

## DIRECTORS' AND OFFICERS' INSURANCE IN CANADA\*

*M. Martin Boyer\*\**

### Abstract

This paper looks at the insurance demand of a firm's directors and officers using a sample of Canadian corporations (excluding firms from the financial services and mining sectors) from 1993-1999. More to the point, we study the demand for directors' and officers' insurance. Contrary to the financial distress theory of hedging, our results suggest that larger corporations are more likely to purchase D&O insurance. On the other hand, insurance is more likely when the firm is financially weak. Firms are also more likely to purchase D&O insurance when there are few outsiders on the board of directors and when the board members have an important financial stake in the corporation, suggesting that D&O insurance is yet another tool for managerial entrenchment. Surprisingly, being listed on a stock exchange in the United States does not seem to have an impact on the demand for D&O insurance, contrary to previous results.

**Keywords:** executive compensation, directors' and officer's insurance, litigation

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*\*\* Associate Professor of Finance, HEC Montréal, Université de Montréal. 3000 Côte-Sainte-Catherine, Montréal, QC H3T 2A7 Canada; and Cirano, 2020 University Ave., 25th floor, Montréal, QC. martin.boyer@hec.ca*

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### 1. Introduction

Although insurance is only one of the many hedging tools available to firms, it is the oldest and most commonly used. Insurance premiums paid by U.S. firms to cover commercial multiple peril risks amount to 20 trillion dollars every year. That is on top of the 50 trillion dollars paid for worker's compensation insurance and other types of liability coverages. Tufano (1996) argues that managerial risk aversion is one of only two reasons why a corporation should manage its idiosyncratic risk. Smith and Stulz (1985) and Stulz (1996) argue that the presence of financial distress costs is an incentive to hedge. Graham and Smith (1999) say it is the convexity of the tax schedule. The type of insurance we study in this paper is linked to the argument that a firm must provide insurance to its managers to attract and retain the most valuable. Directors' and Officers' insurance (D&O insurance) covers managers for their court expenses as well as for any settlement arising from the lawsuit. Amongst the managers are the board member (or corporate directors) who, as representative of the corporation, are personally liable (i.e., their personal assets are at risk) for actions taken in the name of the corporation.

As an indication of the importance of D&O insurance in the economy, consider that 92 % of U.S. firms and 84 % of Canadian firms carried D&O insurance in 1998 (93% and 73 % respectively in

1999). Although D&O insurance does indeed offer protection to corporate directors, it does so for strange events because 44 % of lawsuits originate from shareholders (see Tillinghast-Towers Perrin, 1999) who pay for the directors' protection. As a result D&O insurance provides protection to board members against lawsuits brought upon them by the shareholders who appointed them in the first place. D&O insurance may therefore be viewed as a risk management tool used by board members to hedge the risk associated with the management of the firm.

Another reason that has been suggested for explaining the prevalence of D&O insurance in the economy is that it provides another way to monitor the firm's managers. Holderness (1990) and O'Sullivan (1997) suggest that D&O insurance is a substitute for other types of board supervision, which is why it is used so frequently. Only a few studies have been conducted on D&O insurance, mainly because public information has not been available prior to 1993. In 1993, the Cadbury report in the United Kingdom and the Dey report in Canada recommended to their respective security commissions that more information be made available regarding corporate governance.

Making a firm's D&O insurance coverage public was amongst the recommendations. Core (1997,2000) was the first to use the newly available data on D&O insurance purchases by Canadian companies. He finds that the most important

determinants of D&O insurance purchase is whether the risks of a lawsuit are high and whether the risks of financial distress are high. Similar results were obtained by O'Sullivan using a sample of 366 firms in the United Kingdom. Our study builds upon Core (1997) by increasing the sample size and the number of years used. Indeed our sample contains over 1585 observations compared to Core's 222. Earlier papers by Bhagat, Brickley and Coles (1987) and Janjigian and Bolster (1990) find that D&O insurance coverage does not seem to alter shareholder wealth nor returns. A similar result is obtained by Brook and Rao (1994) who find that corporations who make provisions for lawsuits do not have significantly different stock returns than corporations who do not make any provisions. For a more thorough description of the D&O insurance market, see Moreau (1995), Core (1997,2000) and Chalmers et. al. (2002).

The goal of this paper is to present an analysis of what type of firm purchases D&O insurance in Canada. The Canadian market is used because firms listed on the Toronto Stock Exchange have been required since 1993 to divulge information pertaining to their D&O insurance coverage. In the next section of the paper we present a short primer on D&O insurance adapted from previous research.

## 2. A primer on D&O insurance

We first present an overview of the usage of D&O insurance in North America based on the more detailed accounts found in Core (1997, 2000), Chalmers et al. (2002), Gutiérrez (2003) and Boyer (2003). The corporate directors' and officers' financial responsibilities are very important: Not only can a corporation be liable for its behavior the corporation's managers could also be liable. Any of the firm's stakeholders may question a manager's fiduciary duty toward them. Gutiérrez (2000) argues that lawsuits may be brought upon the managers personally. A normal D&O insurance policy covers all expenses and losses incurred by a manager as the result of a lawsuit brought upon him as a representative of the corporation, except in the case of gross negligence or criminal behavior. As with other standard insurance contracts, D&O insurance contracts stipulate a premium to be paid, a policy limit as well as a deductible. Whereas most insurance contracts are written using an occurrence based approach, most D&O insurance contracts are written on a "claims made and reported" basis (CMR)<sup>1</sup>. The difference is that CMR contracts cover losses that are made and reported during the policy year even though such claims may have been incurred in previous years. Occurrence based contracts on the other hand cover losses that are

incurred during the policy year no matter when the claim is reported in the future. For example, suppose an incident occurred in 1995, but is not reported until 1998. Under a CMR contract, all the financial responsibility for the loss falls upon the 1998 insurer. Under an occurrence based insurance contract, it is the 1995 insurer who is responsible. D&O policies are mainly sold by insurance brokers who negotiate with insurance companies on behalf of the insured. In Canada, the top-2 insurance brokers hold a 66% market share in terms of the number of accounts. In premium terms, the top-2 insurers hold a 50% market share in the United States. In Canada, a majority of corporations receive their D&O insurance coverage from one unique insurer. So-called sticky points also characterize the D&O insurance market: Coverage limits are sold by layers of \$1,000,000, although the most important steps appear to be \$5,000,000. D&O insurance is not the only way to protect managers against lawsuits. A corporation can also amend its charter so that the directors' liability is limited. These limited liability provisions all but eliminate the directors' personal financial responsibility toward the firm and its shareholders. Gutiérrez (2000) reports that, in an effort to attract the best possible corporate directors, more than 70 % of American corporations<sup>2</sup> adopted limited liability provisions. Hartmann and Rogers (1991) and Brook and Rao (1994) reach the same conclusion. A third way that a corporation can protect its directors is through corporate indemnification plans. These plans give directors a certain protection against third-party lawsuits so that corporations are responsible for indemnifying directors for court expenses. Corporate indemnification plans protect directors who acted in the best interest of the corporation, event if they are found guilty as long as the prejudice was caused in the best interest of the corporation. Because the public data that I have makes no mention of corporate indemnification plans and because Canadian corporate law does not allow limited liability provisions, I must rely exclusively on the D&O insurance to study the financial protection offered to corporate directors.

## 3. Variables and data

Although corporations may have legal indemnification plans so that D&O insurance coverage is not required, such information is not available. Our study concentrates on whether insurance was purchased by firms to cover the legal fees and settlements of their directors and officers. Our dependent variable is whether D&O insurance was purchased or not. We will assign the value 1 to

<sup>1</sup> See Doherty (1991) for more details regarding claims made and reported insurance contracts compared with occurrence based contracts

<sup>2</sup> It is important to note that Canadian corporate law does not allow Canadian corporation to amend their charter to include limited liability provisions.

firms that have D&O insurance and 0 otherwise. The proportion of firms in our sample that purchased D&O insurance increased from 61% in 1993 to 75% in 1999.

### 3.1. Determinants

Similarly to previous research on D&O insurance by Core (1997, 2000) and O'Sullivan (1997), we have two classes of explanatory variables that are hypothesized to have an impact on the of a firm's likelihood of having D&O insurance. The first class is related to the firm, the second to the managers. Even though Stulz (1996) argues that larger corporations are more able to self-insure, recent work by Gutiérrez (2003) suggests that D&O insurance is designed to protect shareholders. As a result richer corporations are more likely to have insurance. We use two measures of size: The log of the assets (Assets) and the log of the market value of equity (MVE), both in millions of dollars. Each measure has its importance. The greater the size of a firm's operations, the more employees, clients and exposure to risk it has. Also, the greater is the market value of equity, the more risk it faces with respect to litigation from shareholders, the main plaintiff in D&O insurance lawsuits. To measure returns, we will also use two measures; the accounting measure of return on assets (ROA) and the market measure of the volatility of the corporation's stock return (Volatility). Because investors who invest in high volatile stock know that low returns are likely so that D&O litigation may be a waste of their time and money, firms whose stock is very volatile would see less need for D&O insurance. High return on assets should decrease the likelihood that a firm will purchase D&O insurance because it has accumulated enough liquidity to face temporary shocks. ROA is calculated as the ratio of net earnings to total assets. For Volatility, we used the annual volatility of compounded daily returns of the stock (see Hull, 2000).

The way in which a corporation is financed should affect the decision to purchase D&O insurance. For example, a corporation in financial distress stands a better chance to go bankrupt, and therefore be sued. We will use minus the log of the asset-to-debt ratio divided by the standard error of the stock's daily return over the previous year as our measure of financial distress (Distress). This variable measures the probability that a put option on the corporation's assets will be exercised at a strike price equal to the book value of debt. To capture more precisely the role and the risk associated with debt, we will use the pure debt ratio (DebtRatio) measured as the book value of debt divided by market value of equity. Our hypothesis is that the higher the ratio, the more likely is the firm to purchase insurance.

Because D&O insurance may be seen as a substitute for other forms of board monitoring, more independent board should be less likely to carry

D&O insurance. We measure board independence using five variables. First, is the chief executive officer also the chairman of the board (CEOCOB)? Second, what is the CEO's voting power in the firm (CEOVotes)? Third, are there outside block holders (OutVotes)? Fourth, are the outside block holders financial institutions (FIVotes)? Fifth, are there how many boardmembers are independent of the managerial team (Outsiders)? CEOCOB equals 1 when the CEO is also the COB. CEOVotes is equal to the percentage of votes<sup>3</sup> held by the chief executive officer, the chairman of the board and their immediate family. OutVotes and FIVotes are calculated as the voting percentage of outside and financial institution block holders respectively. Outsiders measures the proportion of board members that are not related to any firm employee. Because the board is less (more) independent for the first two (last three) variables, D&O insurance is more (less) likely to be purchased.

Our last corporate governance variable will be the board member's interest (in market value) in the corporation as a proportion of total book equity (BoardWealth). Board members that have more invested in the corporation will oversee operations more closely, thus reducing the need for insurance. Also, wealth can be seen as a proxy for risk aversion. We therefore expect BoardWealth to have a negative impact on D&O

insurance purchase. Finally, the litigation environment should have an important impact on the need for D&O insurance. According to Core (1997), lawsuits are more costly and more frequent in the United States than in Canada. Because most lawsuits are brought by stockholders under the different security laws a simple dichotomous variable (USListing) should be sufficient to measure the litigation risk faced by firms that are listed in both the United States and Canada.

### 3.2. Data

Our sample includes 354 Canadian corporations drawn from 8 economic sectors<sup>4</sup>. Because of holes in the data, 27 firms, mainly smaller firms were deleted from the start.

There is no survivor bias as we collected data on new companies as well as companies that disappeared during the sampled years. Because of this incomplete panel, we have 1594 observations, which gives us an average of 4.9 years per company (out of a maximum of 7). Of the 327 firms used in our final sample, close to 60% have information for

<sup>3</sup> Canadian law allows very openly the distribution of multiple-voting shares. It becomes important to make a difference between the percentage of votes and the percentage of value of the different stakeholders in the corporation.

<sup>4</sup> Two very big sectors of the Canadian economy were deliberately omitted: Financial and Mining.

We did that in order to keep our sample more homogenous.

5 years or more, including 22% for all the years. 73.4% of the firms (241 firms) purchased D&O insurance at least once during those seven years. Of the 327 firms, over 17% did not exist anymore at the start of 2000. We collected the D&O insurance, executive compensation and board composition information from the management proxies. Since 1996, the proxies are available on SEDAR (<http://www.sedar.com/>). Prior to that, the information was collected from the companies directly or from Micromedia. The financial data was obtained from three different sources, depending on the firm: Compustat, Stock Guide and CanCorp

Financial. Stock prices and total returns were obtained from the TSE-Western tapes<sup>5</sup>. More information about the database is available from the authors upon request.

#### 4. Results

Table A summarizes the explanatory variables used, the expected sign on the likelihood that a firm purchased D&O insurance and their summary statistics. We see that almost 70 % of the firms in our sample purchased D&O insurance. About 10 % of the firms are listed in the United States. In 44 % of cases, the CEO is also the COB. On average, the CEO holds 19 % of the voting shares, which is more than the average block holding of firm outsiders which stands at 16 %. An interesting statistic is that on average the value of the board members' holding hold about 23 % of the firm's book equity. Table B presents the results of the probit regressions. All regressions use time and sector fixed effects. The difference between the different models is the extent with which we control for the correlation between the variables. In Model B2, we correct for the correlation between the first seven variables (Assets, MVE, Volatility, ROA, Distress, DebtRatio and USlisting). In Model B3, we control for all the correlations. Our main results are more or less robust to the different specifications. Our discussion will mainly focus on Model B3. Larger corporations appear more likely to purchase D&O insurance, but only when measured as the firm's assets. Stock price volatility reduces the likelihood of D&O insurance purchase, possibly because it is easier for managers to hide their incompetence behind the veil of investor sentiment, as hypothesized. Another possibility is that board members face adverse selection problems so that they signal their quality with less insurance coverage. ROA also has a negative impact on the likelihood of purchasing D&O insurance, in line with our anticipations. Finally, as firms enter periods of financial distress, managers are more likely to demand D&O insurance protection, because it

becomes more likely that the firm will be bankrupt in the future, and thus unable to compensate the managers for their legal fees. Surprisingly, and contrary to what Core (1997, 2000) finds, a firm is listed on a U.S. stock exchange does not seem to be more likely to carry D&O insurance. Because the U.S. business environment is much more litigious than Canada's we expected U.S. listed firms to be more likely to carry D&O insurance. Our findings do not support this view. One possible explanation is that cross-listed firms are larger so that the U.S. business environment is already controlled for using assets. When we look at the corporate governance control variables, we note that only two measures are significant: The proportion of outsiders on the board and financial institution stock ownership. In the two cases the impact is negative, as predicted, which supports the monitoring benefits of D&O insurance. Indeed, the greater is the number of outsiders on the board the more closely will it oversee the behavior of managers. As a result firms are less likely to face D&O litigation. The same logic applies to financial institution. Other measures of corporate governance do not seem to have any impact on the decision to carry D&O insurance.

The last variable of interest is the wealth invested by board members in the corporation, which appears to tell us that it is negatively related to the purchase of D&O insurance. Because board members have more to lose in the company because of mismanagement, they verify more closely the behavior of corporate officers. Another explanation is that wealthier boards are less risk averse, which reduces their demand for D&O insurance, and thus the likelihood that a corporation will purchase D&O insurance.

#### 5. Conclusion

The goal of this paper was to further our understanding of the corporate demand for insurance. To do so we analyzed the determinants of the demand for insurance of corporate managers as part of their function within the firm. Directors' and Officers' liability insurance protects managers against lawsuits brought onto them as representative of the corporation. Corporations can buy insurance coverage to compensate their managers in the event of losses arising from such lawsuits. In this paper we analyzed the purchase by a firm of Directors' and Officers' insurance. Our results indicate that size is an important factor in the decision to purchase insurance. It appears that larger firms are more likely to have D&O insurance, contrary to Stulz (1996) assertion. Interestingly, size is an important factor only when it is measured as the value of the assets; the market value of equity does not seem to have any bearing on the decision to purchase insurance, contrary to Gutiérrez's (2003) assertion. Basic measures of financial health also have an important impact on the decision to have D&O insurance as

<sup>5</sup> All values are in Canadian dollars. Any U.S. dollar figure has been converted to Canadian dollar using the year-end exchange rate.

firms that have a high return on assets as well as a low measure of financial distress are less likely to purchase D&O insurance. A large stock volatility reduces the likelihood of purchasing insurance. Finally, board composition and wealth is an important factor contributing to the decision to purchase D&O insurance. As the a corporate director's personal wealth increases and as the proportion of outside members on the board increases, the firm is less likely to purchase D&O insurance, perhaps because these board members supervise more closely the officers of the firm, including the CEO.

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Appendices

**Table A. Summary Statistics**

Variable	Expected Sign	Mean	Standard deviation	Min	Max
Insurance		0.6939	0.4610	0	1
Assets	+/-	5.2270	1.7707	0.1044	10.998
MVE	+/-	5.000	1.8708	-0.3320	16.260
ROA	-	0.0162	0.1478	-0.9939	1.9937
Volatility	-	0.5157	0.3392	0.0298	4.1176
Distress	+	-0.2048	0.1975	-3.9898	0.1074
D/E Ratio	+	1.3938	4.5580	0.0040	141.13
US Listed	+	0.1028	0.3038	0	1
CEO=COB	+	0.4390	0.4964	0	1
CEOVotes	+	0.1934	0.2622	0	0.9840
OutVotes	-	0.1623	0.2463	0	0.9940
FinVotes	-	0.0948	0.1993	0	1.0000
Outsiders	-	0.6983	0.1448	0.1429	1
BoardWealth	-	0.2325	0.2610	0	2.3780

**Table B. The Determinants of D&O Purchase**

	Model B1 Probit FE		Model B2 Probit FE Correlation Corporation		Model B3 Probit FE Correlation All variables	
	Coeff.	St.Dev.	Coeff.	St.Dev.	Coeff.	St.Dev.
Intercept	1.651**	(0.335)	1.563**	(0.273)	0.864**	(0.161)
Assets	-0.041	(0.054)	0.063**	(0.023)	0.063**	(0.023)
MVE	0.075	(0.049)	0.028	(0.042)	0.028	(0.042)
Volatility	-0.359**	(0.136)	-0.358*	(0.156)	-0.358*	(0.156)
ROA	-0.034	(0.258)	-1.251**	(0.468)	-1.251**	(0.468)
Distress	0.504*	(0.206)	0.591**	(0.201)	0.591**	(0.201)
D/E Ratio	0.018	(0.010)	0.010	(0.010)	0.010	(0.010)
US Listed	0.064	(0.129)	0.154	(0.128)	0.210	(0.125)
CEO=COB	-0.043	(0.072)	-0.043	(0.072)	-0.040	(0.070)
%CEOVotes	0.290	(0.190)	0.290	(0.190)	0.250	(0.140)
%Out.Votes	0.070	(0.160)	0.050	(0.160)	0.110	(0.150)
%Fin.Votes	-0.350	(0.190)	-0.380*	(0.190)	-0.500**	(0.190)
%Outsiders	-0.812**	(0.265)	-0.781**	(0.266)	-0.747**	(0.266)
BrdWealth	-0.570**	(0.157)	-0.562*	(0.157)	-0.562**	(0.157)

The dependent variable is equal to 1 if the firm carries directors' and officers' insurance and 0 otherwise. Model B1 presents a sector and year fixed effect regression. Model B2 and B3 control form correlation between the independent variables. The \* means that the variable is significant at the 5 % level and the \*\*, that it is significant at the 1 % level. Standard errors are in parentheses.