit unions and caisses populaires, life and health insurance companies, property and casualty insurance companies, security dealers and exchanges, mutual fund companies and distributors, finance and leasing companies as well as independent financial advisers, pension fund managers and independent insurance agents and brokers.

The financial services sector is a significant contributor to Canada's economic growth. Banks represent the largest portion of the Canadian financial services with over half of the sector's total assets (Canadian Bankers Association, November, 2012). Mutual funds companies and life and health insurance companies are next with around one quarter of total assets followed by the credit unions and property and casualty insurers (Department of Finance, Canada, January, 2013).

Table 1 profiles the 34 financial services sector companies on the S&P TSX Composite Index for both 2007 and 2008, along with some basic financial information. They are categorized as chartered banks, non-bank financial companies (including insurance and holding companies), and real estate trusts, but do not include any credit unions, security dealers, or mutual fund companies.

Table 1. Profile of TSX Firms in the Financial Sector

	Assets - Total[Y07]	Assets - Total[Y08]	Net Income (Loss)[Y07]	Net Income (Loss)[Y08]	Total Debt/Total Assets[Y07]	Total Debt/Total Assets[Y08]	Market Value - FYE[Y07]	Market Value - FYE[Y08]
	$MM	*$MM*	*$MM*	*$MM*	*%*	*%*	*$MM*	*$MM*
BANKS								
BANK OF MONTREAL	366,524.000	416,050.000	2,131.000	1,978.000	20.063	15.949	31,401.217	21,764.291
BANK OF NOVA SCOTIA	411,510.000	507,625.000	4,045.000	3,140.000	14.076	12.810	52,593.301	39,770.457
CANADIAN IMPERIAL BANK	342,178.000	353,930.000	3,296.000	-2,060.000	16.499	17.250	34,153.781	20,812.342
CANADIAN WESTERN BANK	9,525.040	10,600.732	96.282	102.019	4.094	3.537	1,932.510	1,169.963
LAURENTIAN BANK OF CANADA	17,786.846	19,558.553	94.545	102.531	11.579	11.328	1,040.497	974.906
NATIONAL BANK CANADA	113,085.000	129,332.000	541.000	776.000	22.056	24.968	8,626.065	7,210.543
ROYAL BANK OF CANADA	600,346.000	723,859.000	5,492.000	4,555.000	17.478	11.850	71,494.203	62,689.531
TORONTO DOMINION BANK	422,124.000	563,214.000	3,997.000	3,833.000	14.438	11.025	51,236.578	46,070.535
	2,283,078.886	**2,724,169.285**	**19,692.827**	**12,426.550**	**15.035**	**13.590**	**252,478.152**	**200,462.568**
FINANCIAL/INSURANCE/HOLDING COMPANIES								
DUNDEE CORP	3,609.096	3,080.960	293.733	-196.192	22.327	28.362	1,366.377	430.336
FAIRFAX FINANCIAL HOLDINGS	27,609.293	33,421.809	1,082.760	1,803.931	10.947	6.584	4,887.610	6,571.500
GREAT-WEST LIFECO INC	118,388.000	130,074.000	2,111.000	1,453.000	6.199	4.278	31,766.678	19,536.971
IGM FINANCIAL INC	7,858.595	8,233.997	879.135	730.799	21.121	23.641	13,219.827	9,301.017
HOME CAPITAL GROUP INC -CL B	4,973.307	5,809.713	90.241	108.687	0.000	0.000	1,447.184	682.209
INDUSTRIAL ALLIANCE INS &FIN	25,315.000	24,339.000	248.000	72.000	1.351	1.713	3,416.193	1,873.261
INTACT FINANCIAL CORP	10,389.700	9,773.400	508.300	128.200	0.000	0.000	4,931.620	3,790.260
MANULIFE FINANCIAL CORP	352,002.000	376,405.000	4,302.000	517.000	1.964	2.455	60,861.168	31,029.045
ONEX CORP	26,199.000	29,732.000	228.000	-283.000	25.203	26.954	4,429.104	2,220.981
POWER CORP CANADA	133,145.000	143,671.000	1,463.000	868.000	7.106	5.781	16,247.674	9,137.002
POWER FINANCIAL CORP	130,308.000	141,518.000	2,044.000	1,337.000	6.196	4.911	28,738.529	16,852.010
SUN LIFE FINANCIAL INC	187,496.000	185,595.000	2,288.000	855.000	4.494	4.856	31,566.010	15,917.812
TMX GROUP INC	1,523.919	3,672.086	148.697	181.952	0.015	11.665	3,499.479	1,874.237
	1,028,816.910	**1,095,325.965**	**15,686.866**	**7,576.377**	**8.225**	**9.323**	**206,377.453**	**119,216.641**
REAL ESTATE TRUSTS								
BOARDWALK REAL ESTATE TRUST	2,195.888	2,358.924	-59.326	45.685	86.015	92.262	2,284.034	1,256.095
BROOKFIELD ASSET MANAGEMENT	54,935.395	65,619.336	777.634	794.370	59.151	59.130	20,736.621	10,675.346
BROOKFIELD PROPERTIES CORP	20,229.371	23,815.367	237.144	856.800	65.393	65.015	7,564.435	3,637.397
CALLOWAY REAL ESTATE INVT TR	3,893.732	4,194.387	30.495	89.648	59.051	62.475	1,870.938	892.337
CANADIAN APT PPTYS REIT	2,262.056	2,243.294	-50.196	-3.477	66.240	71.050	1,066.732	1,056.736
CANADIAN REAL ESTATE INVT TR	1,979.595	2,195.638	27.235	68.890	60.576	63.941	1,757.664	1,378.553
CHARTWELL SENIOR HSG REIT	2,603.199	2,705.487	-67.339	-99.472	62.567	68.789	1,068.432	533.968
COMINAR REAL ESTATE INVT TR	1,442.794	1,668.750	29.241	25.034	59.532	67.201	922.896	734.213
DUNDEE REAL ESTATE INV TRUST	1,156.441	1,316.170	762.302	10.460	58.843	66.277	575.398	207.320
EXTENDICARE REIT	1,440.163	1,805.982	70.381	13.388	74.416	73.800	761.003	413.917
H&R REAL ESTATE INVT TR	5,050.773	5,450.587	-2.193	77.613	63.624	64.861	2,683.281	1,095.396
PRIMARIS RETAIL REIT	1,643.035	1,608.832	-30.655	9.777	58.195	61.268	1,131.599	666.203
RIOCAN REIT	5,250.056	5,336.820	32.358	146.921	61.623	61.091	4,574.541	3,016.046
	104,082.498	**120,319.574**	**1,757.081**	**2,035.637**	**64.248**	**67.474**	**46,997.574**	**25,563.527**

Table 1 shows how the total assets of the chartered banks are more than double the total assets of the financial/insurance/holding companies on the S&P TSX Composite Index. Moreover, the total assets for all three groups of financial firms increased from 2007 to 2008.

However, Table 1 shows how the total net income declined substantially for the chartered banks (-37%) and for the financial/insurance/holding companies (-52%), but increased slightly for the real estate trusts (+16%).

The real estate trusts are very highly leveraged with the debt to assets ratio well over 60% for both 2007 and 2008, compared to much lower levels for the other two categories of financial firms. From 2007 to 2008, the debt to assets ratio declined for the banks (-10%) but increased for the financial/insurance/holding companies (+14%) and for the real estate trusts (+5%). Finally, the total market value of all three categories of financial firms plummeted from 2007 to

2008: banks by -21%, financial/insurance/holding companies by -42%, and real estate trusts by -46%.

The federal and provincial governments share jurisdiction over the financial services sector. Under the Canadian constitution, the federal government has the sole jurisdiction for banks. Banks are therefore regulated by the federal government for both prudential and market conduct purposes under the Bank Act. A good guide to determine who regulates and supervises whom is to ascertain whether the company is federally incorporated or provincially incorporated.

The federal government provides prudential oversight through the Office of the Superintendent of Financial Institutions (OSFI). The OSFI is responsible for supervising federally regulated financial institutions, including the banks, federally incorporated insurance companies and federally incorporated trust and loan companies to ensure that they are in sound financial condition and in compliance with the laws that govern them. If any of the institutions are found lacking in this regard, the OSFI can advise management and require remedial action to be taken. The provincially incorporated companies, like some trust and loan companies, credit unions and caisses populaires, securities and mutual fund companies and the finance and leasing companies are regulated and supervised by the respective provincial governments.

For federally regulated financial institutions, the OSFI assesses the risks inherent in a financial institution's business activities and determines how effectively those risks are being managed (OSFI, 2011).

The OSFI recently published a guideline which suggested that managing risk is at the heart of their proposal. It reads as follows:

"Indeed, banks, insurers, and loan and trust companies will be expected to give boards of directors more responsibilities, strengthen risk governance by developing a framework to guide risk exposure, and improve their overall internal control framework by clarifying the roles of the chief risk officer and the audit committee." (Millan, 2012)

As mentioned earlier, banks represent a significant portion of the financial services sector in Canada. Only the federal government can incorporate banks, establish their business and investment powers and impose capital and other requirements regulating the business and affairs of the banks (Keefe and Sodhi, 2011).

Canada was an early adopter of the Basel II Capital Accord as the basis for establishing the capital requirements for domestic banks. Basel II, initially published in 2004, was intended to create an international standard for banking regulators to control how much capital banks need to put aside to guard against the types of financial and operational risks bank face. Basel II is an international accord that applies to banking institutions in various countries including Canada, the US, and the UK. It is intended to strengthen the measurement and monitoring of financial institutions' capital by adopting a more risk sensitive approach to capital management (Wikipedia, February, 2011; OECD, December, 2011). Basel II uses a three pillars concept. Pillar 1 establishes the minimum capital requirements (addressing risk). Pillar 2 deals with supervisory review, while Pillar 3 effects market discipline through public disclosure.

Politically, it was not possible to implement Basel II prior to 2008. That was the year of the major financial crisis caused mostly by credit default swaps, mortgage backed securities and similar derivatives (Dionne, 2009; OECD, December, 2011; Wikipedia, February, 2011; Grey, 2013). Against the backdrop of the global financial crisis, fair value accounting began to be

blamed for causing the crisis in the banking sector (Véron, 2008; Bischof, 2009; André et al, 2009; Magnan, 2009; Magnan and Makarian, 2011; Gillard and Katri, 2011). The European banks and the US banks had moved to fair value accounting under IFRS and the FASB rules and this modified the calculation of the solvency ratios for banks, (under Basel II), in particular as regards the re-measurement of available for sale financial instruments and the unrealized results of cash flow hedges (André et al, 2009; Fiechter, 2011). André et al (2009) question the motives of the banks by making the following observation:

"If one wants to use the accounts for other ends, such as establishing the level of regulatory capital (such as Basel II ratio), one must provide for special treatment and adjustments intended to achieve this objective. That was not done, and led to accusations that fair value had caused the problem of under-capitalization of financial institutions."

They also raised the following important question: should the general accounting model change to suit the regulators or should the regulators modify the way in which they determine the level of equity capital required under Basel II?

Canadian banks have not been severely affected by the global financial crisis. Why is this? Banks (and other financial institutions) are heavily regulated and controlled in Canada. Banks are required to submit detailed financial statements quarterly and annually. The OSFI reviews these, in an attempt to detect any undue risk before a solvency issue is created. The office also relies on the work of the external auditors as an important source of information respecting the financial condition of the banks (Keefe and Sodhi, 2011).

In addition to the Basel II rules, the OSFI has retained a requirement that the ratio of a bank's assets to its capital does not exceed an assigned ratio. The assigned leverage ratio is based on a number of factors. These include: (a) size of bank, (b) its perceived level of risk and (c) the length of time that it has been in existence (Kravis, 2009; Canadian Bankers Association, November, 2012).

Regulators have encouraged banks to shore up their capital to the extent that it is possible. Canada has also announced its intention to fully implement Basel III requirements and advised banks to maintain prudent retention policies and sound management practices. Basel III is scheduled to be introduced from 2013 to 2018. This raises both the quality and quantity of the required regulatory capital base and enhances the risk coverage of the Basel II capital framework (Pricewaterhouse Coopers, 2012).

Canadians have not had to bail out financial institutions as was done in the U.S., the U.K. and other countries in Europe. It did not have to inject capital into institutions or set up public entities to buy toxic assets (Canadian Bankers Association, November, 2012). The World Economic Forum ranked Canada's banking system as the most sound in the world five years in a row (Canadian Bankers Association, October, 2012; World Economic Forum, 2012).

Overall, Canada's financial services sector is an essential and significant contributor to the country's economic growth and well-being. The financial services sector performs best in low interest rate environments. A large portion of this sector generates revenue from mortgages and loans which gain value as interest rates drop. Furthermore, when the business cycle is in an upswing, the sector benefits from additional investments (Investopedia, January 30, 2013).

METHODOLOGY

We examined the 2007 and 2008 Annual Reports of financial services corporations, particularly the Management's Discussion and Analysis (MD&A) and the Notes to the Financial Statements. For this study, the population of interest was comprised of the 34 financial services companies listed on the S&P's TSX composite index for both 2007 and 2008. This research paper highlights how these companies reacted to the recent financial crisis in their risk disclosures. The disclosures of the non-financial companies on the TSX composite index during the same time were examined earlier by Maingot et al (2012).

Fourteen different types of risks were identified by Lajili and Zeghal (2005). These are divided into three major categories:

Financial: Foreign Exchange, Interest Rate, Credit, Market, Economic

Business: Political, Technology, Government Regulation, Weather, Seasonality

Operational: Environmental, Operational, Supplier, Natural Resource

Operational risks are unique to and can be managed within each company, while business risks are somewhat outside the company's direct control. Financial risks are sometimes considered part of business risks but are generally not outside the company's control, given the opportunities to manage these types of risks through the financial markets.

In addition, for each type of risk, we examined various aspects of risk: the level of exposure to (or likelihood of) risk, the consequences of such risk and the strategies for managing that risk. We identified the levels of risk disclosures according to the categorization in Table 2 (as discussed in AICPA/CICA (1999)) using content analysis, which has been widely used in the accounting research literature, particularly for examining social and environmental disclosures (Milne and Adler, 1999; Zéghal and Ahmed, 1990).

Table 2. Categorization of Risk Exposure, Consequence and Management

Risk Exposure	Risk Consequence	Risk Management
Rare	Insignificant	Accept Risk
Improbable	Minor	Reduce Risk
Possible	Moderate	Transfer Risk
Probable	Major	Avoid Risk
Certain	Catastrophic	

RESULTS AND ANALYSIS

Number of Disclosures

Table 3 summarizes the number of disclosures for the TSX companies in the financial services sector. There is virtually no change in the number of disclosures from 2007 to 2008. For six types of risks--political, technology, weather, seasonality, supplier and natural resource risks, there were no more than two disclosures. Firms in the financial sector generally were not affected by these types of risks. Only three firms disclosed these types of risks:

- The TMX Group Inc. disclosed political, technology, and supplier risks (one of its subsidiaries is an exchange for natural gas and electricity contracts);
- The Onex Corporation disclosed supplier and natural resource risks (as a holding company, Onex has interests in the industrial sector);
- The Toronto Dominion Bank was the only financial corporation that disclosed technology risks.

Table 3. Number of Risk Exposure, Risk Consequences and Risk Management Disclosures for the 34 Firms in the Financial Sector in 2007 and 2008, by Type of Risk

	Exposure		**Consequences**		**Management**		**Average per Firm**	
Type of Risk	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**
FINANCIAL RISKS								
Foreign Exchange	32	32	33	33	33	33	2.88	2.88
Interest Rate	34	34	34	34	34	34	3.00	3.00
Credit	31	32	31	32	31	32	2.74	2.82
Market	32	32	32	32	32	32	2.82	2.82
Economic	31	31	31	31	31	31	2.74	2.74
BUSINESS RISKS								
Political	1	1	1	1	1	1	0.09	0.09
Technology	2	2	2	2	2	2	0.18	0.18
Govt Regulation	28	28	28	28	28	28	2.47	2.47
Weather	0	0	0	0	0	0	0.00	0.00
Seasonality	0	0	0	0	0	0	0.00	0.00
OPERATIONAL								

	Exposure		Consequences		Management		Average per Firm	
Type of Risk	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**
Environmental	21	21	21	21	21	21	1.85	1.85
Operational	28	28	28	28	28	28	2.47	2.47
Supplier	2	2	2	2	2	2	0.18	0.18
Natural Resource	1	1	1	1	1	1	0.09	0.09
TOTAL	**243**	**244**	**244**	**245**	**244**	**245**	**21.5**	**21.6**

If we only consider the eight more prevalent types of risks reported by the financial sector, then these firms disclosed more often the five types of risks (*foreign exchange, interest rate, credit, market, and economic risks*) that are classified as financial risks, compared to government regulation, operational and environmental risks.

Disclosure of Risk Levels

Table 4 summarizes the average levels of risks disclosed for the TSX firms in the financial services sector. Generally, there were very few changes from 2007 to 2008 in the levels of risks disclosed, with only three changes in risk exposure, one in risk consequence and one in risk management. These are highlighted in bold font in Table 4.

Table 4. Average Levels of Risk Exposure, Risk Consequences and Risk Management Disclosed for 2007 and 2008, for Financial Firms, by Type of Risk

Type of Risk	**Level of Risk Exposure**		**Level of Risk Consequences**		**Level of Risk Management**	
	2007	**2008**	**2007**	**2008**	**2007**	**2008**
FINANCIAL RISKS						
Foreign Exchange	4.00	4.00	3.25	3.25	2.47	2.47
Interest Rate	5.00	5.00	**3.97**	**3.88**	2.00	2.00
Credit	5.00	5.00	3.84	3.84	2	2
Market	**4.34**	**4.31**	3.94	3.94	2.19	2.19
Economic	4.45	4.45	4.00	4.00	**2.13**	**2.10**

Type of Risk	Level of Risk Exposure		Level of Risk Consequences		Level of Risk Management	
	2007	**2008**	**2007**	**2008**	**2007**	**2008**
BUSINESS RISKS						
(Political)	N/A	N/A	N/A	N/A	N/A	N/A
(Technology)	N/A	N/A	N/A	N/A	N/A	N/A
Government Regulation	**4.25**	**4.29**	4.00	4.00	2.07	2.07
(Weather)	N/A	N/A	N/A	N/A	N/A	N/A
(Seasonality)	N/A	N/A	N/A	N/A	N/A	N/A
OPERATIONAL						
Environmental	3.00	3.00	2.19	2.19	2.10	2.10
Operational	**4.89**	**4.93**	3.96	3.96	2.07	2.07
(Supplier)	N/A	N/A	N/A	N/A	N/A	N/A
(Natural Resource)	N/A	N/A	N/A	N/A	N/A	N/A

Coding of Risk Levels

Levels of Risk Exposure	Levels of Risk Consequence	Levels of Risk Management
1 - Rare	1 - Insignificant	1 - Accept Risk
2 - Improbable	2 - Minor	2 - Reduce Risk
3 - Possible	3 - Moderate	3 - Transfer Risk
4 - Probable	4 - Major	4 - Avoid Risk
5 - Certain	5 - Catastrophic	

Risk Exposure Levels

We examine first the levels of risk exposure disclosed by financial firms for the eight types of risk most often disclosed by the financial sector. *Changes were observed in market, government regulation and operational risks. All financial risk exposure ratings stayed the same or went down.*

Looking at the detailed breakdown of the exposure levels disclosed for risks in the financial category, we find that:

- For interest rate risk, all 34 financial firms reported risk exposure as “certain”.

- For credit risk, the 31 financial firms reporting risk exposure rated it as "certain".
- For foreign exchange risk, the 32 financial firms reporting risk rated it on average as "probable (of the eight banks, six rated it as "certain" and two as "probable", of the non-bank financial companies, there were ten "certain" and one "possible", and of the real estate trusts, there were six "certain", but seven rated it as "rare");
- For market risk, the 32 financial firms reporting risk rated it on average between "certain" and "probable" (of the eight banks, there were seven "certain" and one "probable"; of the non-bank financial companies, there were five "certain", two "probable" and four "possible"; of the real estate trusts, there were three "certain" and ten "probable");
- For economic risk, the 31 financial firms reporting risk rated it on average between "certain" and "probable" (all eight banks rated it as "certain", of the non-bank financial companies, there were six "certain" and four "probable", and of the real estate trusts, there were five "certain", seven "probable", and one "possible".

Overall, the banks rated risk exposure as "certain" for all five types of financial risk, with isolated exceptions. The real estate trusts all rated interest rate and credit risk as "certain"; however, the polarization in the rating of foreign exchange risk resulted in a split between "certain" and "rare", and for market and economic risk, the "certain" ratings were outnumbered by the "probable" ratings. The non-bank financial companies were somewhere in between, with unanimous ratings of "certain" risk exposure for interest rate and credit risks, predominantly "certain" foreign exchange risk, and majority "certain" over "probable" risk for market and economic risk.

For government regulations, operational and environmental risks, the results were quite different. For government regulation risk, the real estate trusts rated this as "certain"—reflecting uncertainty about changes in policy, while the other financial companies rated it predominantly as "probable" or "possible". Operational risk was rated as "certain" by 26 of the 28 companies that mention it, and environmental risk was rated unanimously as "possible" by the banks and real estate trusts, whereas the non-bank financial companies did not mention it.

Risk Consequences

For the eight types of risk that were disclosed, no changes were observed in the level of risk consequences except for interest rate risk where the average rating went down. The firms reported risk consequences as "major" or close to that level across the board for economic, government regulation, operational, interest rate, market and credit risks. For foreign exchange risk, however, the real estate trusts reported risk consequences as "insignificant" or "moderate", while the other financial firms tended to report them as "major" (Onex Corp. registered the only rating of "catastrophic" for consequences of foreign exchange risks). Environmental risk consequence was generally regarded as "minor", with two "moderate" ratings in both the chartered bank and real estate trust categories, but was generally ignored by the non-bank financial companies.

Risk Management

For managing the eight main types of risk disclosed, the financial firms did not report any changes in risk management strategies. Generally the financial firms generally tried to "reduce" the risk when the consequences were deemed to be "major".

- For foreign exchange risk, the seven real estate trusts that viewed their risk exposure as "rare" and the consequences as "insignificant", all had a strategy of "avoiding" such risks. The rest of the financial firms that, with one or two exceptions, viewed their risk exposure as "certain" and the consequences as "major", tried to "reduce" such risks.
- For interest rate risk, all of the 34 financial firms reporting the risk as "certain" and the consequences as "major", reported managing the risk by "reducing" it.
- For credit risk, all of the 31 or 32 financial firms that disclosed the risk as "certain" and the consequences as almost "major", reported managing it by "reducing" it.
- For market risk, most of the 32 financial firms that disclosed their management strategy tried to "reduce" it, but three real estate trusts tried to "avoid" it.
- For economic risk, almost all of the 31 financial firms that disclosed their management strategy tried to "reduce" it, but one property development firm tried to "avoid" and "reduce" it.
- For government regulation risk, 27 of the 28 financial firms that disclosed their management strategy tried to "reduce" it, but the Toronto-Dominion tried to "avoid" it.
- For environmental and operational risks, 20 of the 21 financial firms that disclosed their management strategy tried to "reduce" it, but one real estate trust tried to "avoid" it.

DISCUSSION

The objective of this research was to analyze the possible impact of the recent financial crisis on enterprise risk management in the financial sector in Canada. It was hypothesized that the global meltdown would have a major effect on the risk disclosures of these companies.

Overall, we found only isolated cases where companies in the financial sector made more disclosures of risk, and very few cases where there were changes in the levels of risks disclosed. Moreover, in the financial category of foreign exchange, interest rate, credit, market, or economic risks, the few changes we did observe showed a decrease rather than an increase in the disclosed level of risk.

The relatively minor changes in the number of disclosures and in the level of risks disclosed by financial services firms from 2007 to 2008 were similar to the results for non-financial firms on the TSX Composite Index (Maingot et al, 2012).

If we focus more on the absolute number and level of risk disclosures and less on the changes before and after the financial crisis, then again there are more similarities than differences between the non-financial and the financial firms in Canada.

For both types of firms in Canada, the types of risks most often disclosed were in the financial category (foreign exchange, interest rate, credit, market, or economic risks) than in the business or operational categories. Dobler et al (2011), which looked at the 2005 annual reports of manufacturing companies in the U.S., Canada, the U.K., and Germany, found a similar pattern

and attributed this to the regulatory regime. For both non-financial and financial companies, the most prevalent types of non-financial risks disclosed were government regulation and operational risks, with environmental risks in third place.

Within the financial category of risks, interest rate risks were reported as "certain" by all the financial firms and by almost all the non-financial firms. However, while foreign exchange, market and economic risks (but not credit risks) were reported as "certain" by almost all the non-financial firms, the financial firms were unanimous in reporting only credit risks as "certain" and the other three types of risks between "certain" and "probable". In a study of a small sample of banks in Canada and the UK, Linsley et al (2006) examined the number of risk sentence disclosures relating to credit, market, interest rate, and operational risks. They also found that credit risk was disclosed far more often than the other three types of risk, but that interest rate risk was disclosed far less often (on par with operational risk) than our study of financial firms found.

Generally, the consequences of these financial risks were rated as "major" by the financial firms but only "moderate" by the non-financial firms.

Finally, while Dobler et al (2011) found differences in the number of risk disclosures relating to exposure and consequences compared to the disclosure of risk management, neither this study of financial firms in Canada nor the Maingot et al (2012) study of non-financial firms in Canada found any such differences.

CONCLUSIONS

We did not find any practical differences in the number or the level of risk disclosures before and after the financial crisis by Canadian companies in the financial sector. Although the Maingot et al (2012) study of the non-financial firms in Canada had found similarly no practical differences, it was hypothesized that the 2008 financial crisis might have had more of an effect on the risk disclosures of financial firms than on non-financial firms.

It is true that the Canadian banking sector weathered the financial crisis better than banks in many other countries because banks and other financial institutions are more heavily regulated and controlled in Canada. Despite this, the total net income for the banks and for the financial/insurance/holding companies declined by 37% and 52%, respectively, from 2007 to 2008, and the total market value of the banks and the financial/insurance/holding companies declined by 21% and 42%, respectively in the same period. However, it should be noted again that virtually all of the banks rated each of the types of risk categorized as Financial Risk as "certain" in 2007 and thus there was very little room to report a higher level of risk exposure in 2008. Similarly, four of the five financial types of risks (except for foreign exchange risk) were deemed by the vast majority of financial firms to have "major" consequences in both 2007 and 2008. Only one company rated the consequences as "catastrophic" and this for foreign exchange risks. Clearly the financial sector of the TSX Composite Index did not consider the financial crisis to have increased the risk consequences beyond "major".

In summary, financial services companies in Canada disclosed the highest levels of risk exposure and very high levels of risk consequences in 2007 before the financial crisis, leaving

little room for the advent of the banking crisis to increase the number and the level of risks disclosed. Future research work examining annual reports before 2007 or after 2008 will be necessary to determine whether the number and the level of risks disclosed were lower before 2007 (suggesting that by 2007, ERM foresaw the coming crisis) or whether the level of risks disclosed increased after 2008 (allowing for the complete effects of the financial crisis and resulting recession to take hold). Moreover, since the banking crisis began in the United States and eventually led to the near failure and/or collapse of a number of financial institutions, a study of the financial sector of the S&P 500 may reveal more significant changes in risk disclosures before and after the financial crisis; this research work is currently underway.

Our results are consistent with the hypothesis that ERM information disclosure and managers' behaviour are motivated more by the avoidance of proprietary costs resulting from disclosing risk information than with reducing information asymmetry. However, it is critically important for investors and other external users of enterprise risk management information to have reliable risk management data and analysis. If the financial crisis had no impact on risk disclosures, then it is very likely either that the analysis of risk is not thorough enough, or that risk communication strategies are ineffective. As a consequence, annual reports cannot be relied upon as a source to evaluate the risks that companies face, and regulators and policy makers should pay close attention to the quality of risk disclosures.

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